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INTRODUCTION

Global interconnectedness and shared environmental challenges characterize the current society and climate change has emerged as a defining concern of our time.¹ As nations grapple with the urgency of mitigating its widespread effects, an innovative and dynamic instrument has emerged: climate litigation.² What sets this legal battleground apart is its inherently "transnational" nature, enabling it to transcend state borders and mobilize a diverse array of actors operating at various levels, from grassroots activists to international legal bodies. At the heart of this phenomenon lies the power to foster a critical dialogue between courts and policymakers, navigating the complex intersection of law, science, and public interest. This study embarks on a comprehensive exploration of this transnational dimension of climate litigation, seeking to illuminate its capacity to shape legal landscapes both within and beyond national borders. The central thrust of this work revolves around the pivotal role of climate litigation as a catalyst for legal transformation. By leveraging transnational mechanisms, it provokes numerous legal changes with the potential to reverberate through national jurisdictions and influence fundamental legal principles. This work endeavors to dissect this transformative potential, offering a nuanced understanding of the broader impact of climate litigation.

To illuminate these dynamics, the project employs a rigorous examination of emblematic cases that have blossomed out within the transnational ambit of climate litigation. Through a comparative lens, these scrutinized landmark proceedings, such as the Urgenda case in The Netherlands, the Klimatzaak case in Belgium, and the Giudizio Universale case in Italy, serve as lodestars, offering insight into common threads that bind them and the innovative legal arguments that propel them forward.

Through this multifaceted inquiry, the work wants to unravel the intricate web of transnational climate litigation, dissecting its implications for legal systems and principles across borders. By probing into the depths of these cases, we aim to shed light on the mechanisms that underlie the transnational power of climate litigation, ultimately contributing to a more comprehensive understanding of its potential in shaping our collective legal response to the climate crisis. Indeed, the pursuit of climate justice stands as a cornerstone in the global struggle for a sustainable and equitable future. This thesis and its comprehensive exploration of climate justice aims to illuminate

¹Gaynor, T. (2020). Climate change is the defining crisis of our time and it particularly impacts the displaced. UNHCR. Available at <https://www.unhcr.org/news/stories/climate-change-defining-crisis-our-time-and-it-particularly-impacts-displaced>

²Peel, J., & Osofsky, H. M. (2020). Climate change litigation. *Annual Review of Law and Social Science*, 16, 21-38.

its pivotal role in achieving a harmonious balance between environmental protection and human rights.

The thesis is based on a robust methodological approach centered around a comparative analysis of both cases and existing literature. This approach is chosen to provide a comprehensive understanding of climate justice through a multifaceted lens, amalgamating theoretical constructs with real-world applications. In particular, the comparative case analysis forms a cornerstone of this thesis. This method involves a systematic examination of distinct cases where climate-related issues intersect with legal frameworks, human rights, and environmental concerns. These cases are meticulously selected to represent diverse political and socio-economic contexts, ensuring a comprehensive and nuanced exploration of climate justice dynamics. Each case is subjected to a rigorous analytical framework that encompasses key dimensions such as the nature of the environmental challenge, the legal mechanisms invoked, the implications for human rights, and the outcomes of the litigation process. This method enables a nuanced understanding of the varied approaches and outcomes in different jurisdictions, shedding light on the strengths, limitations, and potential for evolution within climate justice litigation.

At the same time, the literature review is structured around key thematic areas, including climate change impacts, international legal frameworks, human rights, and climate litigation. This allows for a structured exploration of the theoretical landscape, enabling critical insights into the evolving conceptualizations of climate justice within legal and environmental discourse. The comparative analysis of literature is undertaken through a systematic examination of key theoretical frameworks, methodologies, and findings presented across various sources. By juxtaposing diverse perspectives, this approach allows for the identification of commonalities, disparities, and emerging trends within the climate justice discourse.

Through this described approach, this work investigates the intricate interplay between climate change, international diplomacy, human rights, legal frameworks, and litigation, ultimately aiming to shed light on potential avenues for transformative change.

Chapter one serves as the foundational pillar of this thesis, delving into the phenomenon of climate change. Definitions, coupled with a rigorous analysis of scientific data, will provide a robust understanding of this complex, multifaceted challenge. This chapter will further unravel the far-reaching implications of climate change, not only for the environment but also for the socio-economic and political landscapes on a global scale.

Chapter two navigates the intricate realm of climate diplomacy, elucidating the international frameworks meticulously developed by institutions such as the United Nations and the European

Union. This chapter will illuminate the binding obligations that states are subject to, underscoring the imperative for collective action in the face of a rapidly changing climate.

Chapter three underlines the critical intersection between the environment and human well-being. By weaving together, the strands of environmental degradation and human rights, this chapter exposes the direct violations to which individuals and communities are subjected due to climate-related phenomena. This pivotal connection forms the bedrock for the subsequent exploration of climate justice.

Building upon the established link between climate change and human rights violations, chapter four delves into the realm of climate justice. This section comprehensively explores the theoretical underpinnings of climate litigation, examining how courts and legal mechanisms respond to cases of environmental harm and human rights infringement in the context of climate change.

Chapter five provides a tangible dimension to the theoretical framework established in the preceding chapter. Through a meticulous analysis of case studies, this section offers concrete illustrations of climate justice in action. By comparing diverse scenarios, this chapter aims to deepen our understanding of the practical implications of climate litigation.

The final chapter bridges the theoretical and practical realms, drawing connections between the preceding discussions and forecasting future trends in climate justice. By scrutinizing the potential transnational scope of climate litigation and its potential to reshape international legal paradigms, this section examines the transformative power of localized efforts on a global scale.

In summation, this thesis attempts to untangle the intricate field of climate justice, emphasizing its integral role in forging a sustainable, equitable, and rights-based approach to climate change mitigation and adaptation. Through a systematic exploration of climate change, diplomacy, human rights, legal frameworks, and case studies, this work seeks to provide a comprehensive foundation for the pursuit of climate justice in a rapidly changing world.

PART I

CLIMATE CHANGE

Almost thirty years ago the alarm of a climate change crisis spread globally. Since its discovery, nations, populations and species have been attacked by the consequence of this phenomenon, and this led governments to come together to find a solution. There are visible effects on the environment: glaciers have fallen and melt leaving ice on rivers and lakes, swallowing islands as a consequence of the rise of the waters, plant and animal species have changed and in worst cases, different species have gone extinct.³ These episodes became more frequent threatening the natural balance of the environment as we know it. On this matter, an important Australian think tank⁴ published a crucial report describing how the situation could be in 2050 if we do not act timely. The report stresses that the situation will be catastrophic for more than the half of the population of the world: the population could probably face numerous days of extreme heat, crop yields will globally drop by a fifth, the Amazon ecosystem will collapse, the Arctic will be ice-free in summer, and sea levels will rise around 0.5 meters. This will also lead to people being displaced on the planet because unable to live where they used to live before.

However, looking at the effects on humans, the most affected are the ones living in the worst conditions and poverty, such as developing countries. This seems to be the consequence of the economic situations of these countries that have less advanced infrastructures useful for the defense from climate change. In addition, governments, in these cases, don not always have strong and appropriate institutions to safeguard basic human rights, such as the right to live in a safe environment. One thing that should further preoccupy is that these facts are not the result of the imagination, are not propaganda or alarming projections, they are all based on science. Even though newspapers, radios and televisions are full of news about climate change, it is useful to give a few definitions and clarify some aspects of it. In this way, we can comprehend these issues completely.

1. Climate change crisis

The climate of a territory is influenced by various elements: the latitude, the ocean temperature, the surface cover, and the ground even though it is firstly driven by solar radiation. The resulting

³NASA. (n.d.). The Effects of Climate Change. NASA. <https://climate.nasa.gov/effects/>, (accessed 10 October 2021).

⁴Spratt, D. & Dunlop, I. (2019). Existential climate-related security risk: A scenario approach. Breakthrough Policy Paper. Available at <https://www.breakthroughonline.org.au/home1>

temperatures create energy in wind and ocean currents which shape the global climate.⁵ Basically, the sun warms the air that expands and creates the atmospheric circulation carrying heat energy around the earth. This regulates the weather patterns in an area and changes in temperatures alter the entire cycle which changes the final climate.⁶

Climate change causes unprecedented implications on where people could live, grow food, or even build cities. In many places, changes of the temperature and sea-level rise, among the numerous consequences of high temperatures, are already stressing ecosystems and affecting human well-being.⁷

The term *climate change*, as explained also by NASA, refers to a change in the usual weather found in a place.⁸ The change could alter how much rain a place usually experiences a year, or it could be about the usual temperature for a specific month or season in a specific area. In addition, it is also a change in the climate of the Earth in its usual temperature or it could be a change in where rain and snow usually fall.⁹

However, there is the need to underline an important difference between the term “*global warming*” from the notion of climate change. The two terms are often used interchangeably but have distinct meanings. Global warming refers to the long-term warming of the planet registered during the 20th century and from the late 1970s, it has been defined as caused by the increase of emissions of fossil fuel linked to human activities, which are the consequence of the Industrial Revolution. The term “*warming*” has been effective in capturing the imagination of the public about the global risks, but it has also confused the devastating range of effects resulting from what is more commonly referred to amongst scientists as the “*enhanced greenhouse effect*” or “*climate change*”. Research indicates greater familiarity amongst Europeans with these terms while, bizarrely, 99% of the English public sustain that they know those terms but “*climate change*” alone is recognized only by 78% of the population. However, while these surveys indicate high levels of awareness of global warming compared to climate change, there are no sources about the analysis of the two terms interpreted in different ways.¹⁰

⁵Ahlonsou,E., Ding,Y & Schimel, D. (2018). The Climate System: an Overview. IPCC. Available at <https://www.ipcc.ch/site/assets/uploads/2018/03/TAR-01.pdf> pp.86-88

⁶Downie, D.L, Brash, K & Vaughan, C. (2009). *Climate Change: A Reference Handbook*. ABC-CLIO. Pp.1-2

⁷United Nations Thailand. (2022). Causes and Effects of Climate Change. United Nations. Available at <https://thailand.un.org/en/174652-causes-and-effects-climate-change> (accessed 11 January 2022).

⁸NASA. (2014). What is Climate Change. NASA Knows!. Available at <https://www.nasa.gov/audience/forstudents/k-4/stories/nasa-knows/what-is-climate-change-k4.html>, (accessed 11 October 2021).

⁹Schneide, N. (2008). Understanding Climate Change, The Fraser Institute, Canada, p. 4

¹⁰Whitmarsh, L. (2009). What's in a name? Commonalities and differences in public understanding of “climate change” and “global warming. Public Understanding of Science. SAGE publications. Pp.401-420

Surveys realized in the United States showed that the public has a greater belief in the existence of climate change compared to global warming and this is particularly noticeable among Republicans and Conservatives. The latter also has been found to associate more heat-related climate impacts with “global warming” than with “climate change” while liberals associate impacts with both phrases equally. Another examination established that the use of “global warming” reduced the belief of the Republicans in climate change and weakened the perception of both groups in the general scientific consensus related to climate change.¹¹ Moreover, policymakers and media, particularly in the United States and as demonstrated also by the surveys, often state that climate science is highly uncertain. This has been used as an argument against adopting strong measures to fight the effect of those changes, even if the scientific consensus is certain and expressed in the reports released by the Intergovernmental Panel on Climate Change (IPCC)¹². The impact of future global warming depends on the sensitivity of the climate system which is highly uncertain at the moment. One of the reasons for this uncertainty is the poor understanding of the effects of increasing greenhouse gas concentrations on cloud formation.¹³ Putting aside this aspect, there are different pieces of evidence on climate change: climatologists looked for signs of past climate change in many different places and have found chemical evidence of ice ages from sediments and sedimentary rocks. Additionally, scientists have paleontological evidence such as fossils which display animals and plants that existed in certain areas before getting extinct due to their inability to resist the changes in the environment.¹⁴

As mentioned, numerous natural factors influence the changes in the climate system, however, the main cause is the effect of greenhouse gases circulating in the atmosphere such as carbon dioxide, methane, ozone and nitrous oxide produced by human activities.¹⁵ Developed countries produce larger quantities of greenhouse gases than developing countries. Carbon dioxide, for example, is the main greenhouse gas and makes up 0.035% of the atmosphere because it is included in plants, lands, animals, and oceans.¹⁶ Also, CO₂ moves incessantly in the atmosphere with the carbon cycle that is altered by human activities. Only with scientific discoveries, the international community find out

¹¹Armstrong, A.K, Krasny, M.E. & Schuldt, J.P. (2018). Communicating Climate Change. A Guide for Educators. Cornell University Press. Comstock Publishing Associates. P.63

¹²IPCC. (2021). Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, 2391 pp. doi:10.1017/9781009157896.

¹³Heij, G.J. (2006). Recent information on the impacts of climate change. Bergonda Science Communication. Driebergen. Netherlands. P.125

¹⁴National Geographic Society. (2022). Climate Change. National Geographic. Available at <https://www.nationalgeographic.org/encyclopedia/climate-change/> (accessed 11 October 2022).

¹⁵Denchak, M. (2023). Greenhouse Effect 101. NRDC. Available at <https://www.nrdc.org/stories/greenhouse-effect-101#causes> (accessed 1 April 2023).

¹⁶Fecht, S. (2021). How Exactly Does Carbon Dioxide Cause Global Warming?. Columbia Climate School. Available at <https://news.climate.columbia.edu/2021/02/25/carbon-dioxide-cause-global-warming/>

that those gases caused higher temperatures which contributed to the development of the various global warming theories.¹⁷ Even if the greenhouse effects have now gained negative meaning, it is what allows the atmosphere to be warm enough for the organisms to live, humankind is of course included. Thus, it is the high concentration of gases that ruin the balance of the atmosphere which then causes temperatures to change.¹⁸

So, the consequences of climate change caused by the general trend of global warming can be various and of different momentousness: the ice of the Antarctic regions is currently melting, seawater levels are growing occupying land even through extreme events like floods, and lastly, by no means least, several animal and plants are not able to adapt and are dying. There are also some indirect consequences which are not always so tangible. For example, If the climate does not respect agricultural activity there is less food available to the community, this also leads to a high rate of unemployment and worsening living conditions for families around the globe.¹⁹

2. Climate change in the past

Climate change has been a natural and ongoing process throughout the history of Earth. It is important to distinguish between natural climate variations and anthropogenic (human-caused) climate change. Solid evidence of climate change episodes in the past has been confirmed only recently by the scientific community.²⁰ Based on this, if it is something that happened already in the past, with high probability is certainly happening now and could continue to in the future. Studying past climate changes provides valuable insights into Earth's climate system. It helps us understand natural climate variability and the potential impacts of human activities on the climate.

Researchers used two main types of climatic data to analyze past climatic variations: direct or instrumental measurements and proxy data, also defined as indirect. Direct methods started with the development of technology, with the creation of thermometers that even if they provide a precise record, this is not able to illustrate the entire variety of climate changes that have occurred or that may occur again. Conversely, proxy data is obtained from natural or human archives that record past climate variations. It includes written records of harvests, substances or even properties of artefacts

¹⁷See John Sawyer who published the study *Man-made Carbon Dioxide and the "Greenhouse" Effect* in 1972. Or In 1973, James Lovelock speculated that chlorofluorocarbons could have a global warming effect. However, Arrhenius was a Swedish scientist that was the first to claim in 1896 that fossil fuel combustion may eventually result in enhanced global warming.

¹⁸Casper, J.K. (2010). *Global warming. Greenhouse Gases: Worldwide Impacts*. Infobase Publishing, NY. Pp.1-10

¹⁹Winston, G. (2012). *Global Warming and Earth'S Evolution: "When Global Warming Is Only the Tip of the Iceberg*, Xlibris Corporation, Pp.25-27

²⁰Heidelberg University. (2023). *Unveiling earth's paradoxical past: the "warm ice age" that reshaped climate cycles*. Scitechdaily. Available at https://scitechdaily.com/unveiling-earths-paradoxical-past-the-warm-ice-age-that-reshaped-climate-cycles/?utm_content=cmp-true

that have been influenced by the climate in the past, for example, geological formations like glacial moraines. Thus, this indirect method can provide a longer time perspective. Moreover, proxy data are often used in combination with instrumental measurements to have an even more accurate analysis and interpretation of the variations recorded.²¹

The climatic history of the earth has been characterized by glacial stages, cold, and interglacial stages, which are warm. Studies revealed five major post-glacial epochs of environmental change. Glacial periods show important variations, with colder events which are called “*stadials*” and warmer periods defined as “*interstadials*.” Consequently, full glacial conditions concerning both low global temperatures and sea level stances are achieved only during the stadials. On the other hand, interstadials are warmer with a recession of the continental ice sheets and rising sea levels to intermediate positions in between full glacial and interglacial times. An example of the past is the phenomena that occurred 100,000 years ago called “*Younger Drays*” which was characterized by an interruption of gradual warming right before the last ice age.²² Evidence was found in the ice cores taken from Greenland soil and exanimated. Scientists have found that this period was dry, windy, and cold and that it extended all over the globe apart from the Antarctic, southern Atlantic, and Indian Ocean areas. As studies have demonstrated, the cooling lasted for 1000 years when the expansion of arboreal vegetation stopped, and the sea level was about 70 mt lower than now. The Baltic Sea basin was filled with freshwater and comprised the Baltic Ice Lake with a dry area where the modern Danish–Swedish straits are now located and a land strip of 80 km wide along the modern coast of the north German and Pomeranian lowlands. Therefore, the cool phase strongly affected the floral composition of the vegetation, the pine forest collapsed, and the landscape again became treeless.²³

Since this unique event, no other extreme episode like this was recorded. There were only less extreme and rapid climate fluctuations called “*Dansgaard–Oeschger*”²⁴ events, with warm and moist climates, alternated with “*Heinrich*”²⁵ events which were very cold periods.²⁶ This alternation has been often referred to as a cycle which is only partially correct since scientists have noticed the tendency of a sort of repetition, but they are too varied.

Our current interglacial warm era, known as the Holocene, has experienced different unexpected changes during the years: abrupt warming, flooding and periods of drought. A warming episode took

²¹Pittock, A.B. (2009). *Climate Change. The Science, Impacts and Solutions*, Csiro Publishing. Pp.24-25

²²Eren, M.I. (2016). *Hunter-Gatherer Behavior: Human Response During the Younger Dryas*. Routledge. Pp.8-11

²³Borzenkova, I. et al. (2015). *Climate Change During the Holocene (Past 12,000 Years)*. The BACC II Author Team. P.33

²⁴The prestigious Danish geochemists and glaciologists Willi Dansgaard who formulated and discovered the theory.

²⁵The paleoclimatologist Hartmut Heinrich.

²⁶Rabassa, J. & Po, J.F. (2016). *The Heinrich and Dansgaard–Oeschger Climatic Events During Marine Isotopic Stage 3*. Springer International Publishing Switzerland. P.10

place at the end of the nineteenth century, right after what is called the “*Little Ice Age*”. The latter indicates the extensive and relatively recent period of mountain glacier expansion between the 16th–mid and 19th century period during which European climate was most strongly impacted. Proxy data showed that mountain glaciers grew in several locations, like in the European Alps, New Zealand, and Alaska while annual temperatures across the Northern Hemisphere fell by 0.6 °C.²⁷ This climatic period has been captured in various paintings representing the great range of various mountain glaciers in the French and Swiss Alps. However, it is interesting to notice that it occurred before the influence of human activity could have an impact on the environment and climate. That is why the explanation for the Little Ice Age lies in other natural causes, for example, it has been associated with astronomical factors.²⁸

What we know is that droughts and inundations took place several times in the current era causing not only environmental disasters but economic problems in countries as well. Regarding droughts, the US territory was the most impacted by them during the so-called *Dust Bowl*²⁹ period that started in 1930 and lasted for about a decade. Severe drought hit the Midwest and Southern Great Plains and massive dust storms began the following year. The worst dust storm was on 14 April 1935, this day was called Black Sunday because a wall of blowing sand and dust started in the Oklahoma Panhandle and spread east. In fact, the Black Sunday primarily affected the Southern Plains of the United States, particularly the states of Oklahoma, Texas, Colorado, Kansas, and New Mexico. It was one of the most severe dust storms of the Dust Bowl period. It was characterized by exceptionally strong winds that carried vast amounts of fine, dry topsoil into the air and it was so intense that it reduced visibility to almost zero. Many people reported that it was as dark as night in the middle of the day.³⁰ We can imagine that the storm had a devastating impact on the affected areas. It caused widespread damage to crops, buildings, and infrastructure. It also had significant health consequences for people and livestock, as the fine dust particles were harmful when inhaled. In addition, drought years followed starting from the ‘30s, intensifying the environmental disaster. By a couple of years later, 35 million acres of cultivated land were completely useless for farming.

²⁷Rafferty, J.P. (2017). What Was the Little Ice Age?. Encyclopedia Britannica. <https://www.britannica.com/story/what-was-the-little-ice-age>

²⁸Mann, M.E. (2002). Little Ice Age. The Earth system: physical and chemical dimensions of global environmental change. Volume 1. Pp 504–509, edited by Michael C MacCracken and John S Perry in “*Encyclopedia of Global Environmental Change*”, John Wiley & Sons, Ltd, Chichester, 2002, pp.1-6

²⁹History Editors. (2009). The Dust Bowl. History. Available at <https://www.history.com/topics/great-depression/dust-bowl>. (accessed 11 Octobers 2021).

³⁰Greenspan, J. (2020). What Happened on Black Sunday?. History. Available at <https://www.history.com/news/remembering-black-sunday>. (accessed 11 Octobers 2021).

Concerning the floods, data on past hydrological conditions from the upper Mississippi River and sediments in the Gulf of Mexico recorded large and abrupt shifts in flood regimes.³¹ As the bar charts (figure 1) show, the number of floods is constantly growing year after year causing damage not only in developed countries like the US or the European countries but also in developing countries, such as the Asian countries.

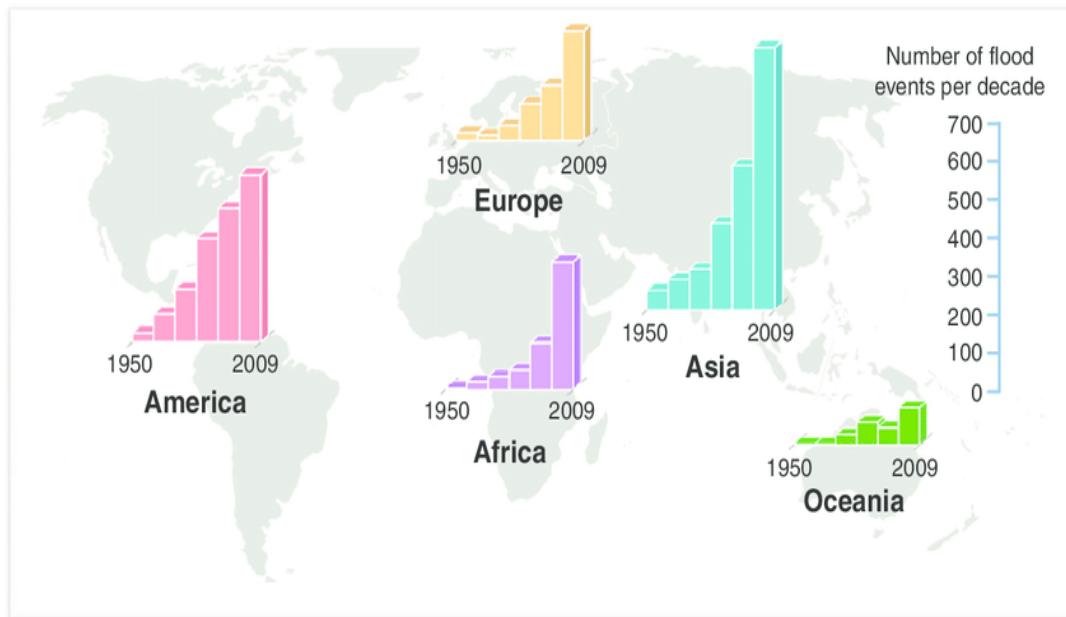


Figure 1. Number of floods events since 1950. (Adapted from a Millennium Ecosystem Assessment map: <http://maps.grida.no/go/graphic/number-of-flood-events-by-continent-and-decade-since-1950>).

While natural climate change is a well-documented part of the history of Earth, the current changes are largely driven by human activities, particularly the release of greenhouse gases like carbon dioxide and methane. This rapid anthropogenic climate change is a critical global challenge that requires concerted efforts to mitigate its impacts and transition to more sustainable practices. In fact, the broader Dust Bowl period serve as powerful reminders of the complex interplay between natural climate variability, human activities, and their impacts on the environment. It also highlights the importance of sustainable land management practices in preventing and mitigating environmental disasters.

³¹Committee on Abrupt Climate Change, (2002). Abrupt Climate Change: Inevitable Surprises. National Academy of Sciences, Washington. P.43-45

3. Recent climate change evidence

The evidence for human influence on the climate is also well-established by now. The overwhelming consensus among climate scientists is that human activities, particularly the emission of greenhouse gases, are a major driver of the observed changes. Following this, weather record registered that in this century the general trend of higher temperatures is taking place. The Global-Mean Surface Temperature (GMST)³² indicator is a crucial data in this context to understand what it is happening because is related to the planetary energy balance and it increases with the intensification of greenhouse gases in the atmosphere. However, the rate of temperature is not stable because solar activity is always evolving. The general trend is that the temperature increased by 0.8-1 C in the last 100 years until today, figure 2 describe this tendency.

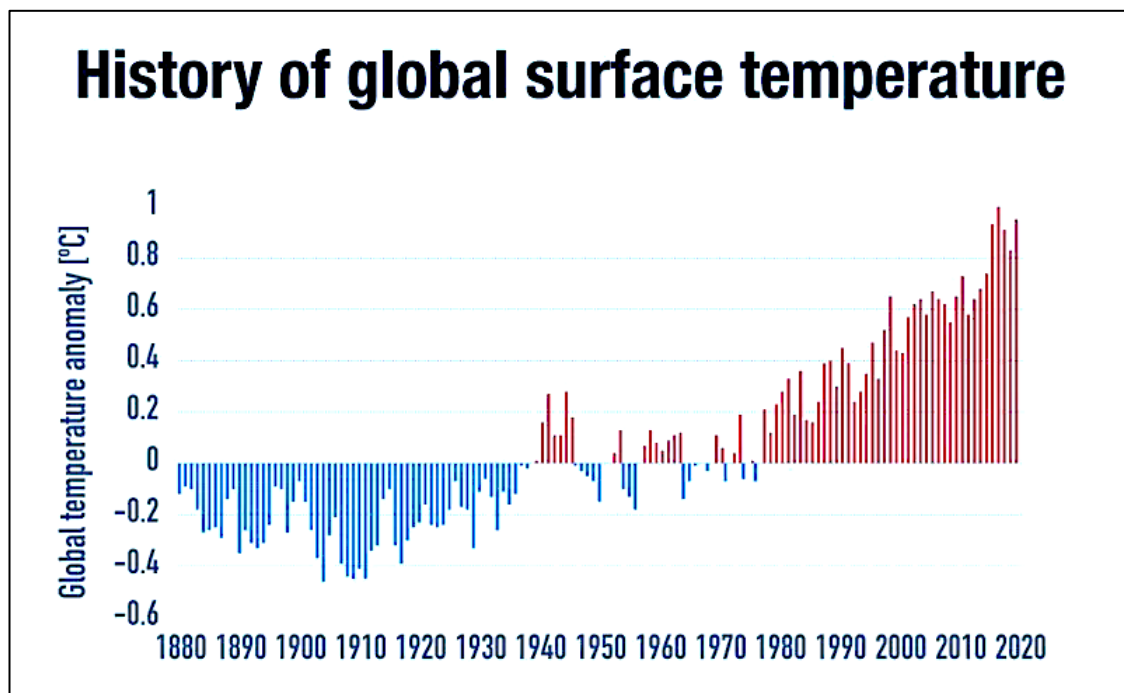


Figure 2. History of global surface temperature. (Graph retrieved from The Good Men Project (<https://goodmenproject.com/featured-content/365-days-of-climate-awareness-78-global-mean-surface-temperature/>))

Furthermore, the temperature trend is divided into two periods: the first from 1910 until 1940 and the second from 1940 to 2020. In the first period, the global temperatures rose by 0.35° C and then there was a cooling period that coincided with the second period.³³ This second trend from the 1940s to the

³²Oschlies, A. et al. (2016). Indicators and metrics for the assessment of climate Engineering. Agu Publications. P.50

³³Brönnimann, S. (2005). The global climate anomaly 1940–1942. *Weather*, 60: 336-342. <https://doi.org/10.1256/wea.248.04>

present is an important aspect of climate change research. In fact, from the mid-1940s to the mid-1970s, there was a period where global temperatures appeared to level off or even cool slightly. This led to some scientific discussions and media reports suggesting the possibility of a "global cooling" trend. Factors contributing to this perception included increased industrial aerosols and natural variability in the climate system. More recently, from 1970 up to 2011, there was another increase, this time of 0.50°C. This period saw a consistent warming trend that was more pronounced than the previous decades. The 1980s and 1990s were notably warmer than earlier decades. Around the early 2000s to the early 2010s, there was a period where the rate of warming appeared to slow down, leading to discussions about a "hiatus" or "plateau" in global warming.³⁴ However, it's crucial to note that this was a short-term fluctuation within the broader context of long-term warming. Moreover, the last ten years, following the studies made by Berkeley Earth, were declared to have been the second warmest period since 1850, especially in 2017.³⁵ Since the early 2010s, global temperatures have resumed their upward trend. The latter part of the 2010s and into the 2020s continued to experience some of the warmest years on record with summer 2023 as the hottest ever.³⁶

Behind this situation, there is an explanation, the extremely high temperature was boosted by the event that is known as "*El Niño*".³⁷ As defined by the World Meteorological Organization, it is "*a naturally occurring phenomenon involving fluctuating ocean temperatures in the central and eastern equatorial Pacific, coupled with changes in the atmosphere*".³⁸ This phenomenon influenced climate patterns all over the world, but it is also a cycle, this is not the first time that it has appeared. Basically, it was a set of fluctuations and anomalies in the conveyor belts of the different ocean currents of the world. El Niño had a cold counterpart called *La Niña* and together are referred to as the El Niño Southern Oscillation.³⁹ El Niño, which appeared between June and December was caused by a change in the wind patterns, in fact, the Pacific Trade Winds failed to reload after the summer monsoon season in Asia. This warmer air brought an oscillation between the cooler and warmer waters that resulted in warmer ocean temperatures compared to the normal ones. Normally, up-swellings from

³⁴Duan, A., & Xiao, Z. (2015). Does the climate warming hiatus exist over the Tibetan Plateau?. *Scientific reports*, 5, 13711. <https://doi.org/10.1038/srep13711>

³⁵Rohde, R. (2018). *Global Temperature Report for 2017*. Berkeley Earth. Available at <http://berkeleyearth.org/global-temperatures-2017/>. (accessed 20 October 2021).

³⁶The Copernicus Programme. (2023). *Summer 2023: the hottest on record*. Copernicus. Available at <https://climate.copernicus.eu/summer-2023-hottest-record>

³⁷Rahmstorf, S. et al. (2017). Global temperature evolution: recent trends and some pitfalls. *Environ. Res. Lett.* 12 054001, IOP Publishing. Pp.1-6

³⁸World Meteorological Organization. (2015). *El Niño/ Southern Oscillation*. WMO-No. 1145. ISBN 978-92-63-11145-6. P.2

³⁹Beever, E.A & Belant, J.L (2016). *Ecological Consequences of Climate Change: Mechanisms, Conservation, and Management*. CRC Press. Pp.10.12

the seabed occur to bring nutrients up to the plankton to feed on and in turn abundance of plankton is beneficial for the food chain. During the El Niño event, this does not occur, therefore, the plankton is reduced, and the fish failed to reproduce. On the opposite, during La Niña, the winds are particularly strong in carrying warmer water westwards across the Pacific leading to colder than average temperatures in the east and warmer than average temperatures in the west. Thus, plankton growths in the areas where the temperature is cooler, bringing a positive effect on marine life. Phenomena like this seem to occur three to five years but they have also varied between two and seven years, but both seem to last between nine and twelve months. Since they change the atmospheric pressures there are effects on rain, wind patterns and sea surface temperatures. In Europe, El Niño diminished the number of autumnal hurricanes, while La Niña had less impact in Europe but led to milder winters in Northern Europe and colder winters in southern/western Europe which brought snow in the Mediterranean region.⁴⁰

The temperatures have been significantly high recently, and one of the consequences that is most worrying to the international community is the melting of the ice sheets in the Antarctic. The climate pattern in this area is classified as extreme with very cold winter temperatures characterized by the dominance of snow cover, and relatively low rates of precipitation. Those features arise from the extreme seasonality of the northern climate. There are essentially two seasons, one frozen and one more defrosted, usually, there is a rapid transition between them. In the frozen season, which lasts 7-10 months of the year, unfrozen surface water should be rare. The climate of the Arctic has warmed significantly since the end of the Little Ice Age to nowadays, especially between 1940 and 1970. In addition, most areas of the Arctic have also observed increases in precipitation. One of the impacts and most evident proof of those warm temperatures results in changes in permafrost occurrence and distribution on the ice land.⁴¹ This is clearly shown in figure 3.

⁴⁰Mason, M. (n.d.). *El Niño and La Niña: Their Impact on the Environment*. EnvironmentalScience.org. Available at <https://www.environmentalscience.org/el-nino-la-nina-impact-environment>. (accessed 11 October 2021).

⁴¹Hinzman, L.D. et al. (2005). Evidence and implications of recent climate change in northern Alaska and other arctic regions. *Climatic change*, 72. Pp.253-263

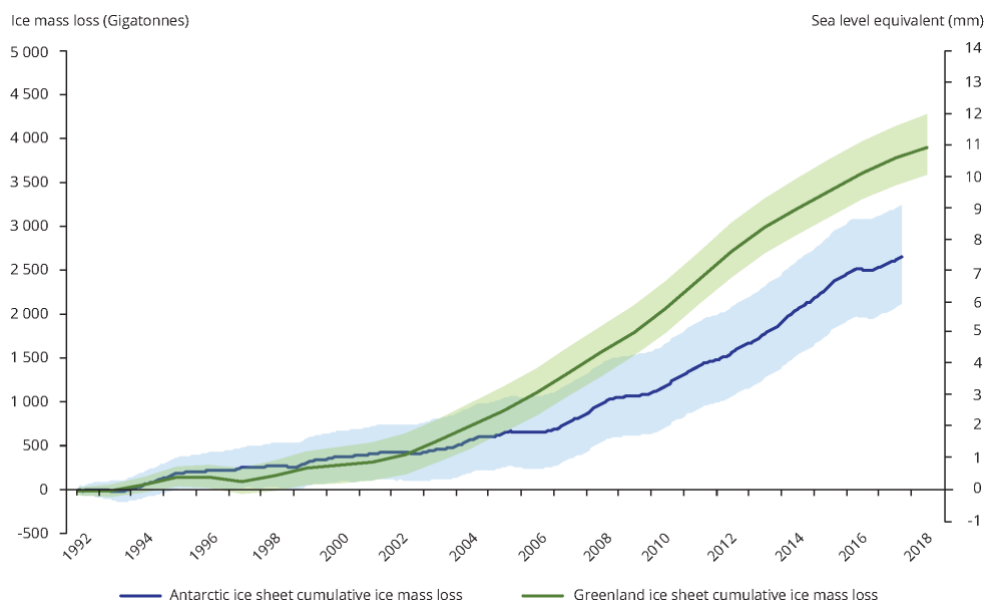


Figure 3 shows the cumulative ice mass loss from the Greenland and Antarctic ice sheets retrieved from <http://www.eea.europa.eu/data-and-maps/indicators/greenland-ice-sheet-4>

Also, temperatures in this area are now way too warm.⁴² There are three distinct regions in the Antarctic: West Antarctica, Antarctic Peninsula and East Antarctica. In West Antarctica, glaciologist has assessed that the ice loss has climbed from 53 billion to 159 billion tonnes per year in a period that goes from 1992 to 2017 while on the Antarctic Peninsula, the loss is of 33 billion tonnes annually.⁴³ Here, it is particularly serious because the floating ice platforms sitting in front of glaciers have collapsed making ice flow faster. However, East Antarctica is the only region to have shown some growth. Much of this region essentially sits out of the ocean and collects its snows over time and is not subject to the same melting forces but the gains are likely quite small, with five billion tonnes per year. However, climate change is not only about temperatures, it is indeed also interesting to analyze different climate events that can be described as atypical. Last year, 2018, was full of these events, not only strange climate episodes but extreme events too. The United States has experienced several hurricanes and devastating wildfires, and Californian citizens had to escape the flames abandoning their houses. The New York Times reported that more than 200 people lost their lives and that nearly 6000 houses were destroyed.⁴⁴ Nonetheless, President Trump insists on claiming climate change is not something real and that even those events were not linked to it but the bad management of the Californian forests. In addition, last year, Florida was invaded by a snowstorm after nearly twenty years without snow in the country. The United States is not alone in witnessing

⁴²Amos, J. & Gill, V. (2018). *Antarctica loses three trillion tonnes of ice in 25 years*. Science correspondents. BBC. Available at <https://www.bbc.com/news/science-environment-44470208>. (accessed 20 October 2021).

⁴³Rignot, E., Mouginot, J., Scheuchl, B., Van Den Broeke, M., Van Wessel, M. J., & Morlighem, M. (2019). Four decades of Antarctic Ice Sheet mass balance from 1979–2017. *Proceedings of the National Academy of Sciences*, 116(4), 1095–1103.

⁴⁴Nicas, J. & Fuller, T. (2018). *Wildfire Becomes Deadliest in California History*. The New York Times. Available at <https://www.nytimes.com/2018/11/12/us/california-fires-camp-fire.html>. (accessed 20 October 2021).

strange climate patterns, in the Sahar Desert fell 15cm of impressive snow. Here, the temperature can be low in the wintertime, but the snow is not common even if not impossible.⁴⁵

The understanding of these temperature trends has played a crucial role in shaping climate policy and international efforts to mitigate the impacts of climate change. It underscores the urgency of reducing greenhouse gas emissions and adapting to the changes that are already underway. It is important to note that while short-term fluctuations and variability occur, the long-term trend of global warming is a clear and scientifically well-established phenomenon.

4. Climate change effect on biodiversity and ecosystems

Biodiversity is a fundamental aspect of the natural heritage of the planet and provides a wide range of benefits to humans and other species. Biodiversity and the climate system are intimately linked in a complex web of interactions.⁴⁶ On one side, climate plays a pivotal role in determining which species can thrive in a particular area. Temperature, precipitation, and other climate variables influence the types of vegetation, water availability, and other factors that make up habitats.⁴⁷ The changes in climate can alter the suitability of habitats for different species, potentially leading to shifts in their distribution. On the other side, biodiversity contributes to the stability and resilience of ecosystems in the face of changing climatic conditions. Diverse ecosystems are better equipped to handle disturbances such as extreme weather events, disease outbreaks, and changes in temperature or rainfall patterns. Also, forests and other vegetated areas are crucial components of the carbon cycle. Different plant species have varying capacities to sequester carbon through photosynthesis. This helps regulate atmospheric carbon dioxide levels, a key greenhouse gas that influences climate.⁴⁸

Even though climate change is a global-scale process, it has diverse regional manifestations, especially as consequences on biodiversity and ecosystems. These impacts are most of the time local and can be different from place to place. The lives of animals, plants, and living organisms in general, are strongly linked to changes in climate, like variations in temperatures, the amount, the timing, and the form of precipitation or even changes in ocean currents. Some organisms are more sensitive and vulnerable to climate variations than others. If the variations are modest and slow, many species will

⁴⁵Chodosh, S. (2018). 2018 Has been full of weird weather so far: Huzzah for snow in June and ice in Florida!. Popular Science. Available at <https://www.popsoci.com/weird-weather-2018>, (accessed 20 October 2021).

⁴⁶Fredenburgh, J. (2022). We can't tackle climate change if we ignore biodiversity. Imperial College London. Available at <https://www.imperial.ac.uk/news/241555/we-cant-tackle-climate-change-ignore/>

⁴⁷Schippers, P. et al (2021). Biodiversity conservation in climate change driven transient communities. *Biodiversity and Conservation*, 30, 2885-2906.

⁴⁸Artaxo, P., Hansson, HC., Machado, LAT. & Rizzo, LV. (2022) Tropical forests are crucial in regulating the climate on Earth. *PLOS Clim* 1(8): e0000054. <https://doi.org/10.1371/journal.pclm.0000054>

most likely adapt successfully. On the other hand, if climate change happens rapidly, more and more species will face ecological changes to which they may not be able to adapt.⁴⁹ The notion “biodiversity” has been defined by the scientist as “the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems”.⁵⁰ It describes the degree of variation of life and refers to the different species living within a region. It is all about sustaining the natural areas that are beginning to reduce at a steady rate as we plan human activities. In fact, as stated by the WWF we are currently using more natural resources than the planet can sustain, thus consequently species, habitats, and local communities are under pressure or direct threats.⁵¹ In fact, as the graphic in Figure 4 demonstrates, different animal species are endangered due to a direct impact on their environment, like pollution, climate change and habitat degradation.

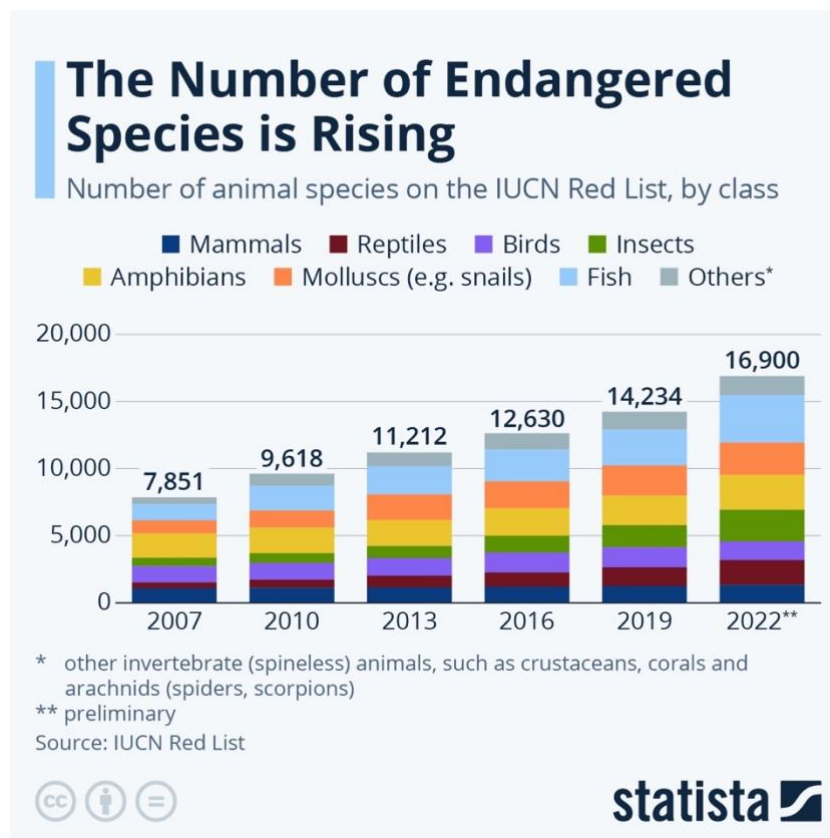


Figure 4. Endangered species. (retrieved from <https://www.statista.com/chart/17122/number-of-threatened-species-red-list/>)

⁴⁹ Cho, R. (2018). What Helps Animals Adapt (or Not) to Climate Change?. State of the Planet. Columbia Climate Law School. Available at <https://news.climate.columbia.edu/2018/03/30/helps-animals-adapt-not-climate-change/>

⁵⁰The biodiversity definition retrieved from <https://www.conserve-energy-future.com/what-is-biodiversity.php>. The term itself was coined by the ecologist Wilson in the 1980s.

⁵¹WWF (2022) Living Planet Report 2022 – Building a nature- positive society. Almond, R.E.A., Grooten, M., Juffe Bignoli, D. & Petersen, T. (Eds). WWF, Gland, Switzerland.

Climate change biology is an emerging discipline that focuses on biodiversity loss and climate change since these fields are two unresolved environmental issues of this age. Recent biodiversity loss has been linked as one of the consequences of increasing human use of the planet. Therefore, climate change biology examines how shifts in temperature, precipitation patterns, and other climatic variables influence the physiology, behavior, distribution, and interactions of plants, animals, and microorganisms.⁵² As already explained, greenhouse gas emissions alter the composition of the atmosphere and the living conditions on the surface of the planet for people, animals, vegetables and other species. In fact, we are losing genetic diversity and a significant part of populations of various species, which means that they are expected to be extinct. Adaptation is the only response to climate change that has the object of maintenance of the individual.⁵³ To make a concrete example, by analyzing the behavior of some animals we can easily understand how their life is mined by climate change. Studies have analyzed that the El Nino oscillation had effects on the physical environment, such as the sea ice and the biological environment in Antarctica where elephant seals forage. The sea-ice environment is an important part of the Southern Ocean ecosystem because all biological activities relate to the physical components of the sea-ice. Foraging zones for the animals are commonly concentrated around oceanic frontal zones usually where the prey distribution is the most concentrated, much of the distribution is determined by the thermal structure of the water which is influenced by the oscillation events through pressure and sea temperature changes. This means that elephant seals have adopted an accurate foraging strategy so that they focus their effort on areas where they can easily return, even if the position and productivity around these zones change every year. Thus, the new strategy has permitted female seals to reproduce where there is the highest probability of surviving.⁵⁴ Moreover, changes in water with high temperatures are also causing complex changes in marine ecosystems, both in the geographic distributions of species and in the vertical distribution. The effects can be direct or indirect, like changes in prey availability, distribution, susceptibility to diseases or affect the reproduction of species.⁵⁵ Regarding this latter consequence, we can use the elephant seal example again. In a study published in 2009, scientists noticed that ocean temperature had a direct impact on the ratio of male to female elephant seal pups born. After birth, which takes

⁵²Polly, P. D., et al (2011). History matters: ecometrics and integrative climate change biology. *Proceedings of the Royal Society B: Biological Sciences*, 278(1709), 1131-1140.

⁵³Lovejoy, T.E. & Hannah, L. (2019). Biodiversity and Climate Change: Transforming the Biosphere. Yale University, 2019, pp. 4-7

⁵⁴McMahon, C.R. & Burton, H.R. (2005). Climate change and seal survival: evidence for environmentally mediated changes in elephant seal, *Mirounga leonina*, pup survival, *Proc. R. Soc. B* 272, P. 923

⁵⁵McIntyre, T. et al. (2011). *Elephant seal dive behavior is influenced by ocean temperature: implications for climate change impacts on an ocean predator*, *Marine Ecology Progress Series*, Vol. 441: 257–272. Pp.257-258

place in the winter, the different sexes migrate to different feeding areas. Male seals swim directly north, while females swim more east where there are preys that live in deep water. As the water is getting warmer every year, it means that females must swim every year further than the year before for their prey, which because of the climate are dispersed. The strategy naturally implemented is to give birth to more males than females in warmer years, in this way, adult females reduce competition for food to their daughters.⁵⁶

Furthermore, the multiple components of climate change can affect all levels of biodiversity. It can decrease the genetic diversity of populations because of its directional selection and rapid migration, which consequently could lead to affect ecosystem functioning. Even at a higher level, the climate can induce changes in vegetation communities that are predicted to be large enough to affect biome integrity. For example, some studies regarding potential future distributions in tropical South America underline how a large part of the Amazonian rainforest could be substituted by a tropical savannah. However, biodiversity may be able to defend itself with several types of mechanisms that could ease or even eliminate these effects. As already said, this is the adaption and it can be of two types: plastic versus genetic, which is given by plasticity that provides a very short-term response, while the second response is along three axes. Those axes are spatial, temporal or self. The first two are easily observable and therefore well-documented. The last one is less visible in physiological and behavioral changes.⁵⁷ Unfortunately, there is no certainty on how the environment and its living organisms would react. In parallel, there are effects on the balance and structures of ecosystems. As underlined by the Committee on Ecological Impacts of Climate Change⁵⁸, ecosystems play a central role in human life because they are responsible for providing the products directly consumed by people: food from agricultural, marine, and forest ecosystems, plus fuel, including wood, grass, and even waste from some crops, and medicine. Also, our supplies and even the quality of freshwaters depend on ecosystems, as they play a central role in circulating, cleaning, and replenishing water supplies. Not only water, in fact, ecosystems also regulate our environment, for example, forests, floodplains or streamside vegetation can control and prevent floods. Studies have shown many direct and indirect effects on ecosystems. Changes in temperature, for example, affect directly the blooming of plants and flowers that may occur earlier because of warmer temperatures and earlier springs. However, the perception of a change for the ecosystem itself is not always bad, the perception is given

⁵⁶Hautala, L. (2009). Elephant Seals and Climate Change. Bay Nature. Available at <https://baynature.org/article/elephant-seals-and-climate-change/> (accessed 20 October 2021).

⁵⁷Bellard, C., Bertelsmeier, C., Leadley, P. et al (2012). Impacts of climate change on the future of biodiversity. Ecology Letters. Pp.365-368

⁵⁸Committee of experts selected by the National Academy of Science with specific request to produce a scientifically accurate brochure for the general public describing the ecological effects of climate change.

by humans since the mechanism of adaptation is natural for an ecosystem and its organisms and it is a matter of fact that ecosystems are not static. Mainly, there are two well-studied general ecological impacts of climate change that provide a significant example of climate-induced shifts in species' ranges and seasonal shifts in biological activities or events. Regarding the range shift, each species has a range of climates within which it can survive and reproduce, as the earth becomes warmer, the tolerable climate ranges for many species are shifting their locations. As regards the seasonal shift, most of the biological events are timed based on the seasonal period, most of them occur in the spring and autumn. Studies have discovered that in the last 30 years, many behaviors now take place at least fifteen days earlier than several decades ago. The changes noticed include the earlier arrival of migrant birds, earlier appearance of butterflies or earlier flowering of plants.⁵⁹

Overall, preserving biodiversity is critical for the health of our planet and for future generations. Human activities, such as habitat destruction, pollution, overfishing, introduction of invasive species, and climate change, are major drivers of biodiversity loss. These activities disrupt ecosystems and can lead to the extinction of species. Biodiversity protection requires global cooperation, sustainable resource management, and a deep respect for the intricate web of life that sustains us all. At the same time, biodiversity has significant cultural importance for many societies around the world. It provides inspiration for art, literature, and spiritual practices. Many indigenous cultures have deep connections with specific species and ecosystems. But biodiversity is also a source of immense scientific knowledge. Studying different species and ecosystems helps us understand the complexities of life on Earth, which can lead to advancements in fields like medicine, agriculture, and ecology. For this reason, efforts to conserve biodiversity range from establishing protected areas and wildlife reserves to implementing sustainable land management practices. International agreements, like the Convention on Biological Diversity, aim to address biodiversity conservation at a global level.

5. Climate change and human activities

It has been described how climate change is a critical and pressing issue for the environment and for biodiversity. The devastating nature has profound implications for the human sphere with its long-term shifts in temperature and weather patterns. The relation here is mutual because the phenomenon is largely driven by human activities (burning fossil fuels, deforestation, and industrial processes) but the effects are deeply felt by the human population. It is known that human activities release

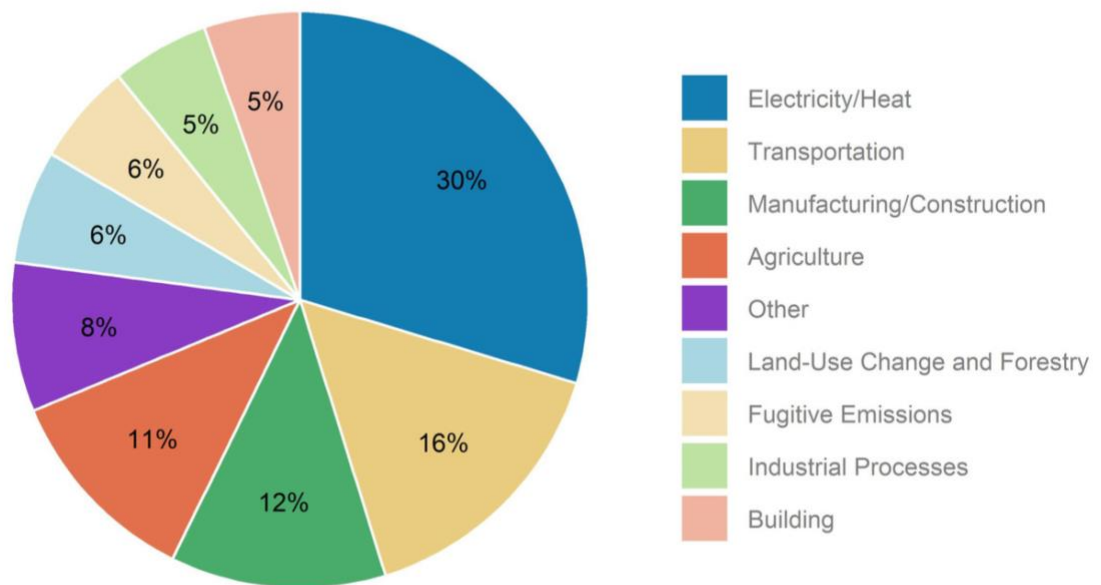
⁵⁹ Committee on Ecological Impacts of Climate Change. (2008). Ecological Impacts of Climate Change. Board on Life Sciences Division on Earth and Life Studies. The National Academies Press. Pp.1-20

greenhouse gases into the atmosphere, leading to an enhanced greenhouse effect and subsequent global warming.

Climate change poses a complex and far-reaching challenge to humanity as its impacts extend across every aspect of the human sphere, from health and food security to economic stability and geopolitical relationships. Every sector and aspect of the human sphere are affected by climate change.⁶⁰ Figure 5 shows the sectors and the quantity of emissions they produce.

Greenhouse gas emissions by sector

In billions of tonnes of CO₂-equivalent



Source: CAIT Climate Data Explorer

Figure 5 Which economic sector contributes the most greenhouse gases. (Retrieved from VOX <https://www.vox.com/energy-and-environment/21428525/climate-change-cause-charts-china-us-responsible>)

This chart clearly shows that at the global level, the constant request for electricity and heating is the principal driver of emissions, followed by transport. Among these, agriculture stands as the cornerstone of global sustenance, facing the intricate task of adapting to shifting weather patterns and mitigating its own contributions to greenhouse gas emissions. Simultaneously, fishery activities, vital

⁶⁰See the European Commission, Consequences of climate change. Available at https://climate.ec.europa.eu/climate-change/consequences-climate-change_en

for both livelihoods and nutrition, grapple with altered marine ecosystems and shifting fish populations. Industries, the engines of economic progress, are in the midst of a transformation towards sustainable practices to curtail emissions and adapt to a changing climate. In the realm of tourism, destinations once cherished for their natural beauty and cultural heritage face the dual challenge of mitigating their own environmental footprint while adapting to a changing climate that reshapes their appeal. In this complex interplay, the human sphere finds itself at the nexus of both the causes and consequences of climate change, necessitating a concerted effort to forge a sustainable path forward. Analyzing these activities is also useful to create a concrete link with the human rights field as all of these sectors can be translated into human rights terms.

5.1 Agriculture activities

The agriculture sector holds paramount importance in human civilization, serving as the backbone of our society and economy. It encompasses the cultivation of crops, livestock rearing, and the production of various raw materials necessary for sustaining human life. Agriculture is the primary source of food production. It provides a diverse array of crops, vegetables, fruits, and animal products that form the basis of our diet. A robust agricultural sector is essential for ensuring that communities have access to an adequate and nutritious food supply.⁶¹ Sustainable agriculture practices are crucial for maintaining a healthy environment. Proper land management, crop rotation, and conservation efforts help prevent soil erosion, maintain biodiversity, and mitigate climate change impacts. Agriculture is one of the most vulnerable sectors to the impacts of climate change. However, it also has the potential to be a part of the solution.⁶² Sustainable practices like agroforestry and organic farming can help sequester carbon and build resilience to changing climate conditions.

Climate change has a profound impact on agriculture, affecting both crop and livestock production systems. Shifts in temperature and precipitation patterns, along with increased frequency of extreme weather events, pose significant challenges to global food security. Prolonged droughts can lead to water scarcity, making it harder to irrigate crops and support livestock.⁶³ Conversely, heavy rainfall and flooding can erode soil, wash away crops, and disrupt planting schedules. Additionally, rising temperatures can alter the distribution and behavior of pests and diseases, further threatening crop

⁶¹Pawlak, K., & Kołodziejczak, M. (2020). The Role of Agriculture in Ensuring Food Security in Developing Countries: Considerations in the Context of the Problem of Sustainable Food Production. *Sustainability*, 12(13), 5488. MDPI AG. Retrieved from <http://dx.doi.org/10.3390/su12135488>

⁶²OECD, (2022). Agriculture And Climate Change. OECD Meeting of Agriculture Ministers background note. Available at <https://www.oecd.org/agriculture/ministerial/documents/Agriculture%20and%20Climate%20Change.pdf>

⁶³Aydinalp, C., & Cresser, M. S. (2008). The effects of global climate change on agriculture. *American-Eurasian Journal of Agricultural & Environmental Sciences*, 3(5), 672-676.

yields.⁶⁴ To adapt to these changes, the agricultural sector must implement resilient practices such as crop diversification, improved water management, and the use of climate-resilient crop varieties. Moreover, sustainable agricultural practices that reduce emissions of greenhouse gases, such as no-till farming and agroforestry, play a crucial role in mitigating the impact of agriculture on climate change.⁶⁵ Balancing adaptation and mitigation efforts is essential for ensuring food security in a changing climate. In addition to the direct impacts on crop production, climate change also affects the overall agroecosystem.⁶⁶ Shifts in temperature and precipitation patterns can lead to changes in the types of crops that can be grown in specific regions. Traditional growing seasons may no longer align with optimal conditions, requiring farmers to adjust their planting schedules or even consider transitioning to different crops altogether.⁶⁷ Furthermore, livestock farming faces challenges as rising temperatures can lead to heat stress in animals, reducing their productivity and overall well-being. Changes in available forage and water resources also impact livestock management practices.⁶⁸ Additionally, the increased frequency of extreme weather events, such as hurricanes or prolonged heatwaves, can lead to substantial losses in livestock populations.

As already mentioned, soil health is another critical aspect affected by climate change. Higher temperatures and altered precipitation patterns can exacerbate soil erosion and degradation, making it harder for crops to thrive. Implementing sustainable soil management practices, like cover cropping and rotational grazing, becomes crucial in maintaining soil fertility and structure.⁶⁹

In light of these challenges, adaptation strategies are paramount. These include the development and implementation of climate-resilient agricultural practices, investment in research and development of climate-adaptive crop varieties and livestock breeds, and improved water management techniques. Moreover, supporting small-scale and subsistence farmers, who are often the most vulnerable to climate impacts, is essential for global food security.⁷⁰

⁶⁴Skendžić, S., Zovko, M., Živković, I. P., Lešić, V., & Lemić, D. (2021). The Impact of Climate Change on Agricultural Insect Pests. *Insects*, 12(5), 440. <https://doi.org/10.3390/insects12050440>

⁶⁵ Kurukulasuriya, P., & Rosenthal, S. (2013). Climate change and agriculture: A review of impacts and adaptations.

⁶⁶ Semeraro, T., Scarano, A., Leggieri, A., Calisi, A., & De Caroli, M. (2023). Impact of Climate Change on Agroecosystems and Potential Adaptation Strategies. *Land*, 12(6), 1117. MDPI AG. Retrieved from <http://dx.doi.org/10.3390/land12061117>

⁶⁷ Sajid, SS. & Hu, G. (2022) Optimizing Crop Planting Schedule Considering Planting Window and Storage Capacity. *Front. Plant Sci.* 13:762446. doi: 10.3389/fpls.2022.762446

⁶⁸ Rojas-Downing, M. M., Nejadhashemi, A. P., Harrigan, T., & Woznicki, S. A. (2017). Climate change and livestock: Impacts, adaptation, and mitigation. *Climate risk management*, 16, p.148

⁶⁹ Galindo, F.S., Delate, K., Heins, B., Phillips, H., Smith, A., & Pagliari, P. H. (2020). Cropping System and Rotational Grazing Effects on Soil Fertility and Enzymatic Activity in an Integrated Organic Crop-Livestock System. *Agronomy*, 10(6), 803. MDPI AG. Retrieved from <http://dx.doi.org/10.3390/agronomy10060803>

⁷⁰ Fan, S., Rue, C. (2020). The Role of Smallholder Farms in a Changing World. In: Gomez y Paloma, S., Riesgo, L., Louhichi, K. (eds) *The Role of Smallholder Farms in Food and Nutrition Security*. Springer, Cham. https://doi.org/10.1007/978-3-030-42148-9_2

It is important to note that the agricultural sector also has a significant role to play in climate mitigation efforts. By adopting sustainable land management practices and transitioning to low-carbon farming techniques, such as agroecology and agroforestry, agriculture can contribute to reducing overall greenhouse gas emissions. This dual focus on adaptation and mitigation is crucial for building a resilient and sustainable agricultural system in the face of a changing climate.

5.2 Fisheries industry

The fisheries sector, also known as the fisheries industry, plays a vital role in global food security, economic development, and environmental conservation. It encompasses the harvesting, processing, and distribution of fish and other aquatic organisms for consumption, trade, and various industrial applications. Fish is a rich source of essential nutrients, including high-quality proteins, omega-3 fatty acids, vitamins, and minerals. It provides a crucial dietary component for billions of people around the world, especially in coastal communities and developing countries. Sustainable fishing practices are essential for maintaining healthy marine and freshwater ecosystems. Overfishing and destructive fishing methods can lead to the depletion of fish stocks and harm other species in the ecosystem. Responsible management ensures the preservation of biodiversity.⁷¹

Climate change has far-reaching implications also for fishery activities around the world. As ocean temperatures rise and marine ecosystems undergo significant shifts, the dynamics of fisheries are being profoundly affected.⁷² One of the key impacts of climate change on fisheries is the alteration of fish distribution and migration patterns. As temperatures in the oceans change, many species are moving towards cooler waters, either towards the poles or to deeper depths.⁷³ This has implications for both commercial and subsistence fisheries, as traditional fishing grounds may no longer yield the same catches.

Furthermore, changes in ocean chemistry, particularly ocean acidification, can disrupt the delicate balance of marine ecosystems. This affects the availability of plankton, the foundational food source

⁷¹UNCTAD (2015). Sustainable Fisheries: International Trade, Trade Policy and Regulatory Issues. UNCTAD United Nations Publications. Available at https://unctad.org/system/files/official-document/webditcted2015d5_en.pdf pp. 25-28

⁷²Daw, T., Adger, W.N., Brown, K. & Badjeck, M.C. (2009). Climate change and capture fisheries: potential impacts, adaptation and mitigation. In K. Cochrane, C. De Young, D. Soto and T. Bahri (eds). Climate change implications for fisheries and aquaculture: overview of current scientific knowledge. *FAO Fisheries and Aquaculture Technical Paper*. No. 530. Rome, FAO. pp.107-150.

⁷³Rushton, S. (2023). Fish move to colder waters as a result of global warming. National News UK. Available at <https://www.thenationalnews.com/world/uk-news/2023/05/31/fish-move-to-colder-waters-as-a-result-of-global-warming/> (accessed 11 May 2023).

for many fish species. Additionally, coral reefs and other critical habitats for fish are at risk due to warming waters and increasing acidity.⁷⁴

Extreme weather events, intensified by climate change, also pose a threat to fishery activities. Hurricanes, typhoons, and cyclones can damage fishing infrastructure, vessels, and coastal communities, disrupting both small-scale and industrial fishing operations.

Another significant concern is the vulnerability of aquaculture, which is an increasingly important source of seafood globally. Rising sea levels and salinity intrusion due to climate-related changes can impact coastal aquaculture facilities. Additionally, temperature-sensitive species in aquaculture may face stress or reduced growth rates as water temperatures fluctuate.⁷⁵

In the face of these challenges, adaptation strategies are crucial. This includes diversification of species targeted in fisheries, adoption of sustainable fishing practices, and development of resilient aquaculture techniques. Additionally, improved fisheries management, including the establishment of marine protected areas, can help conserve critical habitats and allow fish stocks to recover.

Mitigation efforts are also essential. Reducing emissions of greenhouse gases is paramount in addressing the root causes of climate change. Additionally, sustainable fishing practices that prioritize long-term ecological health can contribute to the resilience of marine ecosystems in the face of changing conditions.⁷⁶

Overall, climate change is reshaping the landscape of fishery activities, requiring a comprehensive and coordinated effort to ensure the sustainability and resilience of this critical industry. This involves a combination of adaptive strategies within the sector itself and broader global efforts to mitigate the impacts of climate change.

5.3 Industries

Not only agriculture and fisheries activities, but climate change is also having a profound impact on various industries across the globe.⁷⁷ The term “industries” is however very general as there are different sectors and types of industries. Overall, the industrial sector is a cornerstone of modern economies, responsible for the production of goods and services that drive economic growth and

⁷⁴ Hoegh-Guldberg O, Poloczanska ES, Skirving W. & Dove, S. (2017) Coral Reef Ecosystems under Climate Change and Ocean Acidification. *Front. Mar. Sci.* 4:158. doi: 10.3389/fmars.2017.00158

⁷⁵ Maulu S. et al (2021) Climate Change Effects on Aquaculture Production: Sustainability Implications, Mitigation, and Adaptations. *Front. Sustain. Food Syst.* 5:609097. doi: 10.3389/fsufs.2021.609097

⁷⁶ Sumaila UR & Tai TC (2020) End Overfishing and Increase the Resilience of the Ocean to Climate Change. *Front. Mar. Sci.* 7:523. doi: 10.3389/fmars.2020.00523

⁷⁷ Zurich. (2023). Here’s how climate change will impact businesses everywhere – and what can be done. Zurich. Available at: <https://www.zurich.com/en/knowledge/topics/climate-change/how-climate-change-will-impact-business-everywhere>

improve quality of life.⁷⁸ It encompasses a wide range of activities, from manufacturing and construction to energy production and technological innovation. The industrial sector has a notable environmental footprint due to resource consumption, emissions, and waste generation. Sustainable industrial practices and technologies are critical for minimizing environmental impacts and promoting long-term sustainability.⁷⁹ Moreover, the industrial sector plays a critical role in times of crisis, such as during natural disasters or pandemics especially if we think about industries related to healthcare, pharmaceuticals, and emergency services that are vital during such events. Thus, the industrial sector is a multifaceted engine that powers economic growth, technological progress, and infrastructure development. Balancing its benefits with environmental sustainability and social well-being is crucial for creating a prosperous and equitable society. The link between the industry sector and climate change is an imaginable one as these activities result in a massive production of emissions in the atmosphere.⁸⁰ Consequently, the energy industry is probably the most central in the climate change debate. Transitioning from fossil fuels to renewable energy sources like solar, wind, and hydroelectric power is crucial for reducing greenhouse gas emissions. This shift is driving innovation and creating new economic opportunities in the renewable energy sector.⁸¹

Similarly, the transportation sector is also a major contributor to greenhouse gas emissions. Climate change is pressuring the industry to develop and adopt more sustainable transportation options, such as electric vehicles, public transit, and alternative fuels.⁸² At the same time, heavy industries like steel, cement, and chemical production are energy-intensive and contribute significantly to emissions.⁸³ Efforts are underway to implement cleaner technologies, improve energy efficiency, and transition to low-carbon manufacturing processes.

At the same time, climate change is influencing building design and construction practices. There's a growing emphasis on energy-efficient buildings, green infrastructure, and sustainable urban planning to reduce the environmental impact of the built environment.⁸⁴

⁷⁸ Kniivilä, M. (2007). Industrial development and economic growth: Implications for poverty reduction and income inequality. *Industrial development for the 21st century: Sustainable development perspectives*, 1(3), 295-333.

⁷⁹ Javaid, M., Haleem, A., Singh, R. P., Khan, S., & Suman, R. (2022). Sustainability 4.0 and its applications in the field of manufacturing. *Internet of Things and Cyber-Physical Systems*, 2, 82-90.

⁸⁰ Naudé, W. (2011). Climate change and industrial policy. *Sustainability*, 3(7), 1003-1021.

⁸¹ Solaun, K., & Cerdá, E. (2019). Climate change impacts on renewable energy generation. A review of quantitative projections. *Renewable and sustainable energy Reviews*, 116, 109415.

⁸² European Environment Agency. (2022). Transport and Environment Report 2022 (TERM 2022) Digitalisation in the mobility system: challenges and opportunities. EEA. doi:10.2800/47438

⁸³ Mandova, H. et al. (2020). The challenge of reaching zero emissions in heavy industry. IEA. Available at <https://www.iea.org/articles/the-challenge-of-reaching-zero-emissions-in-heavy-industry>

⁸⁴ Costinhas, P. (2023). Sustainable Buildings: Pioneering a Green Revolution in Urban Design. IMPAKTER. Available at <https://impakter.com/sustainable-buildings-pioneering-a-green-revolution-in-urban-design/>

In every sector, however, climate change introduces financial risks. The latter are mainly related to physical damage, liability, and market shifts. Recently, this sector has been heavily modified to meet climate goals. The financial sector refers to the industry that encompasses a wide range of services related to managing money, investments, and financial transactions. It plays a crucial role in the economy by facilitating the flow of funds between savers and borrowers, and by providing essential services to individuals, businesses, and governments. The sector indeed is increasingly considering climate-related risks in investment decisions and insurance underwriting.⁸⁵ Insurance companies, for example, are directly affected by an increase in natural disasters like hurricanes, floods, and wildfires. The sector needs to develop strategies to assess and manage these risks.⁸⁶ Moreover, the sector has seen a rise in green bonds and other sustainable financing instruments. These are designed to fund projects with positive environmental impacts, such as renewable energy projects or energy-efficient buildings.⁸⁷ It is also true that governments and international bodies are implementing policies and regulations to combat climate change. This can have profound effects on the financial sector, from carbon pricing mechanisms to mandatory reporting of climate-related risks for publicly traded companies. However, there are also negative effects, such as some investors and institutions that are choosing to divest from fossil fuel-related assets due to concerns about stranded assets (resources that may lose value due to changes in the energy landscape) and reputational risks associated with supporting industries contributing to climate change.⁸⁸ Thus, the financial sector has a crucial role to play in both the causes and solutions to climate change. By allocating capital to sustainable and climate-friendly projects, managing climate-related risks, and influencing corporate behavior through investment strategies, the financial sector can be a powerful force in addressing this global challenge.

Lastly, the IT (Information Technology) industry is included in the industrial sectors. This is a broad and dynamic sector that encompasses a wide range of activities related to the use, development, and management of technology and information systems. It plays a crucial role in virtually every aspect of modern society, and it has a crucial role in enabling climate solutions, from developing

⁸⁵ OECD. (2021). Financial Markets and Climate Transition: Opportunities, Challenges and Policy Implications, OECD Paris. Available at <https://www.oecd.org/finance/Financial-Markets-and-Climate-Transition-Opportunities-challenges-and-policy-implications.html>

⁸⁶ Grimaldi, A. et al (2020). Climate change and P&C insurance: The threat and opportunity. McKinsey. Available at <https://www.mckinsey.com/industries/financial-services/our-insights/climate-change-and-p-and-c-insurance-the-threat-and-opportunity#/>

⁸⁷ Chen, Y., & Zhao, Z. J. (2021). The rise of green bonds for sustainable finance: Global standards and issues with the expanding Chinese market. *Current Opinion in Environmental Sustainability*, 52, 54-57.

⁸⁸ Fisher, D. & Baron, R. (2015). Divestment and Stranded Assets in the Low-carbon Transition Background paper for the 32nd Round Table on Sustainable Development. OECD. Available at <https://www.oecd.org/sd-roundtable/papersandpublications/Divestment%20and%20Stranded%20Assets%20in%20the%20Low-carbon%20Economy%2032nd%20OECD%20RTSD.pdf>

renewable energy technologies to creating smart grid systems and advancing data analytics for climate modelling and monitoring.⁸⁹

Overall, in addressing the impacts of climate change, industries are increasingly adopting sustainable practices, developing innovative technologies, and aligning with global climate goals. Governments, businesses, and communities are working together to transition towards more resilient and low-carbon economies, ensuring long-term viability and environmental stewardship for future generations.

5.4 Tourism

Tourism is a dynamic and multifaceted sector that encompasses a wide range of activities related to travel, hospitality, and leisure. It plays a pivotal role in the global economy, contributing to economic growth, job creation, cultural exchange, and environmental preservation.⁹⁰ Tourism is a major economic driver in many countries as it generates revenue from various sources, including accommodation, transportation, food services, and entertainment. This sector also supports a wide array of ancillary industries, such as retail, tour operations, and cultural events.

In the last couple of years, sustainable tourism practices have been developed across the globe and they emphasize the protection of natural environments and wildlife. This form of responsible tourism aims to minimize negative impacts on ecosystems, conserve biodiversity, and promote environmental awareness among visitors.⁹¹ Without a doubt, climate change is significantly impacting the tourism industry, affecting destinations, businesses, and travellers worldwide. As it was explained, climate change is leading to more frequent and severe extreme weather events like hurricanes, floods, wildfires, and heatwaves. These events can disrupt travel plans, damage infrastructure, and pose risks to travellers and local communities.⁹² For example, rising temperatures and shifting weather patterns are altering the attractiveness and viability of traditional tourist destinations. Additionally, some areas may become less appealing due to excessive heat or changing landscapes, while others may become

⁸⁹Dwivedi, Y. K., Hughes, L., Kar, A. K., Baabdullah, A. M., Grover, P., Abbas, R., et al. (2022). Climate change and COP26: Are digital technologies and information management part of the problem or the solution? An editorial reflection and call to action. *International Journal of Information Management*, 63, 1-39, Article 102456. <https://doi.org/10.1016/j.ijinfomgt.2021.102456>

⁹⁰OECD. (2017). Policy Statement - Tourism Policies for Sustainable and Inclusive Growth. OECD Publishing. Available at <https://www.oecd.org/cfe/tourism/OECD-Policy-Statement-Tourism-Policies-for-Sustainable-and-Inclusive-Growth.pdf>

⁹¹Budeanu, A., Miller, G., Moscardo, G., & Ooi, C. S. (2016). Sustainable tourism, progress, challenges and opportunities: an introduction. *Journal of cleaner production*, 111, 285-294.

⁹²The Economy Times. (2023). Here's how climate change is shaping the future of tourism. ET Online. Available at <https://economictimes.indiatimes.com/news/new-updates/heres-how-climate-change-is-shaping-the-future-of-tourism/articleshow/103683154.cms>

more attractive as they experience milder climates. The most severe risk, however, is that rising sea levels and coastal erosion threaten popular coastal and island destinations. This endangers beachfront properties, leads to loss of natural beauty, and affects recreational activities like water sports and beach-going. Moreover, changes in weather patterns, such as shifts in snowfall or rainfall, affect outdoor activities like skiing, hiking, and water-based adventures. This can have a direct impact on businesses and services that cater to adventure tourism.

Another aspect that needs to be addressed is that climate change poses serious risks for cultural and historical sites.⁹³ We can think of sea-level rise, increased humidity, and extreme weather events that can potentially damage or destroy valuable cultural heritage, impacting the tourism industry and local economies that rely on these attractions.

Given the productivity of the sector, many communities depend heavily on tourism for their economic livelihoods. Climate-related disruptions to tourism, such as damage to infrastructure and natural attractions, can lead to economic instability and job losses.⁹⁴ Climate change can disrupt transportation systems through extreme weather events, such as hurricanes or heavy snowstorms. Additionally, changing weather patterns may lead to more flight cancellations and delays.⁹⁵ Also, climate change can exacerbate health risks for travelers, such as heat-related illnesses, tropical diseases in new regions, and exposure to air pollution from wildfires or urban heat islands.⁹⁶ Consequently, an increasing awareness of climate change is influencing traveler preferences. Many tourists are seeking eco-friendly and sustainable travel options, and there is a growing trend towards "slow travel" and supporting local communities.⁹⁷ This slow version of tourism is a travel philosophy and approach that emphasizes taking a leisurely, unhurried pace to fully immerse oneself in the local culture, environment, and experiences of a destination. It encourages travelers to savor the journey and connect more deeply with the places they visit. It promotes eco-friendly practices and a mindful approach to the environment. For example, travelers are encouraged to minimize their impact on the natural surroundings and support sustainable initiatives such as using more sustainable modes of transportation, like walking, cycling, or using public transit. Therefore, is about approaching travel

⁹³Fatorić, S., & Seekamp, E. (2017). Are cultural heritage and resources threatened by climate change? A systematic literature review. *Climatic change*, 142(1-2), 227-254.

⁹⁴Rosselló, J., Becken, S., & Santana-Gallego, M. (2020). The effects of natural disasters on international tourism: A global analysis. *Tourism management*, 79, 104080. <https://doi.org/10.1016/j.tourman.2020.104080>

⁹⁵Cerullo, M. (2023). Another effect of climate change? More flight delays and cancellations. CBS News. Available at <https://www.cbsnews.com/news/climate-change-flight-delays-and-cancellations-travel/>

⁹⁶Dinulos, J. E., & Dinulos, J. G. (2022). Present and future: Infectious tropical travel rashes and the impact of climate change. *Annals of Allergy, Asthma & Immunology*.

⁹⁷Chomsky, R. (2023). Boosting More Eco-Friendly Travel: 10 Sustainable Travel Companies in 2023. Sustainability Review. Available at <https://sustainablereview.com/boosting-more-eco-friendly-travel-10-sustainable-travel-companies-in-2023/>

as a meaningful and enriching experience rather than a checklist of places to visit. It encourages a more mindful and sustainable way of exploring the world.⁹⁸

The tourism industry is actively working on mitigation strategies, such as reducing carbon emissions from transportation and accommodations. Furthermore, there is a focus on adapting infrastructure and practices to be more resilient to climate impacts.⁹⁹ Addressing the impacts of climate change on tourism requires collaboration between governments, businesses, and communities. Sustainable tourism practices, coupled with broader efforts to combat climate change, are essential for ensuring the long-term viability of the tourism industry while preserving the natural and cultural resources that attract travelers worldwide. Balancing the economic benefits of tourism with sustainable and responsible practices is crucial for ensuring that this industry continues to thrive and contribute positively to global well-being and intercultural understanding.

6. Climate change and migration

Global warming and climate change are affecting millions of people in several dimensions: floods, droughts, rising sea levels, glacial melting, deserts shrinking or expanding, and rainfall patterns changing, imposing modification on livelihoods.¹⁰⁰ Ever since the 1990 report of the IPCC¹⁰¹, there was a general conviction that climate change could increase human mobility, predictions that in the end resulted true. Nowadays, the migration of millions of people caused by extreme weather events is one of the most challenging and discussed impacts of this phenomenon since it is progressively becoming a central concern for governments. One of the first issues is how to define these migrants, commonly called “*climate refugees*” or “*environmental displaced people*”.

There are several climate events recognized as driving forces for migrants, for example, droughts can cause displacement and induce people to strive for refuge, and the same happens with the flooding of coastal areas. Migrants usually use legal channels, however, many of them are obliged to migrate outside the legal framework due to external factors, such as wars. For this in the last twenty years, several proposals have been enhanced to establish a new legal framework like an international

⁹⁸Dickinson, J. E., Lumsdon, L. M., & Robbins, D. (2011). Slow travel: Issues for tourism and climate change. *Journal of sustainable Tourism*, 19(3), 281-300.

⁹⁹Simpson, M. C., Gössling, S., Scott, D., Hall, C. M., & Gladin, E. (2008). Climate change adaptation and mitigation in the tourism sector: frameworks, tools and practices. *Climate change adaptation and mitigation in the tourism sector: frameworks, tools and practices*.

¹⁰⁰Change, I. P. O. C. (2007). Climate change 2007: The physical science basis. *Agenda*, 6(07), 333.

¹⁰¹See UNFCCC, IPCC First Assessment Report Overview and Policymaker Summaries and 1992 IPCC Supplement <https://www.ipcc.ch/report/climate-change-the-ipcc-1990-and-1992-assessments/>

convention to protect climate displaced persons to revise the 1951 Refugee Convention¹⁰² and even the 1992 UN Framework Convention on Climate Change¹⁰³ to include provisions about climate migration. Still, the international community has not found an internationally binding framework on climate migration to protect this specific category. As mentioned, the identification of environmental and climate migrants has been discussed and it is not an easy task to define. Consequently, it is highly improbable that these proposals on human mobility will achieve sufficient political support to consider drafting, amending, endorsing, and adopting a new legal framework. Nevertheless, at the national level, civil societies have tried to move forward the discourse to respond, filling both policy and administrative voids regarding climate migration. The lack of a legal framework derives also from a general uncertainty about the accurate numbers of people that in the long run may decide to migrate.¹⁰⁴ Another uncertainty arises from doubts about the forms that this human mobility could be, which is a source of pressure on policymakers at the international, regional, national, and local authorities. The biggest impediment to establishing a climate change-related mobility system is the multidimensional nature of this mobility. Particularly crucial is the thin line between *voluntary* and *forced* which may result obviously in international law but is not so obvious if we analyze people's motivations.¹⁰⁵ Here, in fact, the difficulty is to assess if a particular storm was the result of climate change to the extreme that people were forced to move. But at the same time, the current international system for the governance of international mobility is based on the motivation, on which it is possible to make a distinction between involuntary or forced movement. The assumption at the roots of climate migrations is that individuals are forced to leave their homes because of the effects of extreme weather patterns altered by climate change. Hence, the notion of *climate change refugees* is the most used having in this way reference with a legal standard for cross-border movements of the international refugee law.¹⁰⁶ In addition to those who are forced to move, many people who fear that their habitats could be destroyed with a high probability of climate change will move or consider moving to other countries in anticipation. These are seen as voluntary migrants, even if their motivation for moving is, both directly and indirectly, a negative effect of climate change. Following this, scholars sustain

¹⁰²United Nations, (1951), Convention and Protocol Relating to the Status of Refugees. <https://www.unhcr.org/3b66c2aa10>

¹⁰³UNGA 257; A/RES/45/212

¹⁰⁴Biermann, F. & Boas, I. (2010). *Preparing for a warmer world: Towards a global governance system to protect climate refugees*, *Global environmental politics*, 10(1). Pp. 60-88.

¹⁰⁵Nawrotzki, R.J & Bakhtsiyarava, M. (2017). International Climate Migration: Evidence for the Climate Inhibitor Mechanism and the Agricultural Pathway, *Popul. Space Place*. 23: e2033. doi: [10.1002/psp.2033](https://doi.org/10.1002/psp.2033).

¹⁰⁶Sciaccaluga, G. (2020). *International Law and the Protection of" climate Refugees*. Palgrave Macmillan. Pp.27-39

that a growing number of people will move through legal and illegal migration channels for unclear reasons.¹⁰⁷

Many definitions are attributed to this phenomenon, the first definition was suggested by Essam El-Hinnawi, a researcher at the UNEP, he refers to these migrants as *environmental refugees* which is defined as:

*“environmental refugees are those people who have been forced to leave their traditional habitat, temporarily or permanently, because of marked environmental disruption (natural and/or triggered by people) that jeopardized their existence and/or seriously affected the quality of their life”*¹⁰⁸

Following this definition, environmental refugees should not be seen as displaced peoples, even because their situation is not recognized by the 1951 Convention on Refugees as refuge seekers but more as internally displaced persons in which the claim for refugee status is not recognized. His definition is still the most frequently used as it was present in numerous working papers written by organizations and NGOs. At the same time, this definition is also central in the media discourse because it was associated with the issues during the initial moments when there was no distinction between environmental degradation and mobility forms of mobility. Indeed, not only was the first definition but it also raised awareness regarding how nature can cause displacement of entire populations. Yet, the definition is still highly criticized because not recognized by international law. Moreover, the term “*environmental migrant*” is also used, for example by the IOM¹⁰⁹. Even in this case, the term “*migrant*” is not completely correct as it indicates the voluntary decision to move. For this, a recent addition is “*environmentally or climate displaced person*”. This notion has been considered more descriptive as the mobility meaning is broader and does not require the responsibility that the notion of refugee requires. Even if neither of these definitions have been legally accepted agreement on who the “*displaced person*” is, the “*internally displaced persons*” is appropriate when displacements eventually occur.¹¹⁰

The hypothesis of climate change as a driven force for human migrations is not so unrealistic, as the map below (figure 6) shows, at higher temperatures, the data registered reported a higher trend of mobility, both internal and external. For obvious reasons already analyzed, but also logically, the

¹⁰⁷Manou, D., Baldwin, A., Cubie, D. et al. (2017). Climate Change, Migration and Human Rights Law and Policy Perspectives. Routledge. Pp.1-14

¹⁰⁸Essam, El H. (1985). Environmental Refugees. United Nations Environment Programme. Nairobi. Kenya

¹⁰⁹See IOM, Migration, Environment and Climate Change (MECC) Division <https://www.iom.int/migration-and-climate-change>

¹¹⁰ The European Parliament. (2019). The concept of 'climate refugee' Towards a possible definition. EPRS European Parliamentary Research Service. Joanna Apap. Available at [https://www.europarl.europa.eu/RegData/etudes/BRIE/2018/621893/EPRS_BRI\(2018\)621893_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2018/621893/EPRS_BRI(2018)621893_EN.pdf)

areas most affected include developing countries which are the most vulnerable and the most devastated by climate change.

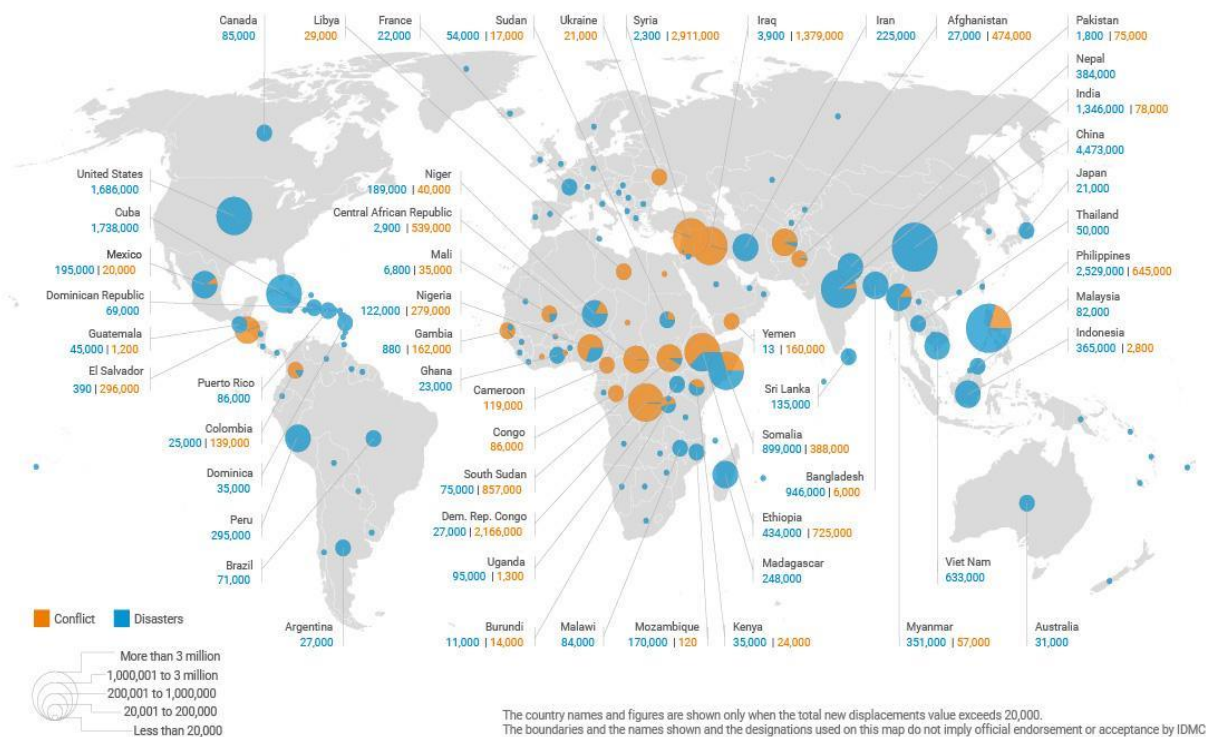


Figure 6. This map shows the global displacement that took place in 2017. Displacement that was a result of disasters is represented in blue (<http://connect2conserve.org/migration-in-the-age-of-climate-change/>)

Since there is no specific legal tool regarding climate migrations, the 1951 UN Convention Relating to the Status of Refugees is still the main legal instrument for the protection of refugees. According to the UNHRC, the refugee status permits an individual to receive safe asylum in another country or aid and assistance in the form of financial grants, food, health care, and shelter.¹¹¹ However, the convention does not include environmental displacement explicitly as a contributing factor of refugee status, in fact, the United Nations consider a refugee as someone who is “*persecuted for reasons of race, religion, nationality, membership of a particular social group or political opinion, is outside the country of his nationality and is unable or, owing to such fear, is unwilling to avail himself of the protection of that country*”.¹¹² Therefore, there is no mention of the environment as a reason to move from a country. Nevertheless, environmental migrants are refugees, some of them

¹¹¹ UN Convention Relating to the Status of Refugees, 1951, UNHCR, artt. 1-24

¹¹² Ibid, art. 1

have left their homelands, and a few even only temporarily. Due to global frictions that the migrant debate arises, it is extremely difficult for nations to frame “*climate refugee*” as a notion accepted for the asylum list. The link between these two concepts, environment and refugee, appeared in the United Nations in 1985 in the report in which Essam El-Hinnawi collaborated. Since that moment, there has been a general alarm coming from the international community about the effects of migration resulting from environmental deterioration, thus, UNHCR has preferred the term “*environmentally displaced persons*” avoiding the “*refugee*” which reclaims a legal etiquette. Even the IOM prefer this term which defines it as:

“Persons who are displaced within their country of habitual residence or who have crossed an international border and for whom environmental degradation, deterioration or destruction is a major cause of their displacement, although not necessarily the sole one. This term is used as a less controversial alternative to environmental refugee or climate refugee [in the case of those displaced across an international border] that have no legal basis or raison d’être in international law, to refer to a category of environmental migrants whose movement is of a clearly forced nature”¹¹³

However, if we analyze the definition given by the UN of who can be described as a refugee, it refers to persecuted humans whose rights have been violated. Earthquakes, floods and droughts even if harmful, do not constitute a form of persecution¹¹⁴, but human rights are violated by climate events, so, linking the environment and refugees is not a big mistake.

Despite the fact that climate change refugees are not legally recognized, there is evidence that people are moving because of climate change effects which have both direct physical impacts and the consequent socio-economic effects from it, for example on infrastructures or food supplies. This should not surprise, escaping from natural disasters is the simplest adaptive response to climate change. As mentioned before, studies demonstrate that climate internal movement is most predominantly, there are around 200 million international migrants and 740 million internal migrants.¹¹⁵ Obviously, climate change cannot be portrayed as the exclusive cause of human movement, not all the migrants attribute their personal conditions to it but their decisions to move, or to stay, are influenced by their socio-economic situation too. For example, the poorest and the most vulnerable may have no choice but to stay because they may not have the economic possibility, social

¹¹³International Organization for Migration. (2014). Migration, Environment and Climate Change: Evidence for Policy (MECLEP). Glossary prepared by Susanne Melde, Research and Policy Officer, Migration and Environment. Available at https://publications.iom.int/system/files/pdf/meclep_glossary_en.pdf?language=en

¹¹⁴Wennersten, J.R. (2019). Rising Tides. Climate Refugees in the Twenty-First Century. Indiana University Press. Pp 42-46

¹¹⁵Data from the Internal Displacement Monitoring Centre (IDMC), Internal Displacement From January To June 2019.

networks and health conditions to deal with the journey. On the other hand, communities that have enough resources to implement adaptation measures, like management policies and sustainable development systems, do not need to move permanently but can face extreme events. Moreover, in this case, their form of displacement is more a form of temporary evacuation from the risk, a sort of reduction of the risk strategy. For this, some researchers suggest that it is possible to identify arbitrarily if climate change is a driver of forced migration, but this is possible only if we do not think about all of the cases in which people cannot move because of poverty, conflicts and lack of opportunities. These researchers are in favor of the notion of “*survival migration*” that even though gives a more comprehensive understanding of the multiple stressors that may induce people to leave their lands, it may be risky because it could lead to the non-recognition of the status of climate refugees.¹¹⁶ This could raise trouble against the intention of the international community to recognize the status of climate refugees for these types of migrants and could mine the governments’ political will.

6.1 The Carteret Island population

Reporting a practical example to conclude this section can give a full comprehension of the issue. The Carteret Islanders of Papua New Guinea are known as the first community in the world to be displaced by climate change and the first official refugees as they were forced to move out of their island due to the waters that covered their homes and crops. The island population, of around 2700 persons¹¹⁷ spread over seven tiny coral atolls in the Pacific at only 1.2 meters above sea level, starting from 1994 lost half of their land and consequently, even the availability of their traditional food leaving the population in situations of famine. Housing conditions of the community were extremely poor, each family did not have sufficient space for settling. For example, when boys reached the marriage age, they moved out of the family house while single daughters shared the rooms with their parents. In addition, the houses were built with weak structures and materials such as bush materials strongly vulnerable to winds and earthquakes. The community also lacked advanced agricultural methods which caused an arrest of agricultural production already weak due to land shortage and soil infertility. Climate change, here, resulted in sea level rise and inundation with destruction and diminution of cultivable territories. These agricultural limitations had a severe influence on food security. Indeed, food accessibility and availability during disaster floods or strong winds were

¹¹⁶Mcadam, J. (2012). Climate Change, Forced Migration, And International Law, Oxford University Press. Pp.15-23

¹¹⁷Morton, A. (2009). First climate refugees start move to new island home. The Age. Available at <https://www.theage.com.au/national/first-climate-refugees-start-move-to-new-island-home-20090728-e06x.html> (accessed 20 October 2021)

limited, families experienced hunger and children suffered from malnutrition.¹¹⁸ Moreover, the villages also faced harsh water shortages due to persistent droughts and sea-level rises that affected their freshwater resources. With the already serious situation and with the fear that could happen the worst, the Carteret population evacuated in the south, toward Bougainville, a near and safer island with the hope to resettle. However, this resettlement failed due to the difficulty in attaining sufficient land to derive sources useful for livelihood. Nevertheless, as if it was not enough, there is uncertainty about whether the situation is a result of climate change and this is followed by indecision towards the idea that this population could become climate refugees, an etiquette that Pacific Island people do not want.¹¹⁹ As we can imagine, Carteret Island gained international recognition especially due to the media focus that largely reported the needs of the population. Access to the island is no longer possible, thus, is not possible to evaluate the additional environmental changes and livelihoods.¹²⁰ The Carteret case is impressive, it is useful not only to underline climate consequences on the environment in which we live but also because it highlights how much population mobility is essential to small islands. Indeed, without migration, and the possibility to move, life is exceptionally difficult, and it stresses the necessity to find new ways to ease this population pressure. At the same time, analyzing the facts, it is surprising to discover that these people are so reluctant to accept this status, a status that could help them to survive, even if it means living in another country. This emphasizes the complexity and the fragility that the migration debate usually awakes in the political discourse. It can be interesting to remember that migration creates opportunities also in the places where migrants go. For example, they can be a new workforce for the host country. The acceptance of these flows of people requires political willingness, preparation and planning to avoid destabilization by the phenomenon itself. The UN are particularly worried that some regions could escalate into war without the correct regulation.¹²¹ Yet, establishing a new framework to address this new phenomenon, if “new” is still appropriate as mobility already existed, necessity greater level of cooperation and political will regarding migration is always too fragile. In the meantime, millions of people see their living conditions getting worse day by day and the idea of moving creates uncertainty because not legally protected enough by the international community.

¹¹⁸Sithole, W.W. (2015). *Carteret Islands: when migration is the last option of surviving the impact of climate change*, 2015 10.13140/RG.2.2.29807.53921.

¹¹⁹Triandafyllidou, A. (2016). *Routledge Handbook of Immigration and Refugee Studies*, Routledge, NY. P.308

¹²⁰Connell, J. (2016). Last days in the Carteret Islands? Climate change, livelihoods and migration on coral atolls, *Asia Pacific Viewpoint*, 57: 3– 15. doi: 10.1111/apv.12118.

¹²¹Lustgarten, A. (2020). The Great Climate Migration, *The NY Times*, Available at <https://www.nytimes.com/interactive/2020/07/23/magazine/climate-migration.html>, (accessed 30 October 2021).

7. The role of the cities

Cities play a dual role in the dynamic interplay with climate change, serving as both significant contributors to greenhouse gas emissions and as critical players in the global effort to mitigate and adapt to its impacts. Urban areas are epicenters of economic activity, technological advancement, and innovation, driving energy consumption, industrial output, and transportation networks. Consequently, they are responsible for a substantial portion of global emissions. However, cities are also hubs of creativity and ingenuity, with the capacity to pioneer transformative solutions. Moreover, cities are profoundly interconnected, forming a complex web of economic, social, and environmental relationships that transcend geographical boundaries. They rely on resources from distant regions, such as food, water, and energy, while also exporting goods and services, generating intricate supply chains that can have far-reaching environmental implications. This web of interdependence underscores the collective responsibility of cities in the fight against climate change, highlighting the need for collaborative, cross-border strategies to address this global challenge effectively. Through innovative urban planning, sustainable infrastructure, and inclusive policies, cities can not only reduce their own carbon footprint but also serve as engines of inspiration and models of resilience for regions far beyond their borders.

Cities are one of the contributors to anthropological global warming, especially in developing countries where climate change impacts are more prominent. These impacts are the known extreme weather events, and increased temperatures known as the “*urban heat island effect*” as cities are warmer than rural areas because of higher heat absorption and air pollution, but also public health concerns.¹²² Additionally, climate effects can be seen in human well-being and cities’ economies, consequently, there are threats to both livelihoods and assets of people living in cities. Poor citizens, elderly people, women, children, and emarginated communities are the most vulnerable. However, if these effects are ignored, inequalities will be exacerbated, which means that cities and countries will experience more difficulties in achieving sustainable development and reducing poverty.¹²³ For example, urban areas situated in Northern Africa have urban heat islands five times larger than the rest of the continent.¹²⁴ Climate change, urban heat and air pollution, all together, deteriorate human health in cities, in fact, analysis of climate variables combined with health risks confirmed that health

¹²²EU, Guide to Climate Change Adaptation in Cities, The World Bank Group, Available at <https://climate-adapt.eea.europa.eu/metadata/guidances/guide-to-climate-change-adaptation-in-cities/11237802> p.10

¹²³ Ibid, p.7

¹²⁴McCarthy, M.P, Best, M.J & Betts, R.A. (2010). Climate change in cities due to global warming and urban effects. *Geophysical research letters*, 37(9). P.2

impacts were more significant where air quality is lower.¹²⁵ Following the current pattern of events, by 2050, more cities will experience intense heatwaves episodes. The latter, along with floods, pollution, aeroallergens, droughts, and vector-borne infections, which are the result of human actions, will generate diseases and mortalities, such as COVID-19.¹²⁶

Following this argument, the IPCC recognizes the crucial role of cities when framing climate actions and urbanization, indeed, is missing from the climate agenda.¹²⁷ The IPCC underlines how climate change intermingles with the growing urbanization rate causing inequity, conflicts, poverty, and limited access to basic services in cities, consequently, populations might encounter difficulties in adapting to climatic changes. For these reasons, the report calls for key action in cities that should be taken by urban decision-makers at all levels, engaging with civil society.¹²⁸

Crucial is the concept of urban law, described by UN-Habitat as “*the collection of policies, laws, decisions and practices that govern the management and development of the urban environment*”¹²⁹, this description calls easily the linkage with environmental protection. Urban policies, shaped in a specific city or at the national level, based on climate and social necessity, are the initial steps to tackle the climate crisis at the city and community level. This is a bottom-up approach to climate change where appropriate urban planning contributes to building resilient cities, especially to climate episodes. However, cities are unique in their construction and geographical location, therefore, there is a certain degree of risk that will occur: the most at risk are those cities that are already suffering from severe environmental damage and disruption. The most common example is represented by coastal cities which suffer generally from storms and rising sea-level. Those populations suffer from a huge breach of human rights, from the right to life to the right to housing. Numerous tools can be implemented by national and local authorities, for example, the risks can be compensated with national welfare policies that directly address housing and infrastructure.¹³⁰

¹²⁵Du, Z., Lawrence, W.R., Zhang, W. et al. (2019). Interactions between climate factors and air pollution on daily HFMD cases: a time series study in Guangdong, China. *Sci. Total Environ.* 656. 1358–1364. doi: 10.1016/j.scitotenv.2018.11.391

¹²⁶Kumar, P. (2021). Climate Change and Cities: Challenges Ahead. *Front. Sustain. Cities* 3:645613. doi: 10.3389/frsc.2021.645613, p. 3

¹²⁷IPCC. (2022). *Climate Change 2022: Impacts, Adaptation, and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* [H.-O. Pörtner, D.C. Roberts, M. Tignor, E.S. Poloczanska, K. Mintenbeck, A. Alegría, M. Craig, S. Langsdorf, S. Löschke, V. Möller, A. Okem, B. Rama (eds.)]. Cambridge University Press

¹²⁸Ibid, Chapter 17

¹²⁹UN-Habitat. (n.d). *Urban Law*. UN-Habitat. Nairobi. Kenya. Available at https://unhabitat.org/sites/default/files/download-manager-files/1407239625wpdm_Urban_Law_Leaflet.pdf P.1

¹³⁰Satterthwaite, D. (2008). *Climate change and urbanization: Effects and implications for urban governance*. United Nations Expert Group meeting on population distribution, urbanization, internal migration and development. Vol. 24. DESA. New York. P.310

Nevertheless, urban planning is an effective tool to address climate mitigation and adaptation. Specifically, communities can lower emissions through the principles of New Urbanism, for instance by using alternative vehicle travel with the ones that produce less emission. Regarding adaptation, this applies especially locally as the populations can control themselves how to adapt their lives.¹³¹ Thus, urban law and climate change are now integrated as they belong to the same academic field. Initially, urban climatology scholars researched and suggested ways to implement good climate practices helping the government understand meteorological basic rules while drafting environmental policies, for instance how to mitigate heat island effects with trees or the need to use vegetation in urban spaces.¹³² The constant research in finding urban solutions to climate change events brought new urban structures, also known as “Green Infrastructures”, that include low energy consumption buildings, green areas, and the adoption of technologies able to mitigate global emissions and promote adaptation to climate change. Green Infrastructure and natural interventions are acknowledged as well-developed approaches to combating climate change due to their capacity to create social, economic, and environmental benefits.¹³³

8. Climate change denial

The only correct way to end this explanation about climate change is by including its shadows too. As demonstrated before, climate change is a science, it is happening and there is evidence and scientific explanation in its roots. Climate science has, in fact, confirmed that global warming is happening, that is partially caused by human activities, and that this warming is causing negative impacts on both ecological and social systems. Still, a substantial percentage of the American population has declared to be uncertain or unconcerned about it, worryingly, even many policymakers (mainly in the US) reject the necessity to reduce carbon emissions. This has led to an organized disinformation campaign that focuses on the most complex elements of global warming and its doubts to generate skepticism and denial regarding climate change. The principal strategy utilized is to “*manufacture uncertainty*” about it, directly attacking climate science and scientists. This resulted in an effective strategy because confidence in climate science and climate scientists are important features to influence the public’s opinions on global warming. The campaign has been financed by a

¹³¹Steuteville, R. (2021). Climate adaptation, mitigation, and urban design. Analyzing how community design can impact various phases of climate change response, both local and global. CNU Journal, Sustainability. Available at <https://www.cnu.org/publicsquare/2021/11/03/climate-adaptation-mitigation-and-urban-design>. (accessed 24 April 2022).

¹³²Hebbert, M & Vladimir, J. (2013). Cities and Climate Change: The Precedents and Why They Matter. Urban Studies 50 no. 7: 1332–47. <http://www.jstor.org/stable/26144294>.

¹³³Sturiale, L. & Scuderi, A. (2019). The Role of Green Infrastructures in Urban Planning for Climate Change Adaptation. Climate 7(10):119. <https://doi.org/10.3390/cli7100119>

coalition of fossil fuels industrials, conservative foundations and think tanks that exploit Astroturf operations assisted by contrarian scientists, as they have been defined.¹³⁴ Obviously, these actors are supported and sponsored by conservative media, politicians, and more lately skeptical bloggers. This entire system is often referred to as the “*denial machine*” and has successfully generated skepticism regarding global warming between individuals and policymakers. Also, we can underline the difference between who is a true contrarian scientist who does not believe and criticize climate science and who actively contributes to the denial machine and several skeptical scientists. These last ones are mostly empirical and theoretical meteorologists who refuse to be part of this generation of climate scientists and have a skeptical view on the validity of climate change models. Different from the contrarians, these sceptics are not conservative or antienvironmental but simply they have chosen to not join the denial campaign against anthropological climate change. An element always present in the denial campaign is the definition of climate scientists as alarmists who amplify the degree and threat of global warming to increase their status, funding, and influence in policies. A particular episode contributed to the skepticism among the American public: the “*Climategate*” controversy in 2009.¹³⁵ This episode saw the release of hundreds of confidential emails between climate researchers at the Climatic Research Unit at the University of East Anglia in the United Kingdom and important scientists in the United Nations Intergovernmental Panel on Climate Change which evaluated the evidence of anthropogenic climate change in support of international decision-making under the UNFCCC. These scientists were then accused of exaggerating data with the purpose to creating alarmism. Surely enough, this episode has helped the denial machine to further succeed. Scholars, indeed, found out that the Climategate influenced noticeably and had a huge impact on public opinion, with the consequence of reducing belief and trust both in scientists and in global warming.¹³⁶

Thus, contrarian scientists, fossil fuels industries and conservative think tanks, from that moment, have attacked climate science and scientists for nearly twenty years. Their negative activities have produced scandals and false revelations regarding the 2007 IPCC Fourth Assessment Report damaging the terribly the credibility of climate science. There are several motivations behind the different mechanisms of the denial machine, they vary from economic incentives, which are easy to image in the case of the fossil fuels industries, but also to personal reasons, like in the case of a few

¹³⁴Astroturf campaigns are fake grassroots organizations sponsored by large corporations or other for-profit or politically motivated funders. These campaigns, recruit advocates to engage in grassroots lobbying, and act without complete transparency. (<https://www.theguardian.com/commentisfree/2012/feb/08/what-is-astroturfing>)

¹³⁵McKie, R. (2019). Climategate 10 years on: what lessons have we learned?. The Guardian. Climate Change. Available at <https://www.theguardian.com/theobserver/2019/nov/09/climategate-10-years-on-what-lessons-have-we-learned> (accessed 30 October 2021).

¹³⁶Dunlap, R.E. (2013). Climate Change Skepticism and Denial: An Introduction. American Behavioral Scientist 57(6). SAGE Publications. Pp. 691 –698.

individuals who enjoyed the celebrity status coming from releasing certain declarations. However, the common reason that keeps all the actors together is the shared disagreement about the international regulatory efforts to limit climate change effects with the restrictions on carbon emissions. Henceforth, the conviction that there is no need for regulations is a constant, as it is the loyal commitment to free markets which characterize the conservative political ideology shared by the climate change cynics. More specifically, the denial machine pursues to remove the scientific basis of climate policies, for example by questioning the reality and seriousness of climate change. Theoretically, climate change denial seems to be making an effort to preserve the Western social order, which is characterized by industrial capitalism powered by fossil fuels. Given the fact that anthropogenic climate change is the result of fossil fuel consumption, the moment this realization strikes, it becomes consequently a critique of the industrial capitalist system. Therefore, conservative think tanks promoted environmental skepticism, especially since the 1990s with the development of the global environmentalism embodied in the 1992 UN Rio Earth Summit that led conservative parties to switch to the green threat instead of the red threat represented by the Soviet Union. Moreover, along the process the denial coalition took the promotion to a higher level, directly attacking the entire field of climate science that they started to call “*junk science*” and attacking also several pillars of science.¹³⁷

Even though most of the literature about climate denials is mostly concentrated on the US, where it was born and in which still it is the most active, denialism has started to spread in other nations, this trend is shown the figure 7.

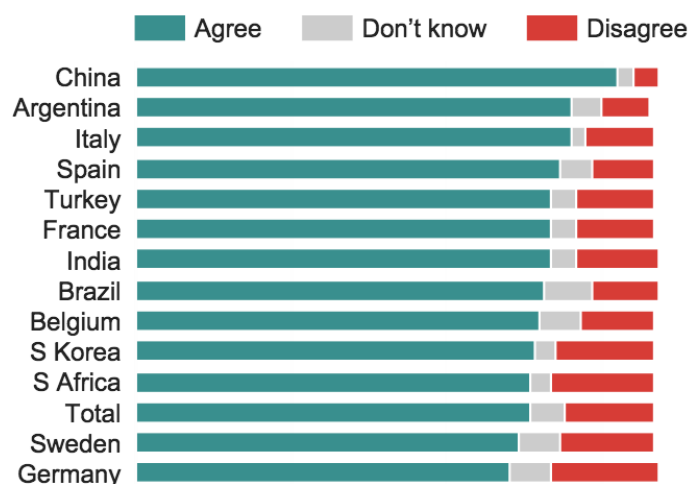


Figure 7 Results from a question (To what extent do you agree or disagree. Climate change is the result of human activities) about views on climate change from a 2014 global report. Credit "Global Trends 2014" report, Ipsos MORI

¹³⁷Dunlap, R.E. & McCright, A.M. (2011). Organized Climate Change Denial. The Oxford Handbook of Climate Change and Society. ed. by John S. Dryzek, Richard B. Norgaard, and David Schlosberg. Oxford University Press. Pp. 144-160

Scientists have identified global warming as the most important threat of our time, yet it took more than twenty years for this issue to penetrate the public discourse to stay still at the most superficial level. Hence, climate change is still low on world priorities, especially for the rich and powerful northern countries. Indeed, citizens of these nations, if they ignore the issue of climate change can enjoy their denial in economic terms. Moreover, scholars sustain that people in denial do not suffer because they avoid the emotional and psychological sphere and identity conflicts that are developed acknowledging that someone is in pain because of our actions. This organized denial mechanism is often connected to studies of privilege with important implications for environmental justice movements. Most of the research in this field has focused on the experience of vulnerable groups who are exposed to environmental injustices, these studies, in fact, ignore citizens in wealthy nations, who are able to conduct a comfortable life, spreading global warming with their lifestyle. As a consequence of their attitude regarding climate change, climate denial can be labelled as the active resistance to receiving information, while the term denial is most of the time used to describe the rejection of something, the information in this case. Indeed, people put a lot of effort into avoiding what they perceive as disturbing information, in this way, they can dodge all the emotions coming from climate stress, such as fear, guilt, and helplessness, and preserve a positive attitude and their identity. More practically, with this kind of denial, individuals even if perceive information about climate change, they do not think about it in their everyday lives.¹³⁸

Despite what the denial machine wants the people to believe, climate change is real as much as climate science and there are several scientific factors to prove it. Nevertheless, global warming issues seem to be still a sensitive theme for political authors and their agendas. Numerous climate effects need to be managed both at the national and international levels. Climate refugees are still unrecognized in legal terms, scholars are fighting and working for their recognition and for proving that climate change is a real threat in all its dimensions. As already explained, climate change has a direct impact on biodiversity, the environment and human livelihood, directly affecting food resources, water availability and migration causes. Linked to the necessity to find a solution for these aspects, there is also the need to apply a new approach to climate change that goes over the classic economic approach of the emission regime, an approach oriented towards the protection of human rights even because the basic aspects of human life attacked can be read under human rights terms.

¹³⁸Norgaard, K.M. (2011). Climate Denial: Emotion, Psychology, Culture, and Political Economy in the *The Oxford Handbook of Climate Change and Society* ed. by John S. Dryzek, Richard B.Norgaard, and David Schlosberg, Oxford University Press. Pp 399-413

PART II

CLIMATE DIPLOMACY

Climate change is real, thus, there is a need to address it and fight it to limit it, only in this way it is possible to stop the terrible consequences on human well-being. However, it is not a phenomenon that can be circumscribed to a specified area to then have a solution for it. Since it is happening at the global level, there is a need to have a global solution. For this, States have decided to negotiate a global response that finally could address climate change. The international community has preferred to focus on human activities causing climate change. Hence, all the treaties and norms negotiated take into consideration the emission of greenhouse gasses that cause variations in the atmosphere. Indeed, it is a reality that if we could stop the emission of greenhouse gases, we could partially fix the situation, at least we would stop human action as a driving force for climate change. But, however, ideal it is, it is impossible for all economic interests involved. One possible solution is to use energy that will not add more emissions into atmosphere, such as solar, wind and hydro energies. Reducing the greenhouse gas percentage in the atmosphere could allow the atmosphere to find its balance again. This would mean less extremely high temperatures and respect for the seasonal cycle. As individuals, we all have the responsibility to contribute, for example reducing the use of cars in cities, eating more sustainable food, and avoiding energy waste by using renewable energies.¹³⁹

While international law limits the emissions in the atmosphere, very few international conventions¹⁴⁰ focus primarily on the environmental human rights violated by these climate events. Nonetheless, an international legal regime on climate change is needed and urgent. Two main actors with the duty to negotiate a regime are the United Nations and the European Union. The United Nations has set the blue footprint for it since the negotiation of UNFCCC, and the EU has followed right after with its own unilateral strategy.¹⁴¹ The latter was established to contrast the difficulty of reaching a comprehensive, multilateral framework for regulating climate change among states. In fact, global action on climate change is emerging in a fragmented manner, based on actions by private parties as well as by many national and international organizations, and states.

¹³⁹As suggested by the David Suzuki Foundations <https://davidsuzuki.org/what-you-can-do/top-10-ways-can-stop-climate-change/>

¹⁴⁰The Aarhus Convention is the main international instrument to tackle these two issues together. It will be discussed further in the next chapter.

¹⁴¹Scott, J. & Rajamani, L. (2012). *EU Climate Change Unilateralism*, The European Journal of International Law, Vol. 23, N° 2. Pp. 469-494.

For the purpose of this work, the international climate change law regime will be explained for a better understanding of the effort made by the States, through international organizations, to address the issue on which they have the primary responsibility to act.

1. Mitigation approaches vs adaptation approaches in climate law

Before addressing treaties and conventions, there is the need to clarify that the current climate law has been framed following two main paths that consequently represent the two strategies used to address climate change in policies and the economy: mitigation and adaptation.¹⁴² They both aim to combat its impacts and ensure a sustainable future for the planet but follow two different paths.

Mitigation refers to efforts to reduce or prevent the emission of greenhouse gases into the atmosphere, with the goal of limiting the extent of climate change.¹⁴³ It was the first approach to be developed because it was framed with the Kyoto Protocol of 1997 which established legally binding targets for developed countries to reduce their GHG emissions. Then, with the Paris Agreement in 2015 which set the framework for international cooperation in the fight against climate change, it was further established the goal to limit global warming to well below 2 degrees Celsius above pre-industrial levels.¹⁴⁴

At the practical level, mitigation means promoting the use of renewable energy sources such as solar, wind, and hydropower to replace fossil fuels. Moreover, it means implementing measures to reduce energy consumption in various sectors, including transportation, buildings, and industries and strategies like planting trees and restoring forests to absorb carbon dioxide from the atmosphere.¹⁴⁵ Consequently, mitigation is surrounded by economic critics since its implementation requires high costs. Industrialized countries may reduce these costs when penalizing fuels but the implementation of mitigation strategies that limit the emission relates to the national policies focusing on economic development. However, it could be possible to draft actions that are able to implement economic welfare improvement and environmental protection simultaneously, but these are highly expensive.¹⁴⁶ Yet, some mitigation strategies could derive from the behaviors of the people and their choices, in this, the sociological components of making the right choices are complex but are slowly growing in

¹⁴²Kane, S., & Shogren, J. F. (2000). Linking adaptation and mitigation in climate change policy. *Climatic Change*, 45(1), 75-102.

¹⁴³UNFCCC. (2009). Fact sheet: The need for mitigation. UNFCCC. Available at https://unfccc.int/files/press/backgrounders/application/pdf/press_factsh_mitigation.pdf p.1

¹⁴⁴Mor, S., Aneja, R., Madan, S., & Ghimire, M. (2023). Kyoto Protocol and Paris Agreement: Transition from Bindings to Pledges – A Review. *Millennial Asia*, 0(0). <https://doi.org/10.1177/09763996221141546>

¹⁴⁵Mitigation, C.C. (2011). IPCC special report on renewable energy sources and climate change mitigation. *Renewable Energy*, 20(11).

¹⁴⁶VijayaVenkataRaman, S., Iniyan, S., & Goic, R. (2012). A review of climate change, mitigation and adaptation. *Renewable and Sustainable Energy Reviews*, 16(1), 878-897.

the climate debate. The sociological dimension of mitigation refers to the examination of how mitigation strategies and policies interact with human societies, communities, and individuals. It encompasses the ways in which behaviors, beliefs, values, and social structures influence and are influenced by efforts to reduce greenhouse gas emissions and combat climate change.¹⁴⁷ One crucial aspect of the sociological dimension of mitigation is understanding the social inequalities that can be exacerbated by climate change mitigation policies. For example, certain mitigation strategies, such as carbon pricing or energy transition plans, can have differential impacts on different socioeconomic groups.

Additionally, sociological factors play a significant role in shaping public perceptions and attitudes towards mitigation efforts. Understanding the cultural norms of different communities is essential for effective communication and engagement in climate action. Social movements, advocacy groups, and community organizations also play a critical role in mobilizing public support for mitigation initiatives. Furthermore, the sociological dimension extends to the behavioral changes required for successful mitigation. This involves examining consumer choices, lifestyle changes, and collective actions that can contribute to reduced emissions. By taking into account these sociological factors, it is proven that mitigation strategies need to be implemented at all levels of governance. In this way, policymakers can design inclusive and effective mitigation strategies that resonate with diverse communities and promote a just transition to a more sustainable future.

On the other hand, adaptation involves making adjustments in natural or human systems to reduce the harm caused by climate change impacts.¹⁴⁸ We can trace this approach to the Biodiversity Convention of 1992 which primarily focused on biodiversity conservation and recognized for the first time the need to adapt the ecosystems to environmental damages.¹⁴⁹ Some scholars include the Sendai Framework for Disaster Risk Reduction of 2015 in the historical events that led to adaptation strategies because even if it is not exclusively climate-focused, this framework emphasizes the importance of adaptation to reduce vulnerabilities and build resilience in the face of disasters, including those related to climate change.¹⁵⁰

¹⁴⁷Ehrhardt-Martinez, K., Rudel, T. K., Norgaard, K. M., & Broadbent, J. (2015). Mitigating climate change. *Climate change and society: Sociological perspectives*, 199-234.

¹⁴⁸Hoffmann, A. A., & Sgrò, C. M. (2011). Climate change and evolutionary adaptation. *Nature*, 470(7335), 479-485.

¹⁴⁹GBO. (2007). Chapter 2 The Convention on Biological Diversity. Global Biodiversity Outlook 1. Available at <https://www.cbd.int/gbo1/chap-02.shtml>

¹⁵⁰ICSI. (2023) The Sendai Framework for Disaster Risk Reduction 2015-2030: Reflections and insights from the Global Engineering Community. Input Paper to the Sendai Framework Mid-Term Review. International Coalition for Sustainable Infrastructure. Available at <https://sustainability-coalition.org/wp-content/uploads/2023/03/Sendai-Paper-2022.pdf>

In this second strategy, it is crucial to design the responses to climate change in a sustainable way which includes designing and constructing infrastructure to withstand extreme weather events, such as stronger hurricanes or floods, adapting water management practices to address changing precipitation patterns and increased drought risks and also promoting the cultivation of a variety of crops that can better withstand changing climate conditions.¹⁵¹

Therefore, we can underline the differences between the two strategies. Mitigation targets the root causes of climate change by reducing GHG emissions. Adaptation focuses on preparing for and coping with the impacts that are already occurring or anticipated. Mitigation aims to have long-term effects by reducing the severity of future climate change. Adaptation addresses current and near-term impacts. Mitigation is a shared global responsibility to reduce emissions, with a particular emphasis on developed countries. Adaptation efforts are often more localized and tailored to specific regions and communities.¹⁵² However, both mitigation and adaptation are crucial components of a comprehensive climate change strategy. While mitigation works to prevent further harm, adaptation helps societies cope with the changes that are already underway, ensuring a more resilient and sustainable future for all. From an initial analysis, it seems that adaptation alternatives are preferred when discussion develops efforts focused on temporally close terms and on a local scale, striving for immediate effectiveness. Instead, mitigation is preferred when there is the need to intervene directly on atmospheric GHG concentrations. For this, this strategy is often referred to as a long-term solution in which involves the national governance. Consequently, there are few cases of direct overlap between adaptation and mitigation, as policymakers have to make a trade-off between these two.¹⁵³ Nevertheless, the division has also been highly criticized as it was described as counterproductive and even dangerous. The latter can be true, especially for those populations most exposed to climate change, like coastal villages or small island nations. Still, these two approaches should be seen as two sides of the same coin. Still, tools and technologies that both control and handle climate change exist. It is not practical nor possible to have always policies that work only on one of them or policies that can include both.¹⁵⁴ It is also true that these two approaches are not implemented to totally solve the

¹⁵¹Hardee, K., & Mutunga, C. (2010). Strengthening the link between climate change adaptation and national development plans: lessons from the case of population in National Adaptation Programmes of Action (NAPAs). *Mitigation and Adaptation Strategies for Global Change*, 15, 113-126.

¹⁵²Rojas, D. (2019). *Climate Adaptation Vs. Mitigation: What's The Difference, And Why Does It Matter?*. The Climate Reality Project. Available at <https://www.climate reality project.org/blog/climate-adaptation-vs-mitigation-why-does-it-matter>

¹⁵³Moser, S.C. (2012). Adaptation, mitigation, and their disharmonious discontents: an essay. *Climatic Change*, 111(2), 165-175.

¹⁵⁴Suarez, I. (2020). 5 Strategies that Achieve Climate Mitigation and Adaptation Simultaneously. World Resources Institute. Available at <https://www.wri.org/insights/5-strategies-achieve-climate-mitigation-and-adaptation-simultaneously>

situation but are responses to address its impact that is already happening. Simply, they are thought to be implemented to be pursued by governments and communities because they make sense. Moreover, climate mitigation and adaptation are critical strategies for cities worldwide as they grapple with the escalating impacts of climate change. These two approaches are complementary and indispensable in addressing the complex challenges posed by a changing climate.¹⁵⁵

At the city level, the urgency of climate mitigation cannot be overstated. Urban areas are significant contributors to global GHG emissions, accounting for over 70% of the world's energy-related carbon dioxide emissions.¹⁵⁶ Therefore, cities play a pivotal role in curbing emissions through initiatives like transitioning to renewable energy sources, promoting sustainable transportation, and implementing energy-efficient building practices. Moreover, by adopting green infrastructure and sustainable urban planning, cities can help sequester carbon and reduce the urban heat island effect, thereby mitigating the adverse effects of climate change on local climates.¹⁵⁷

In tandem with mitigation efforts, cities must also prioritize adaptation measures.¹⁵⁸ Climate-induced events such as extreme weather events, sea-level rise, and heatwaves pose immediate threats to urban populations. Adapting cities involves a range of strategies, including upgrading and fortifying critical infrastructure, implementing effective disaster preparedness and response plans, and incorporating nature-based solutions such as green roofs and urban wetlands.¹⁵⁹ These adaptations not only enhance resilience but also create more livable, equitable, and sustainable urban environments.

Many cities around the world have already taken substantial steps toward climate mitigation and adaptation. In Copenhagen, Denmark, for example, a combination of aggressive renewable energy targets, widespread cycling infrastructure, and innovative urban planning has earned the city a

¹⁵⁵Revi, A., D.E. Satterthwaite, F. Aragón-Durand, J. Corfee-Morlot, R.B.R. Kiunsi, M. Pelling, D.C. Roberts, and W. Solecki, 2014: Urban areas. In: *Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* [Field, C.B., V.R. Barros, D.J. Dokken, K.J. Mach, M.D. Mastrandrea, T.E. Bilir, M. Chatterjee, K.L. Ebi, Y.O. Estrada, R.C. Genova, B. Girma, E.S. Kissel, A.N. Levy, S. MacCracken, P.R. Mastrandrea, and L.L. White (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, pp. 535-612.

¹⁵⁶Dasgupta, S., Lall, S. & Wheeler, D. (2022). Cutting global carbon emissions: where do cities stand?. World Bank Blog. Available at <https://blogs.worldbank.org/sustainablecities/cutting-global-carbon-emissions-where-do-cities-stand#:~:text=Cities%20account%20for%20over%2070,constructed%20with%20carbon%2Dintensive%20materials>.

¹⁵⁷Pauleit, S., Fryd, O., Backhaus, A., & Jensen, M.B. (2013). Green Infrastructure and Climate Change . In: Loftness, V., Haase, D. (eds) Sustainable Built Environments. Springer, New York, NY. https://doi.org/10.1007/978-1-4614-5828-9_212

¹⁵⁸Cortekar, J., Bender, S., Brune, M., & Groth, M. (2016). Why climate change adaptation in cities needs customised and flexible climate services. *Climate Services*, 4, 42-51.

¹⁵⁹Seddon, N., Chausson, A., Berry, P., Girardin, C. A., Smith, A., & Turner, B. (2020). Understanding the value and limits of nature-based solutions to climate change and other global challenges. *Philosophical Transactions of the Royal Society B*, 375(1794), 20190120.

reputation as a global leader in sustainability.¹⁶⁰ Similarly, New York City has instituted ambitious climate policies, including the development of resilient coastal infrastructure and the implementation of green building standards, in response to the devastating impacts of Hurricane Sandy in 2012. In addition to local initiatives, international collaborations and knowledge-sharing platforms have emerged to support cities in their efforts.

In conclusion, climate mitigation and adaptation are indispensable components of urban resilience in the face of climate change. Cities bear a substantial responsibility for reducing emissions and building resilience, given their significant contributions to global carbon emissions and their vulnerability to climate-induced impacts. Through innovative policies, strategic planning, and international collaboration, cities can not only combat climate change but also foster more sustainable, inclusive, and livable urban environments for current and future generations.

2. International climate change law

International Climate change law consists of several ad hoc treaties and general norms of international law to promote climate change mitigation and adaptation, it is important to underline that it cannot be alienated from the global environmental law on which is based.¹⁶¹ International environmental law is young compared to the other branches of international law, but it is still a doctrine that has its principles and values. Without such environmental principles, such as the state responsibility principle or the polluter pays principle there would be no international climate change law.¹⁶²

In the last twenty years, the number of treaties and norms regarding the environment has increased, both at the international and regional levels, for example, at the regional level we have an important actor which is the European Union. The first forms of environmental regulations took place at the domestic level mainly to address local pollution. What we now call international environmental law was developed from the regulations of common resources like water or land. Private law, also, regulated the issue but it was not effective. The consequences on the planet after the industrial revolutions led to concrete regulation due to the need to protect the environment and to give a direct tool in response to public health problems which started to worry societies. Those issues brought the international community to negotiate “The *Stockholm Conference on the Human Environment*” which took place in 1972 and has been defined as the foundation of environmental law, that is why it is defined as relatively young. During the Conference, states adopted three non-binding instruments: a

¹⁶⁰Leonardsen, L. (2012). Financing Climate Change Adaptation: The Copenhagen Case. In: Otto-Zimmermann, K. (eds) Resilient Cities 2. Local Sustainability, vol 2. Springer, Dordrecht. https://doi.org/10.1007/978-94-007-4223-9_44

¹⁶¹Mayer, B. (2018). *The International Law on Climate Change*, Cambridge, Cambridge University Press, 2018, p.1

¹⁶²Pinon-Carlarne, C, Gray, KR & Tarasofsky, R. (2016). *The oxford handbook of international climate change law*. Oxford University Press. Pp. 1-7.

resolution on institutional and financial arrangements, a Declaration containing 26 Principles, and an Action Plan with 109 recommendations. This conference is particularly significant because of its 26 principles.¹⁶³ However, for the purpose of this work, the principles 21, 22, 23 and 24 are essential. Principle 21 affirmed the responsibility of each State to ensure that all activities within their jurisdiction do not cause damage in another state or beyond national jurisdiction, including outer space or high seas. This responsibility is said to be extended also to activities under a state's control, like those committed by its nationals' ships or aircraft. Principle 22 requires cooperation between states in developing international environmental law. Principle 23 establishes a limited role for international regulation suggesting that some standards should be determined at the domestic level in order to respect the value systems of each country and their social costs, obviously, this is in accordance with the need for different environmental standards for different countries. Lastly, Principle 24 called for international cooperation to control, prevent, reduce and eliminate adverse environmental effects caused by activities conducted in all spheres. The other Principles were formulated in non-legal language. Principle 1 is linked to environmental protection to human rights norms, in fact, it states that all the man have the fundamental right to freedom, equality and adequate conditions of life, in an environment of quality that permits a life of dignity and well-being, but humans also have the responsibility to protect and improve the environment for present and future generations. Other Principles can be grouped into themes. Principles 2, 3 and 5 set the general guidelines on how to safeguard the natural resources of the earth for the benefit of present and future generations, and for the maintenance, restoration and improvement of renewable resources preventing their exploitation. Principles 4, 6 and 7 identified some specific environmental threats to which there is the special responsibility of humanity to safeguard and manage them because represent the heritage of wildlife and habitat. Principles 8–15 addressed issues which recognize the relationship between economic and social development with environmental quality. These principles set the foundation for the transfer of financial and technological assistance to developing countries. They support an integrated and coordinated approach to rational development planning which is well suited to protecting and improving the human environment. The last principles, from 16 to 20, recognize the need for an appropriate demographic policy, recognize the development of national institutions to directly manage environmental resources and call for the application of science and technology encouraging at the same time education and scientific research and development.¹⁶⁴ In addition, the

¹⁶³Schwabach, A. (2006). *International Environmental Disputes: A Reference Handbook*. Oxford. ABC-CLIO. pp.19-20.

¹⁶⁴Sands, P. (2003). *Principles of International Environmental Law*. Cambridge University Press. pp.37-39.

conference led to the creation of the United Nations Environment Programme (UNEP)¹⁶⁵ which is still the global leading authority in this field.

Environmental law has experienced a long debate in those years over what should be included as a subject of this branch, certainly, it covers all the problems deriving from pollution and how it should be managed or limited. However, recently, a lot of issues have been listed as subject of environmental law, we can find deforestation, genetically modified organisms, renewable energy, and of course climate change, as regulated by norms classified as environmental norms.¹⁶⁶ As already said, the proliferation of environmental issues was caused by recent events like industrialization, technological innovation, globalization and the growth of the population. These developments led us to consume non-renewable energies, causing a high level of pollution and greenhouses that are causing climate change. The role of the law is to regulate and correct wrong behaviors, many direct environmental problems can be addressed by the law; however, climate change is a complex issue. It is a global issue and has many interests involved in it, but no one can be addressed as the agent who is causing it. Therefore, the international community started to develop and negotiate a legal framework in order to give a global response to a global problem. Authorities had to work rapidly to implement an effective but complex framework. The main international policy on climate change is led by the UNFCCC Conference of the Parties (COP). The main objective of the COP was to create an international legally binding treaty, this then led to the Kyoto Protocol, which was the first international legally binding treaty on climate change. However, before the United Nations work, climate change was regulated by international environmental law on state responsibility or the polluter pays principle, those principles have set the foundation for the climate change law.¹⁶⁷

Besides the United Nations, the European Union has also helped to develop an international framework to limit climate change consequences. The EU strategy made sure that international agreements were inclusive, ensuring that member states (and non-members) were reducing greenhouse gas emissions in line with what science studied. But it has also considered the common but different responsibilities (an important environmental principle), capabilities and vulnerabilities of developing countries. The effort of the European Union led to the Paris Agreement¹⁶⁸, the second treaty of climate change and still implemented today.

Climate change policies have been primarily formulated as mitigation policy-focused especially on energy. The Intergovernmental Panel on Climate Change (IPCC)¹⁶⁹ reflected this mitigation

¹⁶⁵See the United Nations Environment Programme at <https://www.unenvironment.org/about-un-environment>.

¹⁶⁶Bell, S., McGillivray, D. & Pedersen, O. (2013). *Environmental Law*. Oxford University press. Pp.1-6.

¹⁶⁷Pinon-Carlarne, C, Gray, KR & Tarasofsky, R. (2016). *The oxford handbook of international climate change law*. Oxford University Press. Pp. 1-7

¹⁶⁸Delbeke, J. & Vis, P. (2015). *EU Climate Policy Explained*. Routledge. Pp.94-110.

¹⁶⁹The scientific body supporting the UNFCCC process <https://www.ipcc.ch/>.

tendency in its earliest reports. However, scientists confirmed and recognized that since climate change is not a distant reality anymore what can be achieved now through mitigation is not enough for avoiding or reducing certain consequences of climate change. It has been declared that other mechanisms, like adaptation, could be more efficient and therefore necessary. There are three different schools of thought regarding which method is more compatible with responding to climate change. For the *limitationists*, all actions to reduce greenhouse gas emissions (mitigation) are central and needed. The adaptationist view, does not call for explicit action because it sustains that natural selection, or the market forces will guarantee that societies will adjust to the changes. The realists consider climate change as a real fact, with its uncertainty of impacts, thus adaptation and mitigation are considered crucial and realistic responses that have to work together; therefore, one mechanism does not automatically exclude the other.¹⁷⁰

However, to better understand the climate regime is important to analyze the main international instruments created and negotiated by the Nations. After the explanation of their objectives and scopes, a critical analysis can help underline a few crucial points, exploring what are the positive and negative aspects of the current climate change law.

2.1 The Rio Declaration and UNFCCC

The international climate change regime is said to have been born in 1990 when the General Assembly of the United Nations started the negotiation for an international treaty by passing Resolution 45/212 in which “*it recognized climate change as a common concern of mankind*”¹⁷¹. The first step was the 1992 “*United Nations Conference on Environment and Development*” (UNCED) that took place in Rio de Janeiro, commonly known as “*The Earth Summit*”. The conference defined in different treaties several proposals to avoid environmental degradation and to promote sustainable development. The latter was nominated for the first time in the Brundtland¹⁷² Report:

*“Humanity has the ability to make development sustainable to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs. The concept of sustainable development does imply limits - not absolute limits but limitations imposed by the present state of technology and social organization on environmental resources and by the ability of the biosphere to absorb the effects of human activities”*¹⁷³

¹⁷⁰Lisa, E. & Schipper, F. (2006). *Conceptual History of Adaptation in the UNFCCC Process*. Review of European, Comparative & International Environmental Law 15, no. 1. Pp.83-84.

¹⁷¹See UN Resolution 45/212, <http://hrlibrary.umn.edu/resolutions/47/195GA1992.html>

¹⁷²In the 1980s the UN set up the Commission on Environment and Development, also known as the Brundtland Commission, named after its Chair Gro Harlem Brundtland. The outcome of the Brundtland Commission was a document entitled "Our Common Future", also known as the Brundtland Report.

¹⁷³United Nations. The Brundtland Commission. *Report of the World Commission on Environment and Development: Our Common Future*. Available at <https://sustainabledevelopment.un.org/content/documents/5987our-common-future.pdf>.

The Commission was aware of the difficulty of implementing this process and declared that It was supposed to follow the changes in the technology and institutions and that, most of all, was supposed to be based on the political will expressed by the international community.

As a consequence of the centrality of sustainability in that historical period, one of the outcomes of the summit was a document named “*The Rio Declaration on Environment and Development*”, also known as Agenda 21¹⁷⁴ which contained all the principles addressing the sustainable development discussed during the summit. More specifically, it is constituted by 40 chapters in the form of an action plan for sustainable development where social and economic aspects of sustainable development are addressed, and in addition, the conservation and management of specific natural resources and ecosystems are also mentioned. The Agenda promotes a bottom-up but participatory approach considering the inclusion of all the different civil society groups. Other than the concept of sustainable development, it included the precautionary approach, and the polluter pays principle, these two principles, were brought formally to the international arena for the first time after the declaration. It also recognizes the common but differentiated responsibilities principle as an instrument to limit environmental degradation. In this way, developed countries have formally admitted the responsibility they bear in the name of the international pursuit of sustainable development and the technologies and financial resources they command.¹⁷⁵

However, another important result of the Rio Conference was that it culminated in the adoption of the “*United Nations Framework Convention on Climate Change*” (UNFCCC)¹⁷⁶, signed by 154 nations that entered into force in March 1994 and today has universal membership. The goal of the UNFCCC was to set the parameters for global discourse on climate change, but it also represents an important forum for dialogue and decision-making on the issue. In fact, it is, and it will always be an important starting point for the development of norms and principles of international climate change law. In article 2 of the Convention, it is clearly stated that:

“The ultimate objective of this Convention and any related legal instruments that the Conference of the Parties may adopt is to achieve, in accordance with the relevant provisions of the Convention, stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a time frame sufficient to allow

¹⁷⁴See the United Nations Agenda 21 available at <https://sustainabledevelopment.un.org/content/documents/Agenda21.pdf>.

¹⁷⁵Callway, R. (2012). *The Plain Language Guide to the World Summit on Sustainable Development*, Earthscan, London. P. XXI.

¹⁷⁶See the United Nation Framework Convention on Climate Chance (UNFCCC) at <https://unfccc.int/process-and-meetings/the-convention/what-is-the-united-nations-framework-convention-on-climate-change>.

ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner."¹⁷⁷

Thus, the Convention takes into consideration both economic and environmental interests trying to establish them in sustainable terms.

Another important article is the third, which establishes the fundamental principles regulating international climate change law, which are the common but differential responsibilities and capabilities, precautionary principle, and even Principle 2 of the Rio Declaration.¹⁷⁸ The latter gives every state the responsibility to respect and protect the environment inside their national jurisdiction and beyond, to avoid causing damage to another state and its environment. Regarding the common but differential responsibilities principle, it is also principle 7 of the Rio Declaration, which is an explicit and mutual recognition of different standards, or even delayed compliance timetables and less stringent commitments for different countries. This is useful to encourage universal participation and equity among states. As a consequence, there are different legal norms between states to address the special needs of developing countries and countries with economies particularly fragile. In this way, those most affected by environmental, social and developmental difficulties are not in an unfavorable position compared to others. According to the concept of common but differentiated responsibilities, developed countries have a high degree of responsibility in reducing and eliminating unsustainable patterns of production because they produce a high level of pollution and greenhouse gases. Developed countries, in addition, should provide financial assistance and access to environmental technologies to the poorest countries helping them to limit the economic inequalities.¹⁷⁹ This is explicitly stated in Article 4 of the Convention which focuses on the commitments: States must cooperate, promote and implement measures to facilitate an adequate adaptation to climate change which may happen through the transfer of technologies, practice or process. To individuate who are the developed countries, the UNFCCC included a list in the treaty (Annex I). The common but differentiated responsibilities principle has created argument among the states due to a conflict of interest, this mechanism place developed country at an economic disadvantage and undermines the importance of cooperation, where all States together should work to address climate change. A more dynamic approach to this principle would be ideal but it would need an amendment to the UNFCCC which is a difficult process.¹⁸⁰

¹⁷⁷United Nations Framework Convention On Climate Change, Article 2, available at <https://unfccc.int/resource/docs/convkp/conveng.pdf>.

¹⁷⁸Principle 2 of the Rio Declaration available at http://www.unesco.org/education/pdf/RIO_E.PDF.

¹⁷⁹Schrijver, NJ & Weiss, F. (2004). *International Law And Sustainable Development: Principles And Practice*, Leiden Martinus Nijhoff Publishers. Pp.75-80.

¹⁸⁰Gray, KR, Tarasofsky, R. & Carlarne, C. (2018). *The Oxford Handbook of International Climate Change Law*. Oxford University Press. Pp. 1-12.

The precautionary principle is essentially the duty to protect in advance the environment, but it is also one of the most discussed and controversial due to the disagreements over a lack of a precise meaning and legal status. Indeed, technically speaking, the principle responds to a degree of scientific uncertainty and environmental risk by imposing a duty on states to prevent pollution regardless of this scientific information. On the other hand, politically speaking, the precautionary principle attempts to address the innate tension between domestic sovereignty and the international community's increasing need to address certain global environmental problems.¹⁸¹

Parties to the UNFCCC continue to adopt decisions on a definite period, they review the progress made and consider further action through regular meetings of the Conference of the Parties (COP). This is, indeed, the highest decision-making body of the Convention, and usually meets annually. All States that are Parties to the Convention are represented at the COP, during this meeting they review the implementation of the Convention and any other legal instruments that the COP may adopt and take decisions necessary to promote the effective implementation of the Convention, this could include institutional or administrative modifications. One of their key tasks is to review the national communications and emission inventories submitted by States.¹⁸² However, the goals of the Conference of Parties and Convention are supported by various bodies and organizations. This includes a Permanent Secretariat, which is been based since 1996 in Bonn, after an offer to host it for the first time. This organ has various functions which are set out under Article 8 of the UNFCCC. Around 450 staff are employed at UN Climate Change, they come from over 100 countries and represent a blend of diverse cultures, genders, and professional backgrounds. It provides technical expertise and assists in the analysis and review of climate change information reported by Parties and in the implementation of the Kyoto mechanisms. It also organizes and supports a maximum of four negotiating sessions each year, the most important is the Conference of the Parties. In addition to these conferences, the secretariat organizes annual sessions of the so-called subsidiary bodies and many meetings or workshops throughout the year. One of the tasks is also to keep all stakeholders informed on the negotiating process and climate actions through a variety of communication documents.¹⁸³

The UNFCCC includes provisions, under Article 10, for financial mechanisms to support developing countries and countries with economies in transition to a market economy in

¹⁸¹Hickey Jr, JE & Walker, VR. (1995). *The Precautionary Principle In International Environmental Law*. Refining, 14Va. Env'tl. L.J.423. P. 425.

¹⁸²See the Conference of the Parties of UNFCCC <https://unfccc.int/process/bodies/supreme-bodies/conference-of-the-parties-cop>.

¹⁸³See the UNFCCC Secretariat <https://unfccc.int/about-us/about-the-secretariat>.

implementing the Convention.¹⁸⁴ Parties decided that the Global Environment Facility should act as the financial mechanism, given its expertise in this area. Other financial resources are also available through the Special Climate Change Fund, the Least Developed Countries Fund, and the Adaptation Fund, as well as through private donors and agencies.

With these principles, ethical concerns are at the center of the international climate change regime. It characterizes the climate system as being of common concern to humankind and therefore, it establishes a normative framework that supports ethical grounds for decision-making. However, the UNFCCC is a framework convention, which means that it does not itself regulate climate change but only creates a basis for negotiating multilateral solutions among States. Still, it is not a perfect instrument, in fact, it has some weaknesses, the most evident is that it depends on the ability of the governments to reach an agreement under an appropriate timescale. In addition, the participation of all the important international actors cannot be guaranteed.¹⁸⁵

The mitigation was the first policy response decided in the early days because the adaptation was considered only secondary. Thus, this has made literature and research on the two different responses proliferate at different speeds. Much more work has been carried out on the first and this has brought a lack of understanding and even consensus regarding adaptation. Moreover, the UNFCCC did not define adaptation, but during one of the convention's intergovernmental negotiating committee processes, Australia and New Zealand sent a submission to identify it as all the different activities taken in response to, or in anticipation, of the adverse effects of rapid climate change. Part of the reason why that adaptation policy developed so slowly is because of the lack of explicit provisions from the UNFCCC, which has left states and scholars struggling to identify how to address it in relation to climate change under the Convention. Adaptation has primarily been discussed in the context of developing countries issues linked to technology transfer. However, since 2002, a complementary approach between adaptation and mitigation has gained support, with the new acknowledgement and trend that adaptation and mitigation are not alternatives but two sides of the same problem and now, finally, adaptation has greater importance in politics and research agendas, in fact, the interest in developing any form of synergies between the two responses is growing.¹⁸⁶ The UNFCCC was a great achievement but more important are the treaties successfully negotiated by national governments.

¹⁸⁴See the UNFCCC Climate Finance <https://unfccc.int/topics/climate-finance/the-big-picture/introduction-to-climate-finance>.

¹⁸⁵Gray, KR, Tarasofsky, R. & Carlarne, C. (2018). *The Oxford Handbook of International Climate Change Law*. Oxford University Press. Pp.3-20.

¹⁸⁶Lisa, E. & Schipper, F. (2006). *Conceptual History of Adaptation in the UNFCCC Process*. Review of European, Comparative & International Environmental Law 15, no. 1. Pp. 82-92.

2.2 The Kyoto Protocol

The 1995 IPCC's report established definitively that human activities were significantly affecting the climate:

“We believe the essential message of this report continues to be that the basic understanding of climate change and the human role therein, as expressed in the 1990 report, still holds: carbon dioxide remains the most important contributor to anthropogenic forcing of climate change; projections of future global mean temperature change and sea level rise confirm the potential for human activities to alter the Earth's climate to an extent unprecedented in human history; and the long time-scales governing both the accumulation of greenhouse gases in the atmosphere and the response of the climate system to those accumulations, means that many important aspects of climate change are effectively irreversible”¹⁸⁷

Nevertheless, there had been little concrete action to reduce greenhouse gas emissions since 1992, when, finally, the international community acknowledged that it was the moment to negotiate a treaty before it was too late to intervene.

The Kyoto Protocol¹⁸⁸ is an international agreement linked to the United Nations Framework Convention on Climate Change. It was adopted in 1997 but entered into force only on February 16, 2005. One hundred fifty-nine States signed the Protocol in Kyoto on December 11, 1997, and represents the first official effort to force real action by the international community because, as said before, very little action was taken to reduce greenhouse gas at the international level as a global response to climate change. In fact, the protocol was not about simply raising awareness about the issue, but it aimed to establish a real and concrete regime with principles and norms to contrast climate change consequences regulating human activities that were causing it. Compared to the UNFCCC, its ratification progressed noticeably slowly because it was a long negotiation. We have to underline those one hundred seventy-six UN members have now ratified. However, there have been problems with the membership of the United States and Australia¹⁸⁹ with their greenhouse gas emissions summed together that represent more than 26% of the world total.¹⁹⁰ In fact, the United States and Australia have had distinct and evolving relationships with the Protocol.

¹⁸⁷Houghton, JT et al. (n.d.). *Climate Change 1995 The Science of Climate Change*. Cambridge University Press, Published for the Intergovernmental Panel on Climate Change. Available at https://archive.ipcc.ch/ipccreports/sar/wg_i/ipcc_sar_wg_i_full_report.pdf

¹⁸⁸See The United Nations. (1998). The Kyoto Protocol. Official text at https://unfccc.int/kyoto_protocol.

¹⁸⁹New York Times. (2005). Australia, U.S. plan alternative to Kyoto Protocol, the New York Times. Available at <https://www.nytimes.com/2005/07/27/world/asia/australia-us-plan-alternative-to-kyoto-protocol.html> (accessed 20 May 2021).

¹⁹⁰Grubb, M., Vrolijk, C. & Brack, D. (1999). *The Kyoto Protocol: A Guide and Assessment*. Energy and Environmental Programme. Royal Institute of International Affairs. Earthscan. P. 61.

The United States was actively involved in negotiating the Kyoto Protocol and signed it in 1998.¹⁹¹ However, in 2001, President George W. Bush announced that the U.S. would not ratify the protocol, citing concerns about its potential economic impact and the fact that it did not include emissions commitments from developing countries. As a result of the decision of President Bush, the United States did not participate in the first commitment period of the Kyoto Protocol, which ran from 2008 to 2012.¹⁹² During this period, other developed countries made binding commitments to reduce their greenhouse gas emissions while the U.S. pursued alternative approaches to address climate change, including domestic policies and international initiatives. Then, under President Barack Obama, the U.S. played a significant role in negotiations leading up to the Paris Agreement.¹⁹³

Australia initially signed the Kyoto Protocol in 1998 and ratified it in 2007.¹⁹⁴ However, the approach implemented by the country in climate change policies has experienced shifts due to changes in political leadership and priorities. Australia participated in the first commitment period of the Kyoto Protocol (2008-2012) and had a target to limit its emissions to a level 108% above 1990 levels.¹⁹⁵ In 2012, under the government led by Prime Minister Tony Abbott, Australia announced it would not take on commitments under the second commitment period of the Kyoto Protocol. This decision reflected a shift in the government's climate policy direction.¹⁹⁶ Then, in 2016, Australia ratified the Doha Amendment to the Kyoto Protocol, indicating a re-engagement with the protocol. This amendment established emissions targets for the period 2013-2020.¹⁹⁷

Despite this, with the Kyoto Protocol developed countries decided to cut greenhouse gas emissions to a certain established percentage to achieve an amount that was below the 90s levels. These cuts should have taken place in a target period of 2008–2012, as mentioned by Article 3 of the Protocol:

“The Parties included in Annex I shall, individually or jointly, ensure that their aggregate anthropogenic carbon dioxide equivalent emissions of the greenhouse gases listed in Annex A do not exceed their assigned amounts, calculated pursuant to their quantified emission limitation and reduction commitments inscribed in

¹⁹¹Damro, C., & Luaces-Méndez, P. (2003). The Kyoto Protocol's emissions trading system: An EU-US Environmental Flip-Flop. Working Paper #5. P.2

¹⁹² See Office of the Press Secretary. (2001). Text of a Letter from the President to Senators Hagel, Helms, Craig, and Roberts. White House Archive. Available at <https://georgewbush-whitehouse.archives.gov/news/releases/2001/03/20010314.html> (accessed 20 May 2021).

¹⁹³Somanader, T. (2016). President Obama: The United States Formally Enters the Paris Agreement. The White House President Barack Obama Archive. Available at <https://obamawhitehouse.archives.gov/blog/2016/09/03/president-obama-united-states-formally-enters-paris-agreement>

¹⁹⁴Parliament of Australia. (2017). Paris climate agreement: a quick guide. RESEARCH PAPERS 2017–18. Parliamentary Library. P. 1

¹⁹⁵Ibid.

¹⁹⁶Christoff, P. (2013). Soft targets, no caps, hot world? Abbott clarifies his position on climate policy. The Conversation. The University of Melbourne. Available at <https://findanexpert.unimelb.edu.au/news/3392-soft-targets--no-caps--hot-world%3F-abbott-clarifies-his-position-on-climate-policy>. (accessed 20 May 2021).

¹⁹⁷Loynes, K. (2016). Australia and the Doha Amendment: a quick guide. RESEARCH PAPER SERIES, 2016–17. Parliamentary Library.

Annex B and in accordance with the provisions of this Article, with a view to reducing their overall emissions of such gases by at least 5 per cent below 1990 levels in the commitment period 2008 to 2012."¹⁹⁸

The emissions established in Article 2 were framed using the net approach, which calculates the amount of carbon that should be present taking into consideration the amount that the planet lost due to deforestation activities and the amount gained with reforestation activities. This net approach was long debated during the negotiations since it was very difficult to calculate the precise quantity, a legally binding target calculated in this uncertain and unprecise way can lead to dishonest behavior. In addition, the agreement addresses mainly six greenhouse gases that in the Protocol are in order of global warming importance, these are carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride. The last three gases, that have fluorine in common, are said to be the most dangerous with global warming potential, even if have been produced in small amounts.¹⁹⁹

Also, the Protocol divided the countries of the world into two groups: Annex-I countries that comprehend developed countries, the most responsible for climate change due to their industrial activities, and non-Annex-I countries that are developing countries. Regarding, developing countries, the Protocol did not require them to reduce emissions, but it provided them to share the common responsibility that all countries have in reducing emissions and to benefit from the transfer of technology and investments from rich countries into sectors such as renewable energy. Regarding developed countries, specifically, the Protocol includes four market-oriented policies which can also be considered tools: the bubbles, the joint implementation, the clean development mechanism, and international emission trading. Thus, developed countries, have each signed up to an individual emission limitation target to be achieved by the years 2008-2012. That is why the Protocol provides for a differentiated regime for a total reduction that amounted to 5.2% at the global level. Specifically, the US target was a 7% reduction, Japan 6% and Australia 8%. However, the trade of these national emission rights was conceived as possible. Plus, countries can receive credit for the reduction accomplished in developing countries using the clean development mechanism. It is important to notice that the protocol clearly states that countries benefit from their sovereignty in deciding what domestic policy instrument want to implement.²⁰⁰ Thus, activities under the common responsibility produce Certified Emission Reduction Units for the benefit of developed countries. Those units are

¹⁹⁸The Kyoto Protocol, 1998, art.3.

¹⁹⁹Leggett, J. (1998). *A guide to the Kyoto protocol: a treaty with potentially vital strategic implications for the renewables industry*. Renewable and Sustainable Energy Reviews. Amsterdam. Elsevier. P.346-348.

²⁰⁰Hahn, R. & Stavins, R. (1999). *What has the Kyoto Protocol Wrought? The Real Architecture of International Tradable Permits Markets*, Washington, The EAI press. Pp.1- 5.

created by investments and project activities in developing countries, that are not included in Annex I. Developed countries could then benefit from those units to achieve their final target.²⁰¹

The protocol has a complex structure, to come into effect, as established by Article 25, a minimum of 55 countries, that together produce at least 55% of the world's CO₂ emissions, were required to ratify the Protocol²⁰². That is why It suffered from a major setback in March 2001, when the United States, which produces approximately 36% of the carbon dioxide emissions, decided not to ratify it. The US suggested lowering the threshold to 50% of Annex I emissions but their proposal also included a higher number of necessary ratifications for the entry into force, almost 70%. It would have reduced the US's position of possessing near a veto power. However, other complications came from The European Union which did not want to respect its obligations without the US ratification. In the end, the 55% formula was agreed.²⁰³

Recollecting the mechanisms provided by the protocol, we can say that they work together: the trading allows the acquisition of credits from other industrialized countries once they have outdone their targets, the joint implementation allows investment of these emissions in projects, while the clean development mechanism allows to invest in clean energy and other emission reduction projects, specifically, in developing countries. The last mechanism has been defined as a “*bubble*”, although the Parties have never used this term. Still, it is explained in Article 4 of the Protocol:

*“Any Parties included in Annex I that have reached an agreement to fulfil their commitments under Article 3 jointly, shall be deemed to have met those commitments provided that their total combined aggregate anthropogenic carbon dioxide equivalent emissions of the greenhouse gases listed in Annex A do not exceed their assigned amounts calculated pursuant to their quantified emission limitation and reduction commitments inscribed in Annex B and in accordance with the provisions of Article 3. The respective emission level allocated to each of the Parties to the agreement shall be set out in that agreement.”*²⁰⁴

Thus, Parties are invited to act jointly in a regional economic integration organization (so a “*bubble*”) and redefine differentiated objectives for each country within this bubble, once they have provided that they achieve the total combined level of emission reductions. This article has been seen as a victory for the European Union, the main reason was not for cost-benefit, but because it allowed the EU to act as a unity. In this way, countries with low gross domestic products (such as Greece,

²⁰¹Kheng-Lian, K., Lin-Heng, L. & Lin, J. (2010). *Crucial Issues In Climate Change And The Kyoto Protocol Asia And The World*. World Scientific Publishing. P.478.

²⁰²The Kyoto Protocol, 1998, art.25.

²⁰³Oberthür, S. & Ott, HE. (2013). *The Kyoto Protocol: International Climate Policy for the 21st Century*. Springer Science & Business Media. Pp. 262-263.

²⁰⁴The Kyoto Protocol, 1998, art.4.

Ireland, or Portugal) would be able to join the Protocol on an equal level with the rest of the EU members.²⁰⁵

As briefly mentioned above, the US withdrew from the Protocol on April 27, 2001, when the United States Environmental Protection Agency declared that the Bush Administration had the intention to not implement the Protocol. The problem is that the US is the world's biggest emitter of CO₂, so their participation is crucial for the climate regime. Consequently, if a country like the US decides to not participate in the Protocol, then the other nations will have the tendency to ignore the agreement or refuse to ratify the Protocol. This happened with Japan and Russia which are also large emitters and also sceptics, in addition, the withdrawal improved the bargaining power of both Russia and Japan because the EU was obliged to accept any demand with the fear that the protocol could collapse. Moreover, the American government used three arguments as justification to withdraw from Kyoto: the absence of developing country pledges since developed countries are seen as guidance in fighting climate change, uncertainty in the scientific field and the economic impact of implanting Kyoto that for the US would be incredibly expensive.²⁰⁶

2.3 The Copenhagen accord and the Cancun Agreement

The international climate regime started with the already analyzed 1992 Framework Convention on Climate Change and was further developed with the crucial 1997 Kyoto Protocol, but it did not end with these two agreements. In fact, the Parties to the Kyoto Protocol during their first Meeting in Montreal in 2005, following their Decision 1/CMP.1²⁰⁷, created the Ad Hoc Working Group on the Kyoto Protocol (AWG-KP), with the purpose of discussing forthcoming obligations for developed countries under the Protocol. Two years later in Bali, with Decision 1/CP.13²⁰⁸, the Parties established a similar Ad Hoc Working Group but this time on Long-term Cooperative Action (AWG-LCA). While these two initiatives are still not concluded, the last working group, the AWG-LCA, was supposed to culminate in an agreed outcome during the 15th Conference of Parties in Copenhagen in 2009, which did not happen. Nevertheless, the year of the accord was described as the year with concrete action on global climate change but negotiations under these two working groups, AWG-KP and AWG-LCA, were blocked on two main issues: on one side there were developing countries

²⁰⁵Oberthür, S. & Ott, HE. (2013). *The Kyoto Protocol: International Climate Policy for the 21st Century*. Springer Science & Business Media.p.141.

²⁰⁶Phillipson, M. (2001). *The United States Withdrawal from the Kyoto Protocol*. Irish Jurist Vol. 36. Pp. 288-304

²⁰⁷See Decision 1/CMP.1, Consideration of commitments for subsequent periods for Parties included in Annex I to the Convention under Article 3, paragraph 9, of the Kyoto Protocol (2), 2005, p. 3 <https://unfccc.int/resource/docs/2005/cmp1/eng/08a01.pdf#page=3>.

²⁰⁸See The United Nations Bali Action Plan, Decision 1/CP.13 (2), 2007, p.5 <https://unfccc.int/resource/docs/2007/cop13/eng/06a01.pdf#page=3>.

asking that developed countries (countries of Annex I of Kyoto) also committed to clear emissions reduction targets, while on the other side, Annex I countries were waiting for the US to act for climate mitigation. Following this block, the deadline for concluding the negotiations was prolonged, with divisive and fragmented negotiations reported on this occasion. It took two years of parallel process of the two groups and intense negotiations between the Parties to the UNFCCC and Kyoto to produce a final outcome which is known as “*the Copenhagen Accord*”.²⁰⁹ The latter was not adopted, as the usual praxis suggests, but in Decision 2/ CP.15²¹⁰ it was formally reported that parties were only “*taking note*” of it, leaving its legal status uncertain. However, in the end, the accord was reached, and it included: the long-term goal of limiting climate change to no more than 2°C, the systems of “*pledge and review*” for mitigation commitments, actions by both developed and developing countries and financial resources.

The entire process was long and complicated, for this is worthy of attention. The two ad hoc working groups met five times in 2009, three times in Bonn and once in Bangkok and Barcelona. In these meetings, compromising was difficult since States reaffirmed their positions in every meeting. Only at the final preparatory meeting of November 2009, the UNFCCC executive secretary and the AWG-LCA realized that the conference could only be able to produce an apolitical agreement rather than a legal instrument. But particularly crucial was the role played by the Danish president. The year before the conference, in 2008 the Danish government initiated what was then labelled “*climate diplomacy*”, which tried to put the successful basis for the negotiation through the consultation of all major countries and groups, including civil society organizations. This strategy led to a high States’ authorities’ participation which was significant since a COP is not usually attended by heads of State. The strategy proved to be effective since leaders kept announcing their participation, especially during the final high-level session of December, which led to thinking that a positive agreement could be easily and possibly reached. Then, during the first weekend of December, the Danish Prime Minister’s Office organized a meeting for only a small group of nearly thirty countries, in this way, the consultations that were bilateral became multilateral and open to favor the discussion. On this occasion, the US, Russia and China asked to have the documentation sent before the meeting, threatening non-participation if this did not happen. On the second day of the COP, drama exploded due to an article²¹¹ published by The Guardian regarding a secret Danish text that was leaked by

²⁰⁹Cherian, A. (2015). *Energy and Global Climate Change Bridging the Sustainable Development Divide*. Hoboken, Wiley Blackwell. Pp.81-82.

²¹⁰See United Nations, The Copenhagen Accord, December 2009. Official text at <https://unfccc.int/resource/docs/2009/cop15/eng/11a01.pdf>.

²¹¹Vidal, J. (2009). *Copenhagen climate summit in disarray after Danish text leak*. The Guardian. Copenhagen. Available at <https://www.theguardian.com/environment/2009/dec/08/copenhagen-climate-summit-disarray-danish-text> (accessed 21 May 2021).

developing countries. However, the document was a draft proposal for a treaty with obligations, outside the Kyoto Protocol, only for developed countries. Developing countries sensed this event as unfair for them and in favor of developed countries. However, the text was the documentation asked and sent to Russia, the US and China. It was an old version with only the first part of the proposal, this explained the missing part about the Kyoto Protocol. The result was that Denmark was judged as in support of the richest countries and all of its sequential efforts to organize a smaller group to address the consequent issues were neglected by developing countries that defined these actions as undemocratic and illegitimate. Thus, developing countries insisted on continuing the negotiations following the texts that were the result of the two working groups which were open to parties.²¹²

This was the background in which the Copenhagen Accord was elaborated, a scenario in which the division between countries was clear and defined. China and India, in particular, were in favor of a second commitment period under Kyoto for the developed countries but at the same time, they did not agree on the adoption of a new legal agreement regarding their emissions. On the other side, developing countries supported the new legal agreement to complete Kyoto, a more comprehensive agreement able to include the major developing countries such as the US, Brazil, China, and India. So, as already said, the outcome of the COP was the Copenhagen Accord which is more a political document rather than legal. The Accord is short, almost three pages and lacks many details with the idea that could be completed later. However, the Accord defines the climate regime's objective:

*"[...]To stabilize greenhouse gas concentration in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system, we shall, recognizing the scientific view that the increase in global temperature should be below 2 degrees Celsius, on the basis of equity and in the context of sustainable development, enhance our long-term cooperative action to combat climate change."*²¹³

Still, the Accord does not establish the precise level of emissions or concentrations, but the long-term objectives include a limit on global temperature increase around 2°C and on atmospheric concentrations of greenhouse gases, a long-term goal to reduce global emissions by at least 50% by 2050 which is the so-called 50-by-50 target and also a target date for the peaking of global emissions.²¹⁴

Discussions about financial resources took place mainly on the amount of the money to stabilize. In fact, the Accord created a sort of collective commitment, article 8, for developed countries to provide new resources, nearly USD 30 billion for the 2010–2012 period, for both adaptation and

²¹²Meilstrup, P. (2010). *The Runaway Summit: The Background Story of the Danish Presidency of COP15, the UN Climate Change Conference*. The Danish Foreign Policy Yearbook 2010. DIIS. Pp.126 - 130

²¹³The Copenhagen Accord, art.1.

²¹⁴Bodansky, D. (2010). *Current developments The Copenhagen Climate Change Conference: A Postmortem*. American Journal of International Law. Vol. 104. Pp.4-10.

mitigation. In addition, it sets a longer-term collective goal of mobilizing \$100 billion, from public and private sources, per year starting from 2020. Indeed, money is useful for “*meaningful mitigation actions and transparency on implementation*”²¹⁵, as the Accord states. The article, also, demands the governance of this funding, destined for the adaptation, in equal means for developing and developed countries, but does not establish the general governance arrangement. Lastly, article 10 recognizes that:

*“[...] the Copenhagen Green Climate Fund shall be established as an operating entity of the financial mechanism of the Convention to support projects, programme, policies and other activities in developing countries related to mitigation including REDD-plus, adaptation, capacity building, technology development and transfer.”*²¹⁶

Thus, not only does the agreement provide the fund as an operating entity of the Convention’s financial mechanism, but also as a high-level panel to consider potential sources of revenue to meet the \$100 billion per year goal and to make sure that a great amount of international funding flows in the Green Climate Fund.²¹⁷

While these are the most important issues covered by this non-legal accord, on the latter there is a general sense of discontent, reaching an agreement resulted in difficulty and the Danish text scandal slowed the already problematic process. However, we have to notice that even if it failed to reach a binding agreement, the result of the conference can be seen in the commitment made by those states that are the most accountable for the emission.

With the negative experience of COP 15 still in everyone’s mind, COP 16 took place at the end of 2010 in Cancun, welcomed by Patricia Espinosa, the Mexican Secretary of Foreign Affairs. The conference was surrounded by the hope of starting a new era of international cooperation on climate change. Its outcome integrates several elements of the Copenhagen Accord; therefore, many consider it a success, even because, the UNFCCC reported that:

*“the Cancun Agreements included the most comprehensive package ever agreed by governments to help developing nations deal with climate change. It encompasses finance, technology, and capacity-building support to help such countries meet urgent needs to adapt to climate change, and to speed up their plans to adopt sustainable paths to low emission economies that could also resist the negative impacts of climate change.”*²¹⁸

²¹⁵The Copenhagen Accord, art.8.

²¹⁶Ibid. art.10.

²¹⁷Baietti, A. et al. (2012). *Green Infrastructure Finance: Leading Initiatives and Research*, Washington, World Bank Publications. P.19.

²¹⁸See The United Nations, The Cancun Agreements, UNFCCC, 2010. Available at <https://unfccc.int/process/conferences/the-big-picture/milestones/the-cancun-agreements>

The Cancun Agreement, the outcome of the conference, was established by Decision 1/CP.16²¹⁹ under the UNFCCC on the outcome of the work of the AWG-LCA and by a decision under the Kyoto Protocol on the outcome of the work of the AWG-KP. The LCA group Outcome Decision is a document of thirty pages which covers the basic pillars already framed by the Bali Action Plan of 2007. Compared to the outcome of Copenhagen, in addition to the mitigation targets and actions, the Cancun Agreements created an Adaptation Framework, a Technology Mechanism, completed the Green Climate Fund, and established a framework to address deforestation in developing countries.²²⁰ However, scholars suggest that what is important and crucial of the agreements are the articles regarding mitigation actions and commitments, which consist of the III part of the agreements, from article 36 to article 67²²¹. The Parties not only have agreed to reduce emissions but also agreed to the need for a maximum of 2 degrees Celsius temperature rise. In addition, States have agreed to consider strengthening this long-term global goal for which they decided to periodically evaluate the appropriateness of the goal based on scientific data available. In fact, the Agreements emphasizes on *“the need for deep cuts in global greenhouse gas emissions and early and urgent undertakings to accelerate and enhance the implementation of the Convention by all Parties, on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities”*²²² and acknowledge *“that the largest share of historical global emissions of greenhouse gases originated in developed countries and that, owing to this historical responsibility, developed country Parties must take the lead in combating climate change and the adverse effects”*²²³. Specifically, the nationally appropriate mitigation commitments or actions by developed countries reflect the quantified economy-wide emission reduction targets non-legally established by the Copenhagen Accord, while with Cancun, these targets are formally transformed into obligations. Regarding developing countries, the implementation of nationally appropriate mitigation actions to achieve sustainable development was supposed to be done with the support of developed countries through the transfer of technology, financing and capacity-building resources. For this, the Agreement contains additional funding exclusively to developing countries, recognizing the commitment of developed countries to mobilize 100 USD billion per year by 2020. Like was established in

²¹⁹See Decision 1/CP.16, *“The Cancun Agreements: Outcome of the work of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention”*, 2010, p.2.

²²⁰The Cancun Agreements, 2010, II-V-IV.

²²¹Rajamani, L. (2011). *The Cancun Climate Agreements: Reading The Text, Subtext And Tea Leaves*. International and Comparative Law Quarterly, Vol. 60. Pp. 499-501.

²²²The Cancun Agreements, 2010, III, p. 7.

²²³Ibid., p.8

Copenhagen, this funding could come from several varieties of sources, so, both public and private sources.²²⁴

In addition, the Cancun Adaptation Framework is mentioned in Article 13 and has the objective to sustain all the actions necessary to reduce the vulnerability of the poorest countries in order to build their resilience. To support this objective, the Agreements created an Adaptation Committee. The latter has several functions: provide technical support and guidance, share relevant information, knowledge, expertise and practices, promote synergy strengthening collaborations with other organizations and assess the information communicated by States on their adaptation measures to fill the possible gaps or advice for future actions.²²⁵

The greatest achievement made by the Cancun Agreements was that it set emissions mitigation targets for 80 countries, which were all the major economies, such as China, the United States, the European Union, India and Brazil. That is why it has been described as the most comprehensive package ever agreed upon by developed countries to help developing countries fight climate change consequences.²²⁶

Thus, during Copenhagen and then Cancun, the international community recognized an acceptable level of risk, but, in the end, there is still a lack of a common view on the global trajectory of emissions, even less shared views on how the efforts to fight climate change should be distributed across countries. Surely, European countries and the US agreed on a necessary reduction from 50% to 80% for emissions in developed countries to reach in 2050, compared to 1990, but the targets for 2020 were impossible to agree on. For this crucial target, countries preferred to stick to IPCC commitment, where the reduction for developed countries was a maximum of 40% by 2020 compared to 1990. However, the US considered this target as not necessary and not feasible. Still, it should be a priority for every country to have an interest in taking action as soon as possible to reduce emissions. As already anticipated, a disagreement arose also on the distribution of effort across countries, even though, everyone agrees that rich countries should make a larger contribution than poor countries, this is based also on the principle of shared but differentiated responsibilities adopted with UNFCCC in 1992. In addition, distinct from the Kyoto Protocol, both the Copenhagen Accord and the Cancun agreements do not standardize how countries should report on reductions in emissions that they planned, therefore, there are several different commitments, where even tools, reference year, targets

²²⁴Ibid., IV, artt. 95-112.

²²⁵Ibid., art. 20

²²⁶Liu, J. (2011). *The Cancun Agreements*, in Legislation And Policy. Environmental Law Review. Vol. 13. Pp.43-49.

and measures vary across countries. Hence, even in the most optimistic vision, it is impossible to accomplish the long-term objective that the Cancun Agreements wanted to achieve.²²⁷

So, three main treaties are the result of more than twenty years of negotiation of the international climate regime. In 1997, governments negotiated the Kyoto Protocol, which set emission reduction targets for developed countries. In 2009, the Copenhagen Accord represented the most negative moment for the climate regime when no legally binding agreement could be reached while the third milestone is the Paris Agreement negotiated during COP 21.

2.4. The Paris Agreement

Year after year, the COP met to discuss or even only to assess and evaluate the international climate regime, thus, after Cancun, the COP met several times.

COP 17²²⁸ took place in Durban between 28 November and 9 December 2011 and was crucial for the implementation of measures made in Cancun but the main result from Durban was the establishment of the Ad Hoc Working Group on the Durban Platform for Enhanced Action (AWG-DP), that played a central role in the process that then led the Paris Agreement. In addition, The Durban Platform was framed as a subsidiary body under the Convention with the competence of preparing a legally binding instrument relevant to all parties. After Durban, COP 18²²⁹ was held in Doha in 2012 from November 26 to December 7 at the Qatar National Convention Center. In Doha, the Kyoto Protocol's second commitment period was set for the period 2013–2020 confirming the continuation of the Clean Development Mechanism, Joint Implementation and International Emissions Trading Mechanisms. But the most important innovation for climate negotiation took place with COP 19²³⁰ which was held in Warsaw in 2013 and contained the invitation for States to submit their intended nationally determined contributions (INDC), which represent the basic elements of the climate action to be employed in the post-2020 period. COP 20²³¹, the previous before Paris, took place in Lima in the first ten days of December 2014 and saw the adoption of the Lima Call for Climate Action²³² that confirmed the INDC approach. In the framework here described, it is also

²²⁷Monjon, S. (2012). *Limiting greenhouse gas emissions: is the Cancun agreement enough?*. Atoms for Peace: An International Journal. Vol. 3. No. 3. Pp. 201-204.

²²⁸See the United Nations COP 17, 2011 available at <https://unfccc.int/process-and-meetings/conferences/past-conferences/durban-climate-change-conference-november-2011/cop-17>.

²²⁹See the United Nations COP 18, 2012. Available at <https://unfccc.int/process-and-meetings/conferences/past-conferences/doha-climate-change-conference-november-2012/cop-18>.

²³⁰See the United Nations COP 19, 2013. Available at <https://unfccc.int/process-and-meetings/conferences/past-conferences/warsaw-climate-change-conference-november-2013/cop-19>.

²³¹See the United Nations COP 20, 2014. Available at <https://unfccc.int/process-and-meetings/conferences/past-conferences/lima-climate-change-conference-december-2014/cop-20>,

²³²See the United Nations, Lima call for climate action, Decision -/CP.20, 2014. Available at https://unfccc.int/files/meetings/lima_dec_2014/application/pdf/auv_cop20_lima_call_for_climate_action.pdf.

important to spend a few words on the political background that surrounded COP 21. As said, the US did not ratify the Kyoto Protocol while Canada withdrew from it before COP 18. This, combined with the fact that only 37 States were legally bound to the Protocol for the second commitment period and that some rich countries like Brazil and China did not express their intention to cut their emissions, created skepticism and doubts about the effectiveness of the climate regime negotiated until that moment. For this, there was the necessity to employ new efforts to fix the deadlocks to go beyond the period 2020 in the international climate regime. This shift was initially discussed in Copenhagen, as we have already seen since the first commitment period of the Protocol that ended in 2012 most negatively.²³³

So, six years after the Copenhagen meeting, COP 21²³⁴ was organized in Paris and at the end of it, 196 countries agreed to be parties to the Convention, adopting unanimously the Paris Agreement.²³⁵ The latter is composed of a set of ambitious long-term goals and aims to be the global response to climate change. Obviously, for the reasons explained before, the expectations surrounding COP 21 were extremely negative. In 2015 there were three main issues regarding the climate regime that were present in almost the two previous decades: first, the climate regime had no agreement that clearly claimed who should take action to stop climate change, second, agreements did not explain what climate action should be necessary and, third, the institutional framework had numerous flaws that lacked effective resolution. Nonetheless, the meeting was held and, on this occasion, France, the UNFCCC secretariat and the UN Secretary-General showed a unique leadership. François Hollande and Laurent Fabius, respectively the French President and the Foreign Affairs minister, also President of the meeting, engaged in both bilateral and multilateral diplomatic activities with a strategy that promoted a political agenda focused on solutions. The general thought was to host a meeting that resulted as accessible and collaborative that could produce a universal, dynamic, credible, and enduring outcome.²³⁶ In addition to the French diplomatic efforts, which resulted in intensive, persuasive, and globally extensive, significant contribution came from the UN's 2014 *Climate*

²³³Savaşan, Z. (2019). *Paris Climate Agreement: A Deal for Better Compliance? Lessons Learned from the Compliance Mechanisms of the Kyoto and Montreal Protocols*. Springer. Pp.216-219.

²³⁴See the United Nations COP 21, 2015. Available at <https://unfccc.int/process-and-meetings/conferences/past-conferences/paris-climate-change-conference-november-2015/cop-21>.

²³⁵See The United Nations, Paris Agreement, 2015. Official text at https://unfccc.int/files/meetings/paris_nov_2015/application/pdf/paris_agreement_english.pdf.

²³⁶Klein, D. et al. (2017). *The Paris Agreement On Climate Change Analysis And Commentary*. Oxford University Press. Pp.17-26.

*Summit*²³⁷, the Pope's encyclical on climate change "*Laudato Si': On Care for Our Common Home*"²³⁸ of June 2015, but also from civil society, empires, cities legislations.

Nearly 180 States sent their INDCs before the formal start of the meeting, this made it possible to anticipate the result of the negotiation because the COP needed only to accept the commitment sent and the basic positive outcome was automatically reached. In fact, during the first week of negotiations, parties seek to reach an agreement or adjust the draft text, while, during the second and last week, the High-Level Segment attended only by ministers or heads of the different delegations took place. During this moment of the meeting, the negotiations should produce the text that would be then adopted by consensus at the closing plenary. The COP's final decision is composed of both a Decision text and the Paris Agreement. The Decision text is composed of six parts that refer to the Adoption of the Agreement, Intended Nationally Determined Contributions, decisions to give effect to the Agreement which include mitigation, adaptation, loss, and damage, finance and technology development and transfer, and compliance actions, enhanced Action before 2020, Non-Party Stakeholders; and budgetary matters. These are useful to deliver interpretative guidance for the implementation of the text, and for this, are presented in the form of an Annex to the Decision. Furthermore, the Paris Agreement is a legally binding international treaty, but it also comprehends hybrid provisions to facilitate the effecting processes for the participation in the framework of the legal obligations that propose the mitigation actions and compliance. The Agreement contains the strongest temperature goal of any international climate treaty negotiated. This goal is contained in Article 2:

*"Holding the increase in the global average temperature to well below 2 °C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5 °C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change"*²³⁹

The article is formulated to strengthen the State's obligations to meet the Convention's objective, which is to prevent anthropogenic activities that alter the climate system. However, the Agreement lack to include specific targets, date and meaning of the national contributions to ensure effective outcomes, in fact, it only demand that parties fulfil this goal as a priority²⁴⁰, or as soon as possible, using the word of the article:

²³⁷See UN Climate Summit: Ban Ki-moon Final Summary, 2014. Available at <https://unfccc.int/news/un-climate-summit-ban-ki-moon-final-summary>.

²³⁸See Encyclical Letter *Laudato Si'* Of The Holy Father Francis On Care For Our Common Home available at https://w2.vatican.va/content/dam/francesco/pdf/encyclicals/documents/papa-francesco_20150524_encyclica-laudato-si_en.pdf.

²³⁹The Paris Agreement, 2015, art.2 (1).

²⁴⁰Christoff, P. (2016). *The promissory note: COP 21 and the Paris Climate Agreement*. Environmental Politics. Vol. 25. No. 5. Pp. 765–787.

“In order to achieve the long-term temperature goal set out in Article 2, Parties aim to reach global peaking of greenhouse gas emissions as soon as possible, recognizing that peaking will take longer for developing country Parties, and to undertake rapid reductions thereafter in accordance with best available science, so as to achieve a balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases in the second half of this century, on the basis of equity, and in the context of sustainable development and efforts to eradicate poverty.”²⁴¹

In addition, the Paris Agreement gave particular attention to adaptation measures, in fact, it identifies the connection between mitigation and adaptation actions and the necessity to have a fair distribution of the financial resources to support these measures in developing countries. For this, these measures are set out as priorities, plans, and actions to be implemented throughout the transparency framework and the global stocktake, established by the agreement in Article 14 to further promote enhanced action against climate change. The global stocktake has the burden to assess any progress made towards the agreements’ purpose and to notify States about their actions, but the first stocktake is supposed to take place only in 2023 and after that every other five years.²⁴² Transparency rules, instead, result in softer adaptation action but comprehensively to support also mitigation actions. Specifically, the Paris Agreement contains, in Article 7, the fundamental elements of the new climate regime that was intended to be designed to achieve the global goal of adaptation:

“Parties hereby establish the global goal on adaptation of enhancing adaptive capacity, strengthening resilience and reducing vulnerability to climate change, with a view to contributing to sustainable development and ensuring an adequate adaptation response in the context of the temperature goal referred to in Article 2.”²⁴³

Thus, the article frames the long-term goal of adaptation, and for the first time, it is articulated in a clear way since focuses on three dimensions: enhancing adaptive capacity, strengthening resilience to reduce vulnerability and contribute to sustainable development, and ensuring an adequate adaptation response in the context of a temperature goal. With this Article, States have agreed to recognize several principles and considerations regarding adaptation action that they should implement. Even though these principles were already developed before COP 21, for the first time, they were included in a legal agreement. In particular, the provisions emphasize the notion that States’ adaptation actions should be in line with a country-driven approach, be gender-responsive, fully transparent, and be based on the best available science and traditional knowledge.²⁴⁴

²⁴¹Ibid, art.4(1).

²⁴²The Paris agreement, art.14.

²⁴³Ibid, art. 7.

²⁴⁴Ibid, art. 7(5).

Moreover, the article put adaptation also into socio-economic and environmental policies, this was subject to a long debate during the negotiations because it is a dimension often contested by developing countries since they feared that it could be a limit to their sovereignty in designing their development policies. Indeed, at the developing country's request, principally from the African countries, it included the recognition of the adaptation efforts of developing countries "*in accordance with the modalities to be adopted by the Conference of the Parties serving as the meeting of the Parties to this Agreement at its first session*".²⁴⁵ This request was also based on the benefits related to making adaptation actions of developing countries like learning best practices and receiving information on resources used like how national funds are assigned to climate change. Yet, the Agreement does not include specifically how these actions should be implemented.²⁴⁶

Regarding the climate finance issue, it was essential to find a new arrangement shared and agreed on by States. The Paris Agreement applies a broader understanding of climate finance since is not limited to public finance that flows from rich ones to poor ones, as it was established in old negotiations. This can be found in Article 2 which interprets finance flows as "*consistent with a pathway towards low greenhouse gas emissions and climate-resilient development*". This approach is said to be the consequence of the acknowledgement that every financial source can be useful to contrast the challenges caused by climate change. The financial issue is managed by Article 9 of the Paris Agreement:

*"Developed country Parties shall provide financial resources to assist developing country Parties with respect to both mitigation and adaptation in continuation of their existing obligations under the Convention."*²⁴⁷

In addition, obligations for the mobilization of the climate financial flows were divided into provisions along with the article and consequently, it is treated in differentiated ways. Besides the obligations for developed countries, the Agreement includes the concept of mobilization of climate finance as a global effort that can be seen as a sort of exploitation of private financial flows through public interventions to respond to the needs of developing countries. Article 9 is also supported by the COP's decision²⁴⁸ to extend in 2025 the term for the goal of US\$100 billion agreed during the

²⁴⁵Ibid, art.7 (3).

²⁴⁶Klein, D. et al. (2017). *The Paris Agreement On Climate Change Analysis And Commentary*. Oxford University Press. Pp. 196-211.

²⁴⁷The Paris Agreement, 2015, art.9.

²⁴⁸See the United Nations Decision 1/CP.21, Adoption of the Paris Agreement, 2015, p.8 <https://unfccc.int/resource/docs/2015/cop21/eng/10a01.pdf>.

previous COP. Plus, to inform and assess climate finance, the Paris Agreement launched a regime of communications with ex-ante and ex-post components, including support in the global stocktake.²⁴⁹

The agreement covers also institutional arrangements (articles from 16 to 19) and final clauses (articles from 20 to 29) which are also important because are articles that represent an expression of States' intention to be bound under international law. Institutional measures address the COP as the meeting of the Parties to the Paris Agreement (CMA)²⁵⁰, the UNFCCC secretariat as also the secretariat of the Agreement²⁵¹, and confirm the Subsidiary Body for Scientific and Technological Advice (SBSTA) and the Subsidiary Body for Implementation (SBI)²⁵². Thus, institutional arrangements articles manage the creation of bodies, institutions, committees, and the secretariat. Negotiations of this provision were about issues like the use of existing subsidiary and constituted bodies and the creation of new ones, including how they should be composed. More specifically, States had to decide if all the institutional arrangements would be maintained, or only a few of the already existing ones maybe with a new mandate or with some transformation. A critical matter was if the existing institutions should be included by name in the text giving them legal weight in the Paris Agreement but also limiting the space for future change. In the end, States chose a few institutional arrangements, that the Agreement describes in a generic way, including them in Decision 1/ CP.21. However, the most important thing to notice here is that when a state accepts to be bound, the State demonstrates its willingness to implement the legal obligations coming from the accord. The Paris Agreement consents States to declare their consent to be bound in four ways that are provided by Article 20:

“This Agreement shall be open for signature and subject to ratification, acceptance or approval by States and regional economic integration organizations that are Parties to the Convention. It shall be open for signature at the United Nations Headquarters in New York from 22 April 2016 to 21 April 2017. Thereafter, this Agreement shall be open for accession from the day following the date on which it is closed for signature. Instruments of ratification, acceptance, approval or accession shall be deposited with the Depositary”²⁵³

Thus, by ratification, acceptance, approval and lastly, accession. But all of them require a domestic procedure that should be then deposited for recognition. Hence, they also involve an international act, so it is not only a constitutional process. There are a few differences in the four ways. To be bound by ratification means that a State pursues the approval for the Agreement at the national level

²⁴⁹Klein, D. et al. (2017). *The Paris Agreement On Climate Change Analysis And Commentary*. Oxford University Press. Pp.239-244.

²⁵⁰The Paris Agreement, 2015, art.16.

²⁵¹Ibid, art. 17.

²⁵²Ibid, art.18.

²⁵³Ibid, art. 20.

following its constitutional norms or starts legislative changes necessary to implement the Agreement. Regarding acceptance and approval, they have the same legal consequence of the ratification but are both used to permit States to join a treaty even if the constitutional norms do not require the parliamentary agreement or to avoid this process. Accession, instead, allows to express consent without a prior signature for all those States unable to sign due to a deadline or for any national circumstances that do not let the State do it. Moreover, as already said, when a State decides to join the Paris Agreement, it must communicate its NDC.²⁵⁴

The Paris Agreement, the second climate treaty adopted by the international community under the climate change regime, is the latest treaty in this field. As already said, the agreement was adopted with a consensus by 195 sovereign states despite cultural, economic, and social disagreements and differences, in order to stop climate change through cooperation. In fact, it was the first case in history in which a COP meeting was concluded with the promise to be ratified by all the countries that participated. The formal process would want the agreement to enter into force a month after the date on which at least 55 Parties to the Convention accountable for 55% of the total global gas emissions would have ratified it, this happened only a year later, in October 2016, with an effective date on November 4, 2016. US and China, represented by President Barack Obama and Xi Jinping, ratified the treaty in September 2016 and this allowed to speed up the enforcement. The decision reached with the text negotiated, namely, to limit the global temperature increase to 1.5°C, was welcomed as a great triumph, especially for the Small Island States that pushed a lot for this result. Obviously, it is not a perfect agreement, but it was the best that the COP could have produced. Still, just to name a few critical points, there is no guarantee in the agreement that developed countries will contribute financially as established and there is no reference or guarantees for climate refugees.²⁵⁵

But, on one hand, COP 21 was a great achievement, on the other hand, as anticipated, the US withdrawal highlighted how sensible and fragile a treaty is when the administration changes. In 2017, President Donald Trump announced his intention to withdraw the country from the Paris Agreement and the withdrawal process took effect on November 4, 2020.²⁵⁶ So, first the withdrawal from Kyoto with the election of Bush and then the withdrawal from Paris with Trump. In fact, Donald Trump announced, during a speech at the White House, the withdrawal in June 2017 claiming that the agreement was not fair for his country and that he intended to renegotiate it to fix this unfairness or

²⁵⁴Klein, D. et al. (2017). *The Paris Agreement On Climate Change Analysis And Commentary*. Oxford University Press. Pp.352-372.

²⁵⁵Blau, J. (2017). *The Paris Agreement. Climate Change, Solidarity, and Human Rights*. Palgrave Macmillan. Pp.1-31.

²⁵⁶See Columbia Law School. (n.d.) President Trump Announces Withdrawal From Paris Agreement. Columbia University. Available at <https://climate.law.columbia.edu/content/president-trump-announces-withdrawal-paris-agreement-0>

even negotiate a new agreement.²⁵⁷ Fortunately, a few of the US States continued to implement autonomously the accord fulfilling the commitment, New York's mayor served as the major inspiration against the announcement of the President declaring the day after that he would implement the agreement, and several States followed right after.²⁵⁸ Two years after the announcement, the US started officially the process that will take another year to be completed, which will fall around the election time for the US in 2020. It may be a strategic move to influence the election debate but still, climate change poses too many risks for humanity to be treated as election campaign materials, surely Trump has always underlined his little belief in this threat. The withdrawal was supposed to be completed in 2020, in the meanwhile, the US participated in climate talks and Paris-related meetings as an observer, without the same power it had before but it could continue to influence the climate debate.²⁵⁹ During this period, the US did not have any formal commitments under the Paris Agreement. In his first days in office in 2021, President Joe Biden signed an executive order to rejoin the Paris Agreement and the US formally rejoined on February 19, 2021, signaling a renewed commitment to international efforts to combat climate change.²⁶⁰

One last note about the accord should be made regarding its preamble. As said numerous times, climate change has been linked with human rights only recently, several countries during the negotiation did not think it was necessary to insert human rights-related provisions agreeing on eliminating eventual reference to human rights in the draft text. Despite this tendency to neglect human rights during the COP meeting, the final version of the Paris text has a clear reference to human rights in its preamble:

“Acknowledging that climate change is a common concern of humankind, Parties should, when taking action to address climate change, respect, promote and consider their respective obligations on human rights, the right to health, the rights of indigenous peoples, local communities, migrants, children, persons with disabilities and people in vulnerable situations and the right to development, as well as gender equality, empowerment of women and intergenerational equity”²⁶¹

The final version, with the inclusion of human rights, is the result of the successful request made by human rights organizations that engaged in more than ten years of advocacy claiming this recognition

²⁵⁷See Statement by President Trump on the Paris Climate Accord, June 2017 <https://www.whitehouse.gov/briefings-statements/statement-president-trump-paris-climate-accord/>.

²⁵⁸Lin, J. (2018). *Governing Climate Change: Global Cities and Transnational Lawmaking*. Cambridge University Press. Pp.49-50.

²⁵⁹Kann, D. (2020). *US begins formal withdrawal from Paris climate accord*. CNN. Available at <https://edition.cnn.com/2019/11/04/politics/trump-formal-withdrawal-paris-climate-agreement/index.html> (accessed 23 May 2021).

²⁶⁰Blinken, A.J. (2021). *The United States Officially Rejoins the Paris Agreement*. Secretary Of State Press Statement. U.S. Department of State. Available at <https://www.state.gov/the-united-states-officially-rejoins-the-paris-agreement/>

²⁶¹The Paris Agreement, 2015, preamble.

and for justice. Indeed, this kind of initiative has the goal to underline the necessity to include the protection of rights in the international climate regime. During the Paris meeting, the French president released the draft text that did not contain human rights references because it was removed but then included after human rights organizations demanded it. Thus, consequently, the Paris Agreement contains a preambular reference to human rights calling on States to respect, promote, and consider their obligations when fighting climate action. Hence, the Paris Agreement is the first climate-related agreement to have an explicit remark about human rights. In addition, the provision is crucial to define the scope of other obligations contained in a legally binding agreement, for two reasons: first, States that are parties to the UNFCCC have human rights obligations under customary international law and second, based on the different human rights tools that they ratified, the preambular reference creates a link between the obligations included in the Paris text. This promoted policy coherence and confirmed the international community effort to establish sustainable development. Hence, the implementation of the Agreement offers a direct way to both respect and promote procedural rights at the same time. In fact, the Paris Agreement identifies that public participation and access to information rights can improve the implementation of climate action. Procedural rights can increase the legitimacy and authority of the UN climate negotiations helping the organization in spreading information and decisions that are adopted by the States while, at the national level, these rights can ensure that the violated rights are being considered during the design and implementation of climate policies strengthening public support for these policies. The right of access to remedy can only take place if the public can properly exercise its other substantive and procedural rights. Indeed, governments must integrate human rights decisions when implementing the agreement with domestic policies, national commitments and reports communicated to the international climate process.²⁶²

2.5. After the Paris Agreement

The Paris Agreement is the last and still implemented treaty about climate change in the international community, but the meetings are still being held every year and since 2015 in Paris, the COP met other four times, the last meeting was in fact in December 2019.

The establishment of Paris was followed by a lot of debate which led to the creation of two schools of thought: the first one accepts the idea that there is a sort of institutional memory from the negotiations and for this they should be respected, while, the second school, spread in the civil society, believes that after Paris the only way to move further is renegotiate everything all over again.²⁶³ The

²⁶²Duyck, S. (2015). *The Paris Climate Agreement and the Protection of Human Rights in a Changing Climate*. Yearbook of international Environmental Law. Vol. 26. No. 1. Pp. 3–45.

²⁶³Marcu, A. (2017). *Article 6 of the Paris Agreement: Reflections on Party Submissions before Marrakech*. International Centre for Trade and Sustainable Development (ICTSD). Pp.1-10.

second school is way more drastic, the Paris Agreement was reached after a long process and was considered a positive result after a negative period of the climate regime. Renegotiate seems the most difficult path to choose, maybe a reform of the treaty, in order to cover many issues left uncovered in 2015, is the right way to develop a better emission regime. This background post-COP 21 has led to COP 22²⁶⁴ that took place in Marrakech, from 7 to 18 November 2016. The Marrakech meeting was seen as an opportunity to prepare the road for the implementation of the Paris Agreement, preparing all those mechanisms and modalities that would allow the Agreement to be operative and effective. Marrakech as the location of the meeting was also significant due to the region itself is vulnerable to global warming with extreme temperatures and precipitation but also frequent periods of droughts, ocean acidification and sea-level rise that have consequences for individuals with deprivation of land and water resources and drought-stress in already poor regions that suffer of reduced crop productivity. Thus, the country would have gained a lot from the implementation of the Paris Agreement. Also, Morocco could significantly contribute to the emission reduction regime, both in the medium and long-term, with clean energy resources like solar energy in North Africa. Hence, Marrakech was seen as an opportunity to push developing countries to invest and reinforce the transfer of climate-mitigating technologies that would have provided them with development and economic profits. So, Morocco as the host country of COP 22 was the perfect example of the challenges caused by climate change. However, before the meeting, in September 2015, King Mohammed VI and French President François Hollande released the “*Call of Tangier*”²⁶⁵, a short document that expressed their concern regarding the negative effects of climate change and asked to speed up the establishment of a green economy. The host country organized the agenda including several polity goals for adaptation measures to achieve 2020-2030, which were also present in its INDCs that were submitted in June 2015.²⁶⁶

The outcome of the meeting, which is considered a positive result by the majority, is the “*Marrakech Proclamation for Action, Climate and Sustainable Development*”²⁶⁷ which is the representation of the maximum political commitment achieved during the meeting to fight climate change. COP 22 was the perfect occasion to learn about the few successful steps made in adaptation, capacity building, transfer of technology and climate finance. In fact, the participation of twenty-

²⁶⁴See the United Nations, COP 22, 2016, available at <https://unfccc.int/process-and-meetings/conferences/past-conferences/marrakech-climate-change-conference-november-2016/cop-22/cop-22-decisions>.

²⁶⁵See the Call of Tangier, 2015, full text <https://www.moroccoworldnews.com/2015/09/168346/call-of-tangier-for-a-united-and-strong-action-in-favor-of-the-climate/>.

²⁶⁶El-Katiri, L. (2016). *The Road to Marrakech: Key Issues for COP22*. OCP Policy Brief. Pp.1-10.

²⁶⁷See the United Nations Marrakech Proclamation for Action, *Climate and Sustainable Development*, Marrakech, 2016 official https://unfccc.int/files/meetings/marrakech_nov_2016/application/pdf/marrakech_action_proclamation.pdf

seven countries in projects, such as the “*Adaptation of African Agriculture initiative*”²⁶⁸ demonstrated how natural resources management, climate risk management and the financing of small farmers, in parallel with the Sustainable Development Goals, have enhanced the adaptation goal. Regarding capacity building, the COP led to the implementation of the Paris Committee on Capacity Building, the members were elected and started their mandate in May 2017. Their work aims at contributing to capacity-building in the field of climate action in developing countries to:

*“address gaps and needs, both current and emerging, in implementing capacity-building in developing country Parties and further enhance capacity-building efforts, including with regard to coherence and coordination in capacity-building activities under the Convention”*²⁶⁹

In addition, the Global Environment Fund (GEF) announced a Capacity Building Initiative for Transparency to support this goal and was sponsored by at least ten developed countries for the amount of \$50 million.²⁷⁰ Lastly, about climate finance, the meeting did not produce anything completely new, but they could identify quantitative and qualitative information on the provision of financial resources even if they did not define the modalities of these resources that were supposed to be provided by developed countries. Other than promoting transparency and consistency, some issues included clarifying what can be considered climate finance, the need to avoid double-counting of finance, and the problem of how these could be integrated these modalities into the transparency framework that was established by Article 13 of the Paris Agreement. A little victory for developing countries was that the Adaptation Fund served the Paris Agreement, this has further developed the Fund authority and has also allowed the Fund to contribute to the objective of the Paris Agreement which is to help countries adapt and develop climate resilience.²⁷¹

A year later COP 23²⁷² took place in November 2017 in Bonn but was chaired by the Government of Fiji. The meeting was characterized by the role of the President who demonstrated the capability of small states to influence the world regardless of their size, population or GDP. However, the meeting was chaired by Fiji but financed by Germany but besides the financial matters, the Fijian Presidency made it possible to further develop global politics because it was the occasion to show that with creative diplomacy, also small states are able to receive support from bigger and richer States putting their interests on the agenda as well. In fact, the COP negotiations gave viability to

²⁶⁸See the Adaptation of African Agriculture initiative <https://www.aainitiative.org/initiative>.

²⁶⁹See the United Nations Decision 2/CP.22, 2016, p.5 <https://unfccc.int/resource/docs/2016/cop22/eng/10a01.pdf>.

²⁷⁰Ghezloun, A., Saidane, A., Merabet, H. (2017). *New Commitments in support of the Paris Agreement*. Energy Procedia. Volume 119. Pp.10-16.

²⁷¹United Nations. (2017). “*COP 22 - Marrakech A slow climb to the top*”. Climate Focus. Briefing Note. Pp. 1-4.

²⁷²See the United Nations COP 23, 2017 available at <https://unfccc.int/process-and-meetings/conferences/un-climate-change-conference-november-2017/sessions-of-negotiating-bodies/cop-23>.

SIDS, like atoll states such as Maldives, Tuvalu and Marshall Islands.²⁷³ These States are also the most affected by climate change consequences so, it was only fair for them to participate in the negotiation, having their voice heard.

The year of COP23 saw a high concentration of extreme climate disasters, there were devastating hurricanes in the Caribbean and the Gulf of Mexico, frequent flooding in South Asia and catastrophic drought and forest fires in Portugal. Following this scenario, the meeting focused particularly on developing rules to implement the Paris Agreement to achieve climate protection. The COP was also defined as the first “*Oceanic*” COP and a lot of consideration was given to countries of the Southern sphere supporting them in their efforts to reduce emissions, adapt to climate change and deal with the extreme impacts to which adaptation is not enough. However, in the same period, the US changed administration, and this affected the COP creating a vacuum in leadership that was never filled, neither by the European Union nor by countries as China. As a consequence of this vacuum, in addition, only the compulsory part of the programme was completed during the meeting with a few progresses in terms of technical details. More specifically, one of the purposes of the Bonn conference was to enhance the negotiations on the rules for implementing the Paris Agreement in order to enable their adoption during what would have been the next Climate Change Conference of December 2018. In fact, as already explained above, the Paris Agreement established the objectives and mechanisms of the international climate law regime after 2020 while the specific rules on the implementation of the agreement were not expressed.²⁷⁴ Thus, States worked for the creation of a rulebook that was supposed to be completed by 2018 during COP24 and for Germany itself and the EU, it was a priority to have it ready and finished in 2018. Hence, the negotiations in Bonn comprehend technical issues such as the measuring and accounting of greenhouse gas emissions, the transparency issues, the review of the global stocktake, the market mechanisms and the classic climate debate of adaptation, loss and damage, agriculture and finance. However, the negotiation was slow and without any concrete result, to the extent that was necessary to include in the final decision text the necessity for an extra session before COP24. Nevertheless, even if little, an accomplishment of the meeting was the presentation of the “*Talanoa Dialogue*”²⁷⁵, to start in January 2018. It is an interesting concept, especially for the momentum in which it was introduced because named after a Fijian traditional word, as reported by UNFCCC:

²⁷³Corbett, J., Yi-Chong, X. & Weller, P. (2018). *Climate Change and the Active Participation of Small States in International Organisations*. The Round Table. Routledge. Pp.1-3

²⁷⁴Obergassel, W. et al. (2018). *The calm before the storm: an assessment of the 23rd Climate Change Conference (COP 23) in Bonn*. Environmental Law and Management. Vol. 30. Pp.104-105.

²⁷⁵See the United Nations, COP23, Decision 1/CP.23, III, p. 2 available at <https://unfccc.int/resource/docs/2017/cop23/eng/113.pdf>.

*“reflect a process of inclusive, participatory and transparent dialogue. The purpose of Talanoa is to share stories, build empathy and to make wise decisions for the collective good. The process of Talanoa involves the sharing of ideas, skills and experience through storytelling.”*²⁷⁶

Other than the Talanoa Dialogue, the COP was the occasion for information about the nationally determined contributions (NDCs) identifying eventual gaps for the next round of NDCs in 2020. Since the second period of commitments under the Kyoto Protocol was shortly coming to an end, new commitments were needed, plus, the earlier the investments in mitigation start, the more probable that policymakers can deliver results over the long period. Basically, the Talanoa Dialogue is a way to test the reviews of the national climate policies planned for the current year under the global stocktake. However, there is another review process planned for 2019 on financial and technological commitments. The financial and transparency commitments for the new period were based on data collected by the OECD and were established for a total of 67 billion USD. Regarding the Green Climate Fund, COP 23 did not add any new commitments to it, instead, for the Adaptation Fund, Germany guaranteed 50 million EUR, Sweden, Italy and Ireland joined and collaborated with another 30 million EUR.²⁷⁷

After the Bonn meeting, COP 24²⁷⁸ was held in Katowice from the 2nd of December to the 14th. In Katowice, States were able to reach an agreement on the implementation of the majority of the elements of the Paris Agreement. This was partially thanks to the constant engagement by the UN Secretary-General António Guterres who participated in the negotiations three times pushing for a positive outcome but also because States showed a certain degree of flexibility that led to a successful multilateralism. We have to underline that COP24 was held in a crucial momentum for the climate regime because it was preceded by the IPCC Special Report on Global Warming of 1.5°C²⁷⁹ in which it was suggested that the emissions reductions established by countries under Paris were not limit global warming to 1.5°C as hoped, so, the IPCC called Countries to increase their commitment before 2030 to efficiently limit temperature rise to 1.5°C.

The release of the report contributed to creating discouragement and a general disagreement among the Parties on how to respond to the IPCC, agreeing universally welcoming or endorsing the Report's conclusion was too simplistic and could result in superficial, finding a common response

²⁷⁶See the United Nations Talanoa Dialogue Platform, 2018, available at <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement/2018-talanoa-dialogue-platform>

²⁷⁷Dröge, S. & Rattani, V. (2018). *International climate policy leadership after COP23: the EU must resume its leading role, but cannot do so alone*. German Institute for International and Security Affairs. SWP Comment. Pp.1-2.

²⁷⁸See the United Nations, COP 24, 2018, Katowice, available at <https://unfccc.int/process-and-meetings/conferences/katowice-climate-change-conference-december-2018/sessions-of-negotiating-bodies/cop-24>.

²⁷⁹See the United Nations, IPCC Special Report on Global Warming of 1.5°C available at <https://www.ipcc.ch/2018/10/08/summary-for-policymakers-of-ipcc-special-report-on-global-warming-of-1-5c-approved-by-governments/>.

became a source of hostility, but in the end, COP24 reached the final text also thanks to the information of the Report. However, during the period of the start of COP24, the US was still convinced and committed to withdrawing from Paris, this aspiration started to convince also other states, for example, Brazil. This situation, probably, led to negotiations in which ambitious results were not included to avoid not reaching an agreement at all. Thus, the agreement achieved was a collective agreement on how NDC accomplishment should be transparently assessed and measured, it was included additional arrangements on financial commitments, mostly for vulnerable countries, for the period comprehending 2020–2025.²⁸⁰

Moreover, the success of the Katowice meeting goes beyond the multilateral agreement achieved and can be seen in how focused the ambition of the State is within a narrow window of opportunity delivering also how to make possible the realizations of these ambitions. As we know, the Katowice COP had the duty to conclude the Paris Agreement Work Program by adopting the rules on the implementation of the Agreement, also known as the “*Paris Rulebook*”. Notably, the conference delivered on the latter as substantive decisions that were then adopted, the only matters that could not be agreed on were the market and non-market mechanisms under Article 6 of the Agreement. Even if the agreement was reached, some subitems were delayed, for example, the development of common reporting tables for the NDCs and further guidance on features of NDCs like clarity, transparency, and accountability. Based on the difficulty of finding a common agreement, States requested to SBI to continue the deliberation of this matter in June 2019 making a recommendation to the CMA. In addition, regarding the adaptation measure (contained in article 7), the meeting developed successfully supplementary guidance for adaptation communications whose purpose is to increase the visibility of adaptation putting it in balance with mitigation but also to reinforce adaptation action for developing countries and to deliver efforts for the global stocktake. In addition, the flexibility given to States in the Paris Agreement was confirmed in the COP24, including the free choice on how a State could submit its adaptation communication, they may additionally indicate ex-post information like information on progress and results reached.²⁸¹

Obviously, the COP debated also on financial matters. The main financial issues came from Decision 1/CP.21 adopted in 2015 which addressed questions not included in the final legal treaty. The new obligation negotiated was about the predictability of financial support but were also planned stages of public financial funds for developing countries, the total amount was 100 billion USD, raising once again the climate fund. It is easy to imagine that the financial issue was a lot debated

²⁸⁰Gills, B. & Morgan, J. (2019). *Global Climate Emergency: after COP24, climate science, urgency, and the threat to humanity*. Globalizations. Pp.10-12.

²⁸¹Sharma, A. et al. (2019). *COP24: key outcomes*. European Capacity Building Initiative. Pp 1-19.

because every country had different opinions on the technical details like the modalities regarding how it is to be provided.²⁸²

COP 25²⁸³ took place in Madrid in December 2019. Originally, Chile was supposed to host the conference but had to cancel in October 2019 due to the precarious situation of the protests, against the government, spread in the country, still, Chile maintained the presidency. The conference started with the best intentions, hoping to reach an agreement in order to finally complete the Paris Rulebook to start its implementation. Despite the positive spirit, the conference was not expected to frame new climate commitments but there was still confidence that States could at least send a significant message for the next meeting. However, quite soon, negotiations stopped when States came across the first technical issues, like the rules regarding carbon market mechanisms that had been postponed for years. The final texts, signed during the closing plenary, are three decision that brings the same title, that of “*Chile Madrid Time For Action*”, do not contains any new legal obligation or agreements but simply confirm the necessity to fight climate change with urgency using a stronger language to deliver the message.²⁸⁴ While States could not agree on technical issues, the EU advanced its intention to fight climate change in its region by 2050, for this submitted a proposal of a timetable for enhancing the EU’s NDC targets, differing them from the current ones from the 40% established in 1990 to almost 55%. In addition to the EU, other 80 countries, mostly small and developing countries, declared their willingness to increase their NDCs by 2020, but these 80 countries are not enough, especially because the biggest emitters did not submit their new targets. However, Chile labelled numerous times the COP as “*blue COP*” because there was a strong focus on oceans on the agenda. The focus on oceans was also preceded by the release of the High-Level Panel for a Sustainable Ocean Economy’s Report “*The expected impacts of climate change on the ocean economy*”²⁸⁵, this led to the successful inclusion of commitments related to the oceans around 40 countries’ future NDCs.²⁸⁶

Chronologically, this analysis ends with COP 26, or the 26th UN Climate Change Conference of the Parties.²⁸⁷ It was a crucial international summit held in Glasgow, Scotland, from October 31 to November 12, 2021. The conference brought together leaders from around the world to discuss and

²⁸²Bodle, R., & Noens, V. (2018). Climate Finance: Too Much on Detail, Too Little on the Big Picture?. Carbon & Climate Law Review. Pp. 248 - 257

²⁸³See the United Nations, COP 25, Madrid, 2019, available at <https://unfccc.int/event/cop-25#eq-1>

²⁸⁴See the United Nations Decision 1/CP.25 https://unfccc.int/resource/cop25/1cop25_auv.pdf, Decision 1/CMA.2 https://unfccc.int/resource/cop25/1cma2_auv.pdf, Decision 1/CMP.15 <https://unfccc.int/resource/cop25/1cmp15.pdf>

²⁸⁵Gaines, S. et al. (2019). The Expected Impacts of Climate Change on the Ocean Economy. Washington, DC: World Resources Institute. Available online at www.oceanpanel.org/expected-impacts-climate-change-ocean-economy.

²⁸⁶Evans, S. & Gabbattiss, J. (2019). *COP25: Key outcomes agreed at the UN climate talks in Madrid*, Carbon Brief Clear on Climate. Available at <https://www.carbonbrief.org/cop25-key-outcomes-agreed-at-the-un-climate-talks-in-madrid>.

²⁸⁷See UN Climate Change Conference UK 2021. UK Presidency. UK Government Archive at <https://webarchive.nationalarchives.gov.uk/ukgwa/20230311041855/https://ukcop26.org/uk-at-cop27/uk-presidency-outcomes/>

negotiate actions to address the global climate crisis. Many countries, including major emitters like the United States, China, and the European Union, announced more ambitious climate targets to reduce their greenhouse gas emissions. The overarching goal was to limit global warming to 1.5 degrees Celsius above pre-industrial levels, as outlined in the Paris Agreement. This is a critical threshold to avoid the most catastrophic impacts of climate change.²⁸⁸ It was significant that over 100 countries signed the “*Glasgow Leaders' Declaration on Forests and Land Use*”²⁸⁹, committing to halt and reverse deforestation and land degradation by 2030.²⁹⁰ Wealthy countries reaffirmed their commitment to mobilize \$100 billion annually in climate finance to support developing nations in their efforts to mitigate and adapt to climate change.²⁹¹ In addition, various financial institutions, companies, and investors made substantial commitments to fund climate-related projects and transition to sustainable practices. Moreover, there was a push for greater funding for adaptation projects in vulnerable regions, recognizing that many communities are already facing the impacts of climate change. Initiatives were launched to accelerate the transition to renewable energy sources and to promote sustainable transportation solutions.²⁹² Interestingly, youth activists and civil society played a significant role in COP 26, emphasizing the urgency of climate action and holding leaders accountable.²⁹³

Therefore, COP 26 was seen as a pivotal moment in the global response to climate change. Its legacy will be shaped by how countries implement their commitments and increase their ambition in the years ahead.

Thus, the meetings of COP represent the highest-level forum for governments to decide how to manage the future regarding climate change, the negotiations have always dealt with a strong sense of struggle mainly due to economic interest involved in it. It is not difficult to envisage how easily a negotiation can fail when a lot of States (more than one hundred States participate) try to defend their

²⁸⁸See United Nations. (2021). COP26: Together for our planet. Climate Action. United Nations. Available at <https://www.un.org/en/climatechange/cop26>

²⁸⁹See United Nations, the Glasgow Leaders' Declaration On Forests And Land Use, 2021. Official text at: <https://webarchive.nationalarchives.gov.uk/ukgwa/20230418175226/https://ukcop26.org/glasgow-leaders-declaration-on-forests-and-land-use/>

²⁹⁰Skene, J. (2023). Glasgow Forests Declaration Success Hinges on Northern Accountability. NRDC. Available at <https://www.nrdc.org/bio/jennifer-skene/glasgow-forests-declaration-success-hinges-northern-accountability#:~:text=When%20141%20countries%20signed%20the.local%20communities%20and%20Indigenous%20peoples.>

²⁹¹See UNFCCC, COP26 Outcomes: Finance for Climate Adaptation at <https://unfccc.int/process-and-meetings/the-paris-agreement/the-glasgow-climate-pact/cop26-outcomes-finance-for-climate-adaptation>

²⁹²See UN Climate Change Conference UK 2021 (.2021). Accelerating the transition from coal to clean power. Available at <https://webarchive.nationalarchives.gov.uk/ukgwa/20230105154015/https://ukcop26.org/energy/>

²⁹³Virgo, P. (2021). Analysis/Youth groups' wins generate hope after COP26's failings. ANSA. Available at https://www.ansa.it/english/news/general_news/2021/11/19/analysisyouth-groups-wins-give-hope-after-cop26s-failings_f20e2a26-bc80-4dc6-be2d-e33aa807594e.html (accessed 10 May 2022).

priorities but at the same time, the aim of the COPs meeting is to find a common solution for a common threat, that of the climate change, this should be the only priority.

3. The European Union framework on climate change

When the international climate change regime is analyzed, almost automatically, the policies and actions which we refer to are the ones established and implemented by the UN, mainly through the UNFCCC. However, the European Union over the years has gained a certain level of authority and bargaining power to influence the climate regime, firstly in its member States and then with the entire world.

Since its creation, the EU has strengthened its role year after year implementing an exemplary leadership that led to building its credibility and putting in place its climate diplomacy. The latter over the years was implemented with domestic climate policies and the establishment of climate funds, so, the EU has acted as a single actor in fighting climate change. The climate regime framed by the organization is both dynamic and fast at developing in its areas, but it is also rich, covering several matters that go from energy to transportation and agriculture. All of these policies can potentially affect, in different ways, the effort of the EU in mitigation and adaptation. Its power probably lies in being able to speak as one while representing the interests of various countries. The most explicit behavior of the EU's leadership is the acceptance of the biggest target emission reduction of 8% during the Kyoto negotiations. This, in parallel with the withdrawal of the US from the Protocol, created space for the EU to enhance its role and influence proving a high sense of entrepreneurial leadership assuring also that Russia would sign the Protocol in 2004 in exchange for its accession to the WTO. However, the leadership of the organization got stuck during the COP in Copenhagen, which represents also the most negative momentum for the climate regime, nevertheless, the EU always pushed for a global emission reduction of 50% by 2050 but unfortunately, the COP failed to reach an agreement. Consequently, the declaration of the EU's participation in the second commitment period of the Kyoto Protocol helped the organization gain its authority back after the Copenhagen COP which kept rising and improving until the Paris COP. During the meeting in France, in fact, the EU was able to establish several alliances allowing the COP to reach the final legal-binding agreement.²⁹⁴

Besides its participation in the international climate regime, the EU has contributed to the designation of domestic policies to contrast the now enhanced global warming. In particular, the European Commission has an important role within the European climate policy-making process. The

²⁹⁴Minas, S. & Ntousas, V. (2018). *EU Climate Diplomacy: Politics, Law and Negotiations*. Routledge, Pp.33-46

Commission, indeed, is the institutional body that has the power to start the draft of policies and has the responsibility to ensure that these policies are implemented. In addition, due to the composition of the Commission, their technical expertise in numerous fields is what is required to make optimal climate policies. EU's effort started with the inclusion of an environmental chapter in the 1987 Single European Act²⁹⁵, climate change references were also in the portfolio of the Environment Commissioner. With the entry into force of the Treaty of Lisbon in December 2009, climate change references are more explicit since it is included in Article 191:

*“Union policy on the environment shall contribute to pursuit of the following objectives: preserving, protecting and improving the quality of the environment, protecting human health, prudent and rational utilisation of natural resources, promoting measures at international level to deal with regional or worldwide environmental problems, and in particular combating climate change”.*²⁹⁶

Thus, the EU included the fight climate change as one of the objectives to pursue throughout its environmental policies that the Member States have to follow.

The same happened with the international commitments accepted and included in the EU policy, hence, the Commission monitor the Member States to be sure that international measures are implemented. To facilitate this process, the external commitments are not seen as separate from the policies but become pillars of these policies. However, the Commission cannot propose radical initiatives or policies when representing the EU during international climate change negotiations without a formal mandate from the national governments, but the Commission can make this proposal for internal climate policies. For example, in 1991 the Commission presented a strategy²⁹⁷ to limit greenhouse gasses emissions promoting, at the same time, energy efficiency, this strategy plan included a framework on energy efficiency (SAVE), a decision on renewables energies (ALTENER), a decision on a monitoring mechanism for CO₂ emissions and a directive to introduce a carbon and energy tax within the EU territory.²⁹⁸

Almost ten years later, in 2000, the Commission created the European Climate Change Programme (ECCP).²⁹⁹ The latter involved different Directorate-Generals, several government representatives, industries delegates and NGOs but mainly coordinated by the Environmental Directorate. The

²⁹⁵See the EU, Single European Act, 1987, Sub-section VI, Environment <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:11986U/TXT&from=EN>.

²⁹⁶The Lisbon Treaty, Article 191(1), 2009.

²⁹⁷The European Commission. (1991). *A Community Strategy To Limit Carbon Dioxide Emissions And Improve Energy Efficiency*, the European Commission. Available at https://ec.europa.eu/commission/presscorner/detail/en/P_92_29

²⁹⁸Rüdiger, K., Wurze, W. & Connelly, J. (2010). *The European Union as a Leader in International Climate Change Politics*. Routledge. Pp.41-49

²⁹⁹See the European Union, The European Climate Change Programme https://ec.europa.eu/clima/policies/eccp_en#tab-0-0.

principal aim was to involve stakeholders in the climate change policy process, their role served to gain expertise, build consensus on the measures to implement and increase the credibility of the EU in the climate regime. Overall, the program had the task of identifying and developing the necessary elements to implement the Kyoto Protocol, this was supposed to be done by achieving the highest possible cost-effectiveness way. This approach was based on two main features: the first was that every economic sector was supposed to contribute to limiting the emissions to respect the Protocol target and second, following the different prices for emission reduction in different sectors, consequently, some sectors had to reduce emission more than others. Besides the cost-effectiveness approach, since the classic legal instruments were considered inadequate, the ECCP suggested the use of innovative tools like voluntary instruments, innovative and technological measures, campaigns and research. Even though the program was criticized by the European Parliament because it contained few legislative proposals, scholars considered the ECCP a success. First of all, it identified cost-efficient measures to reduce gasses emissions, measures that were adopted by the Member States and that constituted the European Climate Strategy, and consequently, this has established the EU's authority in the climate regime.³⁰⁰

In 2005, the EU launched the “*Emissions Trading Scheme (ETS)*”³⁰¹ which has been an important Commission's legislative proposal on climate change. The initiative is still an active policy that has been revised in 2018 to achieve the EU's goals by 2030. With this scheme, the EU confirmed its leadership, despite the initial disagreement by a few Member States, like Germany. However, the ETS is based on the cap-and-trade system that created a fund of almost €140,000,000,000 regime and it is the focus of the global carbon market. Together with the “*Climate and Energy Package (CEP)*”³⁰², renewed for the 2020 period, the ETS has the objective to guide the low-carbon reconstruction of the European economy.

Regarding the CEP, is a body of laws with measures of different fields which aim to deliver a comprehensive and integrated climate change framework. It includes policies that promote the use of renewable energy, monitor and reduce greenhouse gases or establish a framework for the geological storage of carbon dioxide. The package, obviously, confirms the effort of Member States to reduce the emissions following their 2020 commitments. Hence, some scholars view the Package as an EU tool to influence and model climate actions outside its jurisdiction.³⁰³

³⁰⁰Maxian Rusche, T. (2010). *The European Climate Change Program: an evaluation of stakeholders involvement and policy achievements*. Energy Policy 38. Pp.6349-6359.

³⁰¹See the European Union Emissions Trading System https://ec.europa.eu/clima/policies/ets_en.

³⁰²See the European Union Climate and Energy Package (CEP) https://ec.europa.eu/clima/policies/strategies/2020_en.

³⁰³Pinon-Carlarne, C, Gray, KR & Tarasofsky, R. (2016). *The oxford handbook of international climate change law*. Oxford University Press. Pp.674-675

As already said, all of the EU Member States participate in the ETS strategy, plus Iceland, Liechtenstein and Norway which are the three non-members. Four years after its launch, the scheme accounted for 43% of the EU's total emissions, thus, the system, even if complicated, resulted to be effective. The scheme comprehends four sectors that together resulted to be the sectors with the most emissions in the European territory: the energy sector (like oil refinery), the ferrous metal producing sector, the mineral sector and lastly, the paper sector. The cap on emissions is decided by an authority and then it is divided into tradable units which represent a sort of payment to emit a certain amount of greenhouse gasses. The total number of allowances can be reduced annually to decrease consequently the emissions. In addition, allowances can be given for free to installations or sold at auction. But those companies that produce more emissions than those established by the allowance risk facing a penalty. The carbon market established by the EU, is currently the largest in the world, responsible, in fact, for approximately 85% of world carbon trading, which amounts to \$175 US billion every year. The ETS has been organized to be implemented in three phases, from 2005-2007, from 2008-2012 and from 2013-2020 period coordinated with the Kyoto Protocol compliance period.³⁰⁴

In parallel in 2013, the Commission established a new framework for the climate and energy policies, known also as the “*Green Paper*”³⁰⁵ to boost the policies towards 2030. The Green Paper, as reported by the official documents has the objective to:

*“integrates different policy objectives such as reducing greenhouse gas (GHG) emissions, securing energy supply and supporting growth, competitiveness and jobs through a high technology, cost effective and resource efficient approach.”*³⁰⁶

In addition, the Commission started a public consultation for the 2030 framework, to include new targets, promote coherence between policy tools and contribution to for competitiveness in the climate field. Regarding the targets, all member states decided on their own emission reduction target as a goal for 2030, instead, for renewable energies, even if there was an initial disagreement, States set new targets and in the form in which they should be.³⁰⁷

³⁰⁴Singh Ghaleigh, N. (2013). *Two Stories about EU Climate Change Law and Policy*. Climate Change International Law and Global Governance (Vol. I: Legal Responses and Global Responsibility). Nomos Verlagsgesellschaft. Pp. 419-462.

³⁰⁵The European Union. (2013). *Green Paper: A 2030 framework for climate and energy policies*. European Commission. Available at https://ec.europa.eu/energy/sites/ener/files/publication/GP_EN_web.pdf

³⁰⁶ Ibid, p.2.

³⁰⁷Skjærseth, JB. (2016). *Linking EU climate and energy policies: policy-making, implementation and reform*, International Environmental Agreements: Politics, Law and Economics, v. 16, pp.509–523.

More recently, last year specifically in June 2019, the European Council adopted the EU's strategic agenda for 2019-2024 which "*provides an overall framework and direction for that response. It is intended to guide the work of the Institutions in the next five years*"³⁰⁸. The Agenda put emphasis on four principle themes that can be also seen as objectives: protect the citizens and freedoms, develop an economic base model for Europe, build a green, fair, and inclusive future, and promote Europe's values in the world. These will influence the future EU's political agenda which already seeks to produce a positive environment to improve the public and private investment in both innovation and modernization in all sectors while considering the diversity of energy and economic sources across the Member States. Basically, the EU hopes to implement measures to increase the number of job places but more in general to improve economic growth, focusing on innovation and preparing the industries to sustain commitments on climate change. The new President of the European Commission, Ursula von der Leyen³⁰⁹, declared that in her agenda she intends to prioritize climate and the environment including them in all of the fields of the EU policy, however, her declaration has left the majority as sceptics because these climate proposals seem too ambitious. In addition, the energy sector, particularly important for the European economy, necessitates a transformation that will need investments in the full implementation of renewable sources. This shift to establish a clean energy system requires funds to support the structural adjustments necessary. Hence, Von der Leyen established to unlock 1 trillion USD for climate investment in the next decade with the idea to convert the European Investment Bank into a bank sensible to climate issues, for example by using private investment for environment and clean energy initiatives. At the same time, the European Committee on Environment (ENVI) in the European Parliament is becoming more and more an authority thanks to the adoption of ambitious Climate Action goals. In fact, the European Parliament is pushing for the adoption of a resolution, based on two separate reports of the ENVI and ITRE committees of the parliament, to pursue the objective of net-zero greenhouse gas emissions by 2050.³¹⁰ Consequently, the EU is employing ambitious climate policies in parallel with the 2030 climate and energy policy framework to accomplish its target of reducing domestic emissions by 40% by 2030 compared to

³⁰⁸European Union. (2019). *EU's strategic agenda for 2019-2024*. the European Council. Available at <https://www.consilium.europa.eu/media/39914/a-new-strategic-agenda-2019-2024.pdf>.

³⁰⁹Elected by the European Parliament on 16th July with 383 members voted in favour, 327 against, and 22 abstained. She is the first female Commission President. <https://www.europarl.europa.eu/news/en/press-room/20190711IPR56824/parliament-elects-ursula-von-der-leyen-as-first-female-commission-president>.

³¹⁰See MEPs urge the EU to lead the way to net-zero emissions by 2050, European Parliament, February 2019 <https://www.europarl.europa.eu/news/en/press-room/20190220IPR27659/meps-urge-the-eu-to-lead-the-way-to-net-zero-emissions-by-2050>.

1990 levels. In addition, all of the recent EU policies adopted on emissions reductions, like the ETS for example, are in total respect of the EU and Member States' NDC obligation.³¹¹

The European Commission decided to align itself with the proposal of the parliament of a zero-net emission and presented the European Green Deal³¹². More specifically, the Commission released that:

“It is a new growth strategy that aims to transform the EU into a fair and prosperous society, with a modern, resource-efficient and competitive economy where there are no net emissions of greenhouse gases in 2050 and where economic growth is decoupled from resource use.”³¹³

For this reason, it has been described as the most ambitious package of measures that aim at allowing European citizens and enterprises to benefit from the sustainable green evolution. The deal other than containing measures, is accompanied by a sort of roadmap with key policies that go from aspiring to cut emissions to investing in innovation in order to protect the natural environment. To achieve them, the EU has established a new financial manoeuvre, in fact, it is estimated that to realize the 2030 targets, it will be necessary the addition of €260 billion for annual investment, which is about 1.5% of 2018 GDP. Thus, the Commission has declared to be working on a “*Sustainable Europe Investment Plan*” for more funding needs and that around 30% of the “*InvestEU Fund*”³¹⁴ will contribute to fighting climate change through projects that will be sustainable and useful for climate, environmental and social objectives.³¹⁵

Of course, critics from left parties have arrived and stressed principally seven points of the Deal: size, scope, structure, scale, strategy, substance, and speed.³¹⁶ Most sceptics, indeed, suggest that the new action plan should include bigger investment and faster decarbonization but, their doubts hit mainly the border-adjustment carbon tax, which is a tax on imports of goods coming from countries with weaker climate commitments, a tax that aims also at improving local economies. One last critic regards the idea of investing through the private sector in climate finance, instead of investing to create jobs. Nevertheless, the EU aims to make the Green Deal effective, so, it will be enshrined in law with the first European “*Climate Law*” as explicitly reported:

³¹¹Volintiru, C. et al. (2019). *Political Support at EU Level for Energy and Environmental Policies*. Romanian Journal of European Affairs 19. no. 2. Pp. 30-50.

³¹²See The European Green Deal, Communication From The Commission To The European Parliament, The European Council, The Council, The European Economic And Social Committee And The Committee Of The Regions, December 2019 https://ec.europa.eu/info/sites/info/files/european-green-deal-communication_en.pdf.

³¹³Ibid, p.2

³¹⁴See EU.What’s next? The InvestEU Programme (2021-2027), the European Commission https://ec.europa.eu/commission/priorities/jobs-growth-and-investment/investment-plan-europe-juncker-plan/whats-next-investeu-programme-2021-2027_en

³¹⁵The European Green Deal, 2019, p.15.

³¹⁶Pontecorvo, E. (2019). *Europe’s ‘Green Deal’ doesn’t live up to its name, critics say*, Grist, December 2019 <https://grist.org/politics/europes-green-deal-doesnt-live-up-to-its-name-critics-say/>

*“To set out clearly the conditions for an effective and fair transition, to provide predictability for investors, and to ensure that the transition is irreversible, the Commission will propose the first European ‘Climate Law’ by March 2020. This will enshrine the 2050 climate neutrality objective in legislation. The Climate Law will also ensure that all EU policies contribute to the climate neutrality objective and that all sectors play their part.”*³¹⁷

Together with the Climate Law, the Commission wants to launch a “*European Climate Pact*”³¹⁸ that will be the center on the engagement of the public on climate action, basically, the right to participation that will take place in three ways. First of all, through information sharing done by different tools, for example with events in the Member States, to give a better understanding of the threat. Second, giving more space for the people to express their ideas and lastly, the Commission will build the capacity to simplify initiatives on climate change and environmental protection.

Thus, the EU seems to have put the basis to implement a great and innovative plan to fight climate change, only time will tell if this will be effective and successful. If the outcome will be positive, the EU could be seen as a leading authority in the climate regime, achieving the best result ever proposed.

3.1 EU Climate Law Package

The EU climate law package represents a landmark initiative in the European Union's commitment to combatting climate change.³¹⁹ This comprehensive legislative framework emerged as a response to the escalating environmental challenges facing the global community, for this, it is worthy of a deep analysis.

The historical trajectory leading to its inception can be traced back to the Paris Agreement of 2015, where the international community collectively pledged to limit global warming to well below 2 degrees Celsius above pre-industrial levels. The EU, as already mentioned, recognizing its responsibility as a leading economic bloc, embarked on an ambitious journey to align its policies with this global endeavor.

The EU climate law package encompasses a series of interrelated regulations and directives designed to not only set binding emissions reduction targets but also to establish a roadmap for member states to achieve carbon neutrality by 2050.³²⁰ Central to this package is the European

³¹⁷The European Green Deal, 2019, p.4.

³¹⁸Ibid, p.22.

³¹⁹See Regulation (EU) 2021/1119 of the European Parliament and of the Council of 30 June 2021 establishing the framework for achieving climate neutrality and amending Regulations (EC) No 401/2009 and (EU) 2018/1999 (‘European Climate Law’)

³²⁰See European Commission, Directorate-General for Climate Action, (2019). *Going climate-neutral by 2050 : a strategic long-term vision for a prosperous, modern, competitive and climate-neutral EU economy*, Publications Office. <https://data.europa.eu/doi/10.2834/02074>

Climate Law, a cornerstone legal instrument that enshrines the commitment to achieving climate neutrality into law.³²¹ This ground-breaking legislation places a cap on total EU emissions and institutes a robust governance framework for monitoring progress towards the set targets. One of the key legal consequences of the EU climate law package is the heightened accountability placed on member states. Each country is required to submit National Energy and Climate Plans (NECPs) outlining their strategies to meet both short-term and long-term climate objectives. Failure to meet these targets could result in financial penalties and increased scrutiny from EU institutions. Additionally, the package introduces measures to ensure a just transition, safeguarding vulnerable communities and industries as the shift towards a greener economy gains momentum.³²²

Moreover, the package introduces several pivotal legal mechanisms to ensure the realization of its climate goals. First of all, it was underlined that the fundamental piece of legislation enshrines into law the EU's commitment to achieving climate neutrality by 2050. It establishes a legally binding target to reach net-zero greenhouse gas emissions by this deadline, underscoring the EU's leadership in the global fight against climate change. The second element is represented in the National Energy and Climate Plans (NECPs), mentioned above, that Member states are now required to develop and submit outlining their individual strategies to contribute to the overall EU objectives. These plans serve as detailed roadmaps, specifying how each country intends to achieve its emissions reduction targets and transition to a low-carbon economy. Thirdly, on matters related to governance, the EU climate law establishes a robust governance framework to monitor and enforce compliance with the set targets.³²³ This includes regular reporting, assessment, and peer review processes to ensure that member states are on track to meet their climate commitments. Then, the legislative initiative includes a just transition mechanism as it recognized that the transition to a greener economy may impact certain regions and industries disproportionately, for this a just transition fund has been established.³²⁴ This mechanism provides financial support to affected communities, ensuring that the transition is fair, inclusive, and socially responsible. Lastly, additional financial mechanisms are taken into consideration since the EU budget plays a crucial role in funding climate-related initiatives. In fact,

³²¹See Amended proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on establishing the framework for achieving climate neutrality and amending Regulation (EU) 2018/1999 (European Climate Law)

³²²See Regulation (EU) 2018/1999 of the European Parliament and of the Council of 11 December 2018 on the Governance of the Energy Union and Climate Action, amending Regulations (EC) No 663/2009 and (EC) No 715/2009 of the European Parliament and of the Council, Directives 94/22/EC, 98/70/EC, 2009/31/EC, 2009/73/EC, 2010/31/EU, 2012/27/EU and 2013/30/EU of the European Parliament and of the Council, Council Directives 2009/119/EC and (EU) 2015/652 and repealing Regulation (EU) No 525/2013 of the European Parliament and of the Council

³²³Erbach, G. (2021). European climate law. BRIEFING EU Legislation in Progress. The European Parliament. Available at: [https://www.europarl.europa.eu/RegData/etudes/BRIE/2020/649385/EPRS_BRI\(2020\)649385_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2020/649385/EPRS_BRI(2020)649385_EN.pdf)

³²⁴See the European Commission, Just Transition Fund available at https://commission.europa.eu/funding-tenders/find-funding/eu-funding-programmes/just-transition-fund_en

a significant portion of the budget is allocated to programs aimed at advancing renewable energy, energy efficiency, and sustainable technologies.³²⁵ Furthermore, the EU climate law package fosters innovation and investment in sustainable technologies by allocating a significant portion of the EU budget towards climate-related initiatives. This includes funding for renewable energy projects, research and development of clean technologies, and initiatives to enhance energy efficiency across various sectors.³²⁶ By doing so, the EU aims to stimulate economic growth while simultaneously reducing greenhouse gas emissions.

Obviously, there were several critiques raised about the EU Climate Law. These critiques reflected various perspectives and concerns regarding the effectiveness and implementation of the law. Some critics argued that the targets set in the EU Climate Law were not ambitious enough to effectively combat climate change. They contended that more aggressive targets were needed to limit global warming to 1.5 degrees Celsius above pre-industrial levels.³²⁷ Critics expressed concerns about the timelines for achieving specific targets. They questioned whether the proposed deadlines were realistic and whether the EU would be able to meet its goals within the specified timeframes.³²⁸ Some critics argued that the EU Climate Law placed too much emphasis on mitigation efforts and not enough on adaptation and building resilience to the impacts of climate change.³²⁹ Lastly, critics called for greater public participation and transparency in the decision-making processes related to climate policies and the implementation of the Climate Law.³³⁰

In conclusion, the EU climate law package stands as a testament to the European Union's unwavering commitment to combatting climate change. Its historical roots in the Paris Agreement and its legal consequences for member states signify a paradigm shift towards a more sustainable and resilient future. As the world grapples with the urgent need for climate action, this legislative framework sets a powerful precedent for coordinated, ambitious efforts in the fight against global warming.

³²⁵Sarkki, S., Ludvig, A., Nijnik, M. et al (2022). Embracing policy paradoxes: EU's Just Transition Fund and the aim "to leave no one behind". *Int Environ Agreements* 22, Pp.761–792

³²⁶The European Commission. (2023). Net-Zero Industry Act: Making the EU the home of clean technologies manufacturing and green jobs. Employment, Social Affairs & Inclusion. Available at <https://ec.europa.eu/social/main.jsp?langId=en&catId=1587&furtherNews=yes&newsId=10534>

³²⁷Climate Action Network Europe. (2022). The EU has a Climate Law but still fails to deliver the much needed short term climate ambition. CAN. Available at <https://caneurope.org/the-eu-has-a-climate-law-but-still-fails-to-deliver-the-much-needed-short-term-climate-ambition/>

³²⁸Oroschakoff, K. & Hernández-Morales, A. (2020). EU climate law sparks political battles. POLITICO. Available at <https://www.politico.eu/article/eu-climate-law-sparks-political-battles/>

³²⁹Carroll, SG. (2022). Draft EU 'green claims' law overly focused on CO2 impact, critics say. EURACTIVE. Available at <https://www.euractiv.com/section/energy-environment/news/draft-eu-green-claims-law-overly-focused-on-co2-impact-critics-say/>

³³⁰Volpato, A., Eliantonio, M., & Wright, K. (2023). Transparency and Participation in the Face of Scientific Uncertainty: Concluding Remarks. *European Journal of Risk Regulation*, 14(2), 371-381. doi:10.1017/err.2023.34

4. The contribution of national policies

So far, the international level of climate governance has been deeply described. Yet, as climate challenges continue to escalate, the role of national-level governance becomes increasingly crucial in achieving a low-carbon, climate-resilient future. National climate governance is characterized by a dynamic interplay between governmental bodies, research institutions, non-governmental organizations, and the private sector, all working together to drive sustainable transformation.³³¹ The national level of climate governance encompasses a diverse array of approaches, from setting emission reduction targets to implementing sector-specific policies and fostering innovation in clean technologies. In addition, at the heart of national climate governance lies the responsibility of crafting policies that balance economic growth with environmental sustainability, ensuring a prosperous and resilient future. From enacting legislation to establishing regulatory frameworks, nations are at the forefront of the fight against climate change, shaping policies that resonate across all levels of society.³³²

Thus, national climate policies play a crucial role in addressing the global climate crisis. This happens in several ways. First of all, national climate policies allow countries to develop strategies that are tailored to their unique circumstances. This includes considering factors like geographical features, available resources, and existing industries. By customizing their approaches, nations can maximize the effectiveness of their climate efforts.³³³ However, setting ambitious emissions reduction targets at the national level is a critical step. These targets provide a clear roadmap for transitioning towards a low-carbon economy.³³⁴ By committing to specific goals, countries can drive innovation and mobilize resources towards sustainable practices and technologies. Still, national climate policies enable governments to implement and enforce regulations that limit emissions and promote sustainable practices.³³⁵ This can include measures such as emissions caps, pollution controls, and renewable energy standards. Strong enforcement mechanisms ensure compliance and drive industry-wide adoption of green technologies. Also, governments can use a range of economic

³³¹Elsässer, J.P., Hickmann, T., Jinnah, S. et al. (2022). Institutional interplay in global environmental governance: lessons learned and future research. *Int Environ Agreements* 22. Pp.373–391

³³²Marquardt, J., Fast, C., & Grimm, J. (2022). Non- and sub-state climate action after Paris: From a facilitative regime to a contested governance landscape. *WIREs Climate Change*, 13(5), e791. <https://doi.org/10.1002/wcc.791>

³³³Imperial College London. (n.d.). What are the world's countries doing about climate change?. Grantham Institute – Climate Change and the Environment. Available at <https://www.imperial.ac.uk/grantham/publications/climate-change-faqs/what-are-the-worlds-countries-doing-about-climate-change/>

³³⁴See COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS. A Roadmap for moving to a competitive low carbon economy in 2050. COM(2011) 112 final.

³³⁵COM/ENV/EPOC/IEA/SL T(2003)2

instruments to incentivize climate-friendly behavior.³³⁶ This might involve providing subsidies or tax breaks for renewable energy projects, energy-efficient technologies, and sustainable agriculture practices. These incentives encourage businesses and individuals to invest in sustainable solutions. In addition, national climate policies can allocate funding for research and development in green technologies and sustainable practices. This investment in innovation leads to the development of more efficient and cost-effective solutions for reducing emissions and mitigating climate impacts. Regarding emissions, certain industries, such as those heavily reliant on fossil fuels, may face significant challenges during the transition to a low-carbon economy. National climate policies can include provisions for supporting these industries through targeted investments, retraining programs, and economic diversification efforts.³³⁷ Also, effective climate policies include provisions for public awareness campaigns and educational initiatives. These efforts inform citizens about the importance of climate action, provide guidance on sustainable practices, and mobilize support for government policies and initiatives.³³⁸

Overall, national climate policies position countries as leaders in global efforts to combat climate change. By demonstrating commitment and progress on the domestic front, nations can inspire and influence international climate negotiations and agreements. However, climate policies should not only focus on mitigation but also on adaptation. Governments can implement measures to increase resilience to the impacts of climate change, such as developing infrastructure to withstand extreme weather events and protecting natural ecosystems that serve as buffers against climate-related disasters.³³⁹ Still, well-crafted climate policies can stimulate economic growth by creating new industries and jobs in renewable energy, energy efficiency, and other green sectors.³⁴⁰ This transition to a sustainable economy can lead to long-term economic benefits and enhanced competitiveness on the global stage.

Thus, national climate policies are instrumental in driving meaningful progress towards a sustainable and resilient future. They empower governments to set clear objectives, enforce

³³⁶OECD (2023), Economic instruments to incentivise substitution of chemicals of concern – a review, OECD Series on Risk Management, No. 79, Environment, Health and Safety, Environment Directorate, OECD.

³³⁷OECD (2017), *Investing in Climate, Investing in Growth*, OECD Publishing, Paris. <http://dx.doi.org/10.1787/9789264273528-en>

³³⁸Khatibi, F.S., Dedekorkut-Howes, A., Howes, M. et al. (2021). Can public awareness, knowledge and engagement improve climate change adaptation policies?. *Discov Sustain* 2, 18 <https://doi.org/10.1007/s43621-021-00024-z>

³³⁹The World Bank. (2020). The Adaptation Principles: 6 Ways to Build Resilience to Climate Change. The World Bank. Available at <https://www.worldbank.org/en/news/feature/2020/11/17/the-adaptation-principles-6-ways-to-build-resilience-to-climate-change>

³⁴⁰Grantham Research Institute. (2020). Can we have economic growth and tackle climate change at the same time?. LSE. Available at <https://www.lse.ac.uk/granthaminstitute/explainers/can-we-have-economic-growth-and-tackle-climate-change-at-the-same-time/>

regulations, provide incentives, and lead on the global stage, ultimately making a positive impact in the fight against climate change.

4.1 UK Climate Law

The climate policies implemented by the United Kingdom represent a pioneering approach to combatting climate change, setting an example for the international community. These policies are grounded in a deep understanding of the urgency and severity of the climate crisis.

One of the cornerstone policies is the commitment to achieving net-zero greenhouse gas emissions by 2050. This legally binding target, enshrined in the UK's Climate Change Act³⁴¹, signifies a profound dedication to limiting global warming and demonstrates leadership in the global fight against climate change. It sets a clear and ambitious trajectory towards a sustainable, low-carbon future.³⁴² Also, the government has made significant strides in transitioning to renewable energy sources. Ambitious targets have been set to expand offshore wind capacity and phase out unabated coal power. These efforts not only reduce emissions but also promote energy security and foster a resilient, diversified energy sector.³⁴³ Closely linked to this, the UK has implemented a range of policies aimed at improving energy efficiency across various sectors. This includes initiatives to upgrade homes and buildings, promote energy-efficient appliances, and incentivize industrial processes that minimize energy consumption. These measures not only reduce emissions but also lead to cost savings and economic benefits.³⁴⁴ In fact, the country is actively promoting green finance and investment to fund sustainable projects and initiatives. This includes measures to incentivize private sector investment in green technologies, as well as the issuance of green bonds to finance climate-related projects. These financial mechanisms drive innovation and accelerate the transition to a low-carbon economy. Along with this, the UK has committed to banning the sale of new petrol and diesel cars by 2030, accelerating the transition to electric vehicles. This policy is not only vital for reducing emissions from the transportation sector but also promotes innovation and investment in sustainable

³⁴¹ IEA. (2022). Climate Change Act 2008 as Amended. IEA. Available at <https://www.iea.org/policies/1449-climate-change-act-2008-as-amended> (accessed 25 June 2022).

³⁴² Brader, C. (2023). Mission zero: Independent review of net zero. House of Lords Library. Available at <https://lordslibrary.parliament.uk/mission-zero-independent-review-of-net-zero/#:~:text=By%202050%2C%20the%20UK%20is,affordability%20for%20consumers%20and%20businesses>.

³⁴³ UK Government. (2022). British energy security strategy. Policy Paper. UK Gov. Available at <https://www.gov.uk/government/publications/british-energy-security-strategy/british-energy-security-strategy>

³⁴⁴ HM Government. (2023). Powering Up Britain – Energy Security Plan. HH Global on behalf of the Controller of His Majesty's Stationery Office. Available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1148252/powering-up-britain-energy-security-plan.pdf

transportation technologies.³⁴⁵ Not only mitigation strategies but the UK recognizes the need to adapt to the impacts of climate change that are already occurring. Policies and strategies are in place to enhance resilience to extreme weather events, rising sea levels, and other climate-related challenges. This includes investments in flood defenses, coastal protection, and climate-resilient infrastructure.³⁴⁶ Overall, the UK recognizes the importance of nature-based solutions in mitigating climate change. Policies include measures to protect and restore natural ecosystems, such as afforestation and reforestation programs, as well as initiatives to enhance biodiversity and soil health. These efforts not only sequester carbon but also provide numerous co-benefits, including habitat preservation and flood protection. The UK is indeed actively promoting green finance and investment to fund sustainable projects and initiatives. This includes measures to incentivize private sector investment in green technologies, as well as the issuance of green bonds to finance climate-related projects. These financial mechanisms drive innovation and accelerate the transition to a low-carbon economy.³⁴⁷

Notwithstanding the withdrawal from the EU, the UK actively engages in international climate negotiations and agreements, playing a key role in shaping global efforts to combat climate change. As hosts of the 26th UN Climate Change Conference (COP26), the UK showcased its commitment to fostering international collaboration and mobilizing collective action.³⁴⁸

The importance of the UK's climate policies cannot be overstated. They reflect a comprehensive, multi-dimensional approach that addresses both mitigation and adaptation, demonstrating the country's commitment to safeguarding the environment and ensuring a sustainable future for generations to come. By taking bold and decisive action, the UK not only protects its own citizens and environment but also serves as a beacon of inspiration and leadership for the global community in the fight against climate change.

4.2 Norwegian Law

Like the United Kingdom, Norway has been praised for its climate policies, particularly in areas related to renewable energy and sustainable transportation. The country is known for their

³⁴⁵UK Government. (2022). 4.Supporting the transition across the economy. Policy Paper. UK Gov Available at <https://www.gov.uk/government/publications/net-zero-strategy/4-supporting-the-transition-across-the-economy>

³⁴⁶Department for Environment, Food & Rural Affairs. (2022). Six-year programme of flood protection work exceeds targets after £2.6 billion investment. Defra in the Media. Defra Press Office, Available at <https://deframedia.blog.gov.uk/2022/04/12/six-year-programme-of-flood-protection-work-exceeds-targets-after-2-6-billion-investment/>

³⁴⁷HM Treasury. (2023). UK Green Financing Allocation and Impact Report 2023. HM Treasury. https://assets.publishing.service.gov.uk/media/651446cdb1bad4000d4fd916/HMT-UK_Green_Financing_Allocation_Impact_Report_2023_Accessible.pdf

³⁴⁸See UNFCCC, Global Climate Action at COP 26. Available at <https://unfccc.int/climate-action/gca-events/global-climate-action-at-cop-26>

combination of ambitious targets, innovative approaches, and a strong commitment to sustainable development.

Regarding their mitigation efforts, the government has set forth a clear commitment to reduce its greenhouse gas emissions. The country has pledged to become carbon neutral by 2030, one of the most ambitious targets in the world. This goal signifies the determination of the nation to lead by example in the global effort to combat climate change.³⁴⁹ Specifically, the Norwegian energy sector is characterized by a high reliance on renewable sources, particularly hydroelectric power. This allows the country to boast one of the lowest carbon footprints in terms of electricity generation. By continuing to invest in and promote renewable energy, Norway contributes significantly to the global transition towards a low-carbon economy.³⁵⁰ In fact, Norway has implemented robust carbon pricing mechanisms, such as carbon taxes and emissions trading systems. These tools provide economic incentives for businesses and individuals to reduce their carbon footprint. The revenue generated from these mechanisms is often reinvested in climate-friendly initiatives.³⁵¹ However, the main satisfaction for the country is that Norway is a global leader in the adoption of electric vehicles (EVs). The country offers various incentives for EV ownership, including tax breaks, toll exemptions, and access to bus lanes. This aggressive promotion of EVs has led to a substantial reduction in transportation-related emissions, showcasing the potential for sustainable mobility solutions.³⁵² Moreover, Norway has invested significantly in CCS technology, which captures CO₂ emissions from industrial processes and power generation and stores them underground.³⁵³ This innovative approach holds promise for mitigating emissions from hard-to-abate sectors, such as heavy industry, making it a crucial component of Norway's climate strategy.

Regarding adaptation strategies, Norway invests significantly in research and development related to climate and environmental issues. This includes funding for innovative technologies, sustainable practices, and adaptation strategies. The country recognizes the importance of adapting to the impacts

³⁴⁹Neslen, A. (2016). Norway pledges to become climate neutral by 2030. The Guardian. Available at <https://www.theguardian.com/environment/2016/jun/15/norway-pledges-to-become-climate-neutral-by-2030>

³⁵⁰ UNFCCC. (2020). Norway's long-term low-emission strategy for 2050—An innovative society with attractive towns and communities. UNFCCC. Available at https://unfccc.int/sites/default/files/resource/LTS1_Norway_Oct2020.pdf

³⁵¹OECD (2022). OECD Environmental Performance Reviews: Norway 2022. OECD iLibrary. <https://www.oecd-ilibrary.org/sites/59e71c13-en/1/3/1/index.html?itemId=/content/publication/59e71c13-en&csp=17d84a085376ad8ff5f0f46d9a7875f2&itemIGO=oecd&itemContentType=book>

³⁵²Békés, M. et al (2023). What Norway's experience reveals about the EV charging market. McKinsey&Company. Available at <https://www.mckinsey.com/industries/automotive-and-assembly/our-insights/what-norways-experience-reveals-about-the-ev-charging-market/>

³⁵³Helgesen, O K. (2020). Norway takes aim at CCS with huge government investment. UpStream. Available at <https://www.upstreamonline.com/energy-transition/norway-takes-aim-at-ccs-with-huge-government-investment/2-1-878651>

of climate change, especially in the Arctic region where the effects are particularly pronounced.³⁵⁴ The country invests in measures to enhance resilience to changing weather patterns, sea-level rise, and other climate-related challenges. By supporting cutting-edge research, Norway contributes to the global pool of knowledge on climate solutions with a strong emphasis on sustainable forest management and conservation. In fact, the country has made substantial contributions to international efforts to combat deforestation and promote sustainable land use practices. Forests play a vital role in carbon sequestration and biodiversity conservation, making this a crucial aspect of Norway's climate policy.³⁵⁵ In addition, the policies extend to the protection and sustainable management of its extensive coastline and marine resources as the country recognizes the vital role of the oceans in regulating the climate and has implemented measures to reduce marine pollution and promote sustainable fisheries.³⁵⁶

Norway is actively engaged in international climate diplomacy and provides substantial funding to global climate initiatives. The country supports climate action in developing nations through mechanisms like the Green Climate Fund, demonstrating its commitment to a global approach to addressing climate change.³⁵⁷

Climate policies of Norway exemplify a holistic and forward-thinking approach to combating climate change. By combining ambitious targets, innovative solutions, and a commitment to global cooperation, Norway plays a crucial role in advancing the global transition to a sustainable and climate-resilient future.

5. Climate law and governance in cities

Climate law in cities is essential for reducing emissions, enhancing resilience, improving public health, spurring economic growth, and contributing to global efforts to combat climate change. It provides a framework for coordinated and sustainable urban development that benefits both current and future generations. In fact, climate laws encourage long-term thinking and planning, which is

³⁵⁴Controversial approaches are also present on this matter. A related climate litigation case is analyzed in the next chapters.

³⁵⁵SjølieHanne K., LattaGreg S., & SolbergBirger. (2013). Potentials and costs of climate change mitigation in the Norwegian forest sector— Does choice of policy matter?. *Canadian Journal of Forest Research*. **43**(6): 589-598. <https://doi.org/10.1139/cjfr-2012-0457>

³⁵⁶Ministry of Trade, Industry and Fisheries. (n.d) Blue Ocean, Green Future The Government's commitment to the ocean and ocean industries. Report. Available at <https://www.regjeringen.no/contentassets/564afd76f1e34ccda982f785c33d21b9/en-gb/pdfs/regjeringens-havrapport-engelsk.pdf>

³⁵⁷Ministry Of Foreign Affairs. (2023). Norway's main priorities for the 78th session of the UN General Assembly. Available at https://www.regjeringen.no/en/topics/foreign-affairs/the-un/norges-hovedprioriteringer-under-fns-generalforsamlingen/norways-main-priorities-for-the-78th-session-of-the-un-general-assembly/id2992741/?utm_source=www.regjeringen.no&utm_medium=rss&utm_campaign=RSS-2581966

crucial for effectively addressing the challenges of climate change. By setting clear targets and timelines, cities can create a stable and predictable environment for businesses, residents, and investors.

In general, climate laws can influence urban planning by encouraging compact, mixed-use developments that reduce the need for long commutes and make public transportation more viable. This can lead to more efficient land use and lower energy consumption.

5.1 The C-40 network

To address the climate crisis, the international community has developed several tools to be implemented by States, that influence the local level, as well as the regional level. For this reason, a multilevel approach could be one of the solutions to support climate action in cities. In both the management and planning of climate policies, the multilevel approach is useful to assess the nature of urban climate change governance and its repercussions in the reconfiguration of political authority, both in and out of the state.³⁵⁸ In this climate context, UN-Habitat defined multi-level governance as:

“structural and institutional setting in which different levels of government distribute roles and responsibilities, coordinate and cooperate on climate action, as well as the specific instruments that are implemented at different levels of government to support and implement local climate action.”³⁵⁹

This approach is essential because climate actions require to be delivered at different scales, engaging all levels of government, in fact, collaborative governance creates more effective and longer-lasting solutions to achieve low carbon and climate-resilient societies.³⁶⁰ It allows to prevent policy gaps between local action plans and national policy frameworks, the latter indicated as vertical integration, encouraging at the same time the connection between departments or institutions in local and regional governments, that is the horizontal dimension. Through vertical and horizontal integration there are two benefits: bottom-up benefits, where local actions influence the national actions and the top-down benefits that empower local actors. Ideally, frameworks should combine the two integrations creating a hybrid model of climate policies which can accomplish effective local implementation of climate strategies. These include agenda setting and strategic planning,

³⁵⁸Bulkeley, H. (2010). *Cities and the Governing of Climate Change*, *Annu. Rev. Environ. Resour* 35:229–53

³⁵⁹UN-Habitat. (2022). *Multi-Level Governance For Effective Urban Climate Action In The Global South*, UN-Habitat. P.16. available at https://unhabitat.org/sites/default/files/2022/02/mlg_for_effective_urban-related_climate_action_in_dev_count_07022022_2.pdf (accessed 20 November 2022).

³⁶⁰UN-Habitat. (2016). *Addressing Climate Change In National Urban Policy. A Policy Guide for Low-Carbon and Climate-Resilient Urban Development*, UN-Habitat. Available at https://www.uncclearn.org/wp-content/uploads/library/addressing_climate_change_in_national_urban_policy.pdf, (accessed 20 November 2022).

engagement of political leadership with the support of stakeholders, policy formulation based on long-term vision, capacity-building and determining consistent financing systems.³⁶¹

Given their centrality in the climate issue, cities have been forming networks, institutions, and frameworks to coordinate their actions which are based on this multilevel approach. In Europe, three networks have emerged from the 90s: the *Climate Alliance*³⁶², *Cities for Climate Protection*³⁶³ and *Energie-Cités*³⁶⁴. The most important European cities, like Rome or Berlin, are members of these organizations, or at least members of one of them. However, the purposes are similar, generally, those institutions pursue voluntary commitments from cities to the reduction of emissions and promote and share experiences and know-how among members.³⁶⁵ At the global level, the leader is the *C-40*³⁶⁶, a network of more than 90 megacities dedicated to tackling climate change representing almost 800 million citizens and one-quarter of the global economy. The C40 cities share the ambitious 1.5°C target of the Paris Agreement but at the local level.³⁶⁷ C-40 vision is embedded in their *Global Green New Deal*, aimed at addressing inequalities exacerbated by climate events ensuring justice for future generations. The Deal, as underlined by the network, is based on a holistic and intersectional approach that recognizes climate, social and economic justice as achievable only together.³⁶⁸ In fact, what they propose is a set of principles that if implemented will guarantee a greater improvement in different sectors of our societies, deeply impacted by the climate crisis. The Deal proposes to create jobs, and inclusive economies, support essential workers and citizens create resilience and equity and provide fundamental public services protecting and promoting health and wellbeing.³⁶⁹ Evaluating the results will take a couple of years, yet the premises put the foundation to actively and concretely create the right framework that will allow society to adapt to climate change.

³⁶¹Corfee-Morlot, J., Kamal-Chaoui, L., Donovan, MG et al. (2009). *Cities, Climate Change and Multilevel Governance*, OECD Environmental Working Papers N° 14. Available at https://www.academia.edu/9647007/Cities_Climate_Change_and_Multilevel_Governance?from=cover_page

³⁶²See Climate Alliance website <https://www.climatealliance.org/en/home.html>, (accessed 15 January 2022)

³⁶³See Cities for Climate Protection website <https://sustainabledevelopment.un.org/partnership/?p=1498>, (accessed 15 January 2022).

³⁶⁴See Energie-Cités website <https://energy-cities.eu>, (accessed 15 January 2022).

³⁶⁵Kern, K. & Bulkeley, H. (2009). *Cities, Europeanization and Multi-level Governance: Governing Climate Change through Transnational Municipal Networks*. *JCMS* V.47 N. 2. Pp.316-318

³⁶⁶See C-40 website <https://www.c40.org/about-c40/>, (accessed 15 January 2022).

³⁶⁷See C-40, *1.5°C Climate Action Plans*, <https://www.c40.org/what-we-do/raising-climate-ambition/1-5c-climate-action-plans/>, (accessed 15 January 2022).

³⁶⁸See C-40, *Global Green New Deal*, <https://www.c40.org/what-we-do/building-a-movement/global-green-new-deal/>, (accessed 15 January 2022).

³⁶⁹C40 Cities. (2020). *Mayors Agenda for a Green and Just Recovery*. C40. Available at <https://c40.my.salesforce.com/sfc/p/#36000001Enh/a/1Q000000kVoY/kuR1PLHMGR2K9eEbo8aivV.xPegZVTqwt.EjX.4a.hk>, (accessed 15 January 2022).

6. Critical analysis

For the purpose of this work, an accurate examination of the international climate change regime was necessary to better understand why all over the world people are experiencing massive violations of human rights. Climate change is nothing new, but only in the last decade, the international community has recognized the threat imposed by this global phenomenon, especially because humanity was discovered to be responsible. In fact, despite what climate denials sustain, science confirmed that human activities have accelerated and even worsened the global warming process. Consequently, the international community decided to intervene in regulating those activities that were harming nature and individuals.

The problems that have arisen are simple, these activities can only be regulated with economic measures because industries that produce the emissions responsible for global warming can only be regulated with those kinds of measures. Like every economic issue, the world is automatically divided in two: on one side the richest, who produce more would have an economic improvement, on the other side there are the poorest who would benefit from the economic production but are not able to sustain the cost to produce and at the same time are the most vulnerable to climate change consequences, so, they are stuck between not having the same economic possibility while seek to survive every day.

Even though the correlation between global warming and human activities has been a lot analyzed by scientists, a certain level of uncertainty remains, so, policymakers are in a position where a precautionary approach to climate change must be applied, only in this way the irreversible effects can be stopped. Indeed, whether there is uncertainty in economic and domestic politics, it is impossible to anticipate consequences, so, governments have to deal with this uncertainty by designing policies that permit the Parties to easily modify the provisions following the changing circumstances, for example providing the renegotiation of provisions, escaping clauses or flexible non-compliance mechanisms. Basically, uncertainty is the opposite of rigid commitments and for instance, flexible mechanisms, included in the Kyoto Protocol, consent States to cooperate regardless of uncertainty maintaining the agreement. However, designing flexible policies within uncertainty cases, such as climate change, is not an efficient choice due to uncertainty linked to the costs and benefits of policies. Hence, forecasting the cost of limiting carbon dioxide concentrations in the atmosphere is nearly impossible, there are only assumptions formulated thanks to technology, the combination of policies arranged, or natural processes analyzed. Plus, mitigation policy benefits are expensive because the results will be seen in the future and in different locations. Still, decision-

makers do not have sufficient information to anticipate the consequences of alternative policies, thus, this is the only way to regulate human activities causing climate change.³⁷⁰

As it was examined, the Kyoto Protocol was the first climate agreement that national governments succeeded in negotiating and then concluded, thus, per se, it is already a great success but, in terms of its purpose, the Protocol has not reached what was supposed to achieve. Indeed, the agreement had a lot of weaknesses. The first issue can be drawn logically from the events, we cannot ignore that if one of the biggest pollutants can simply decide to not participate, or withdraw, that the entire purpose of the treaty loses credibility. Then, despite the inclusion of six greenhouse gasses, the Protocol regulates only carbon dioxide as if the other five are not dangerous. Still, at the heart of the agreement, one biggest problem is the constant trade-off between environmental protection and economic development. The Protocol set an early date to start, and as economic experts sustain, this led to a waste of production equipment that could not be updated in the short time in which the Protocol entered into force. Hence, economists opposed to the Kyoto Protocol believe that it is deeply flawed, mainly, because it is surrounded by uncertainty while setting rigid commitments and timetables at a high cost for countries.³⁷¹ This may be true on the economic side, as it is also true that the agreement did not deliver the expected results, then what are we supposed to do to manage climate change then if not regulating those activities that contribute to it?

When the international community realized that the Protocol was slowly failing, States negotiated another agreement which led to the Paris Agreements. Once again, the outcome was a great political success, but the framework established had several flaws. The first thing that we notice, and view as a limit to its effectiveness, is its double threshold for the entry in force. Every state has a different procedure for the ratification, this can slow the entire mechanism and its expected results. Opponents of the treaty sustain that the provisions are too vague, leaving space for interpretation and uncertainty. For example, it does not contain a clear emission reduction objective, instead, it establishes a temperature limit. One supposition, behind the formulation of the provision, is that without specific measures or emission reductions, it would have been easier for countries to join, establishing at the same time ambitious NDCs, while transparency and a global stocktake system could create public pressure on authorities to implement their NDCs. In addition, the NDC communications are not mandatory until 2025, which further slows the results. Finally, since money does matter in politics, the financial issue was a long debate, not only during the negotiations but also after. The Paris Agreement established financial flows with low GHG emissions as one of the objectives, which was

³⁷⁰Thompson, A. (2010). *Rational design in motion: Uncertainty and flexibility in the global climate regime*. European Journal of International Relations. Vol. 16(2). pp.269–296.

³⁷¹McKibbin, WJ. & Wilcoxon, PJ. (2002). *The role of Economics in Climate Change Policy*. Journal of Economic Perspectives. V. 16. N° 2. Pp.107–129.

seen as a tactic to push the private sector to adjust their investment strategies. However it did not address clearly measures on how to mobilize financial flows, basically, it seems to be calling States to make a donation.³⁷²

The flaws of both agreements have resulted in a failure of the international climate law regime, States are year after year less willing to accept the obligation, especially if it means having an economic loss. Consequently, less developed countries suffer from the economic choices of the developed ones who control the emission market. There are international actors who are the antagonists of climate-related policies that pursue only their interests, for example, the OPEC that when negotiating the oil prices impose high prices. Thus, poor countries not only are climate-vulnerable but are also hurt by OPEC's policies that include high oil prices and high emissions. In fact, OPEC countries have always supported the idea that climate mitigation policies, together with measures that regulate oil consumption, tend to slow their economic growth. Their position has always been made clear during climate negotiations in which OPEC try to convince the richest countries to request compensation to balance economic loss generated from climate policies. But it is also true that OPEC fears that these mitigation policies could be used by developed countries to increase the oil rent they receive with the taxes on imported fuels. The ideal situation for the OPEC would be that developed countries decrease taxes on imported fuels but also reduce their production of fuels. Furthermore, OPEC has always sought to block or limit any progress during climate negotiations using several strategies such as rejecting to agree, blocking discussion, underlining scientific uncertainty, questioning IPCC Reports credibility, encouraging mistrust between States and proposing text that would result as unacceptable. Basically, OPEC's policies are responsible for GDP reductions in some developing countries.³⁷³ As a consequence, this improves poverty and hunger which with climate change effects have terrible effects on human well-being.

So, the international climate regime is surrounded by uncertainty and economic conflicts, this is true as much as it is that while States fail in negotiating a just and fair emission market, people all over the world have to fight extreme climate events that in some cases can cause death. Hence, the non-efficient work done by national governments leaves the population exposed to massive human rights violations with few instruments to protect themselves. This demonstrates that authorities should include rights-based approaches in all of those cases where human well-being is under attack, thus, climate change is one of these cases. Within the emission market treaties, only the Paris Agreement addresses human rights, even if only in its preamble without any precise legal provision. This makes

³⁷²Bodle, R., Donat, L. & Duwe, M. (2016). *The Paris Agreement: Analysis, Assessment and Outlook*. Carbon & Climate Law Review. no. 1. Pp.5-22.

³⁷³Barnett, J. (2008). *The Worst of Friends: OPEC and G-77 in the Climate Regime*. Global Environmental Politics. Vol. 8. Issue 4. Pp.1-8.

the human rights commitments completely void, in fact, is not sufficient a simple reference, legal instruction must be included.

In conclusion, the current climate change law framework represents a critical step forward in addressing the global climate crisis. It establishes norms, encourages cooperation, and incorporates scientific knowledge. However, there are notable weaknesses, including an ambition gap, enforcement challenges, and disparities in resources. The effectiveness of the framework ultimately hinges on the willingness of countries to increase their ambition and take concrete actions to combat climate change. Additionally, ongoing efforts to strengthen and refine climate policies and agreements will be crucial in the years ahead.

PART III

HUMAN RIGHTS AND CLIMATE CHANGE

Despite the efforts of the international community, there is a general feeling of failure that surrounds climate negotiations. Economic interests, once again, have won against the need to protect individuals from climate change. As many scholars sustain, climate change is an issue on which finding a solution can be tricky and difficult due to the complexity of its system but also due to the complexity of the law system itself. This complexity is also reflected in the measures taken that keep the climate change law somewhat separated from the human rights law. Creating a link between climate events and human issues can help move the focus from the climate change law, which addresses mainly the emission market, to a human rights discourse.³⁷⁴ Thus, after the failure of international negotiations, UN experts released a new report in June 2019 to address the current issue of climate change affecting human rights. In the report, it is clearly stated that:

“Climate change threatens the full enjoyment of a wide range of rights. Rapid action and adaptation can mitigate much of this, but only if done in a way that protects people in poverty from the worst effects”³⁷⁵

Hence, climate change violates and interferes with many human rights, like the right to life, health, housing and food, to mention some. As a matter of fact, indeed, melting sea has made survival nearly impossible for Inuit who depend on the Arctic environment for their subsistence, forcing them to relocate their communities.³⁷⁶ Falling glaciers represent for mountain communities³⁷⁷ a risk because they could be flooded. In the Sahara³⁷⁸, warmer and drier weather has diminished the growing season and reduced crop production and, in many areas of the world, rising sea levels contribute to coastal flooding with a loss of wetlands. Other than a threat to life, this amplifies the inequalities already existing in the world. Not everyone can't respond to the threat imposed by climate change, in the same way, not everyone has the same tools and possibilities. Those who live in New York is not going to be forced to move from their community because of ice falling from mountains, they may

³⁷⁴Grear, A. (2014). *Toward climate justice? A critical reflection on legal subjectivity and climate injustice: warning signals, patterned hierarchies, directions for future law and policy*. Journal of Human Rights and the Environment. Vol 5 special issue. Pp.103-133

³⁷⁵A/HRC/41/39

³⁷⁶Mercer, G. (2018). *Sea, ice, snow ... it's all changing': Inuit struggle with warming world*. Rigolet. The Guardian. Available at <https://www.theguardian.com/world/2018/may/30/canada-inuits-climate-change-impact-global-warming-melting-ice> (accessed 20 January 2022).

³⁷⁷IIED. (2015). *Mountain communities being devastated by extreme climate impacts*. The International Institute for Environment and Development. Available at <https://www.iied.org/mountain-communities-being-devastated-extreme-climate-impacts>

³⁷⁸Thomas, N. & Nigama, S. (2018). *Twentieth-Century Climate Change over Africa: Seasonal Hydroclimate Trends and Sahara Desert Expansion*. American Meteorological Society.

be suffering from high temperature, but they could be in a good economic position to fight extremely hot weather with expensive technologies. A little girl living in the Sahara probably cannot find the same relief, she cannot even find food to survive. This unequal scenario has been defined as “*climate apartheid*”³⁷⁹ where the rich can afford to escape from extreme heat and hunger while the poor cannot afford to do the same.

The problem, here, is that putting aside the emission regime, there are no legal duties for States in this situation because not all infringements of human rights violate legal obligations, there is only a moral duty. For this, it may be useful to apply a human rights rhetoric to climate change to attract the attention of authorities to its effects on particular communities.³⁸⁰

Probably, one reason why States neglect environmental human rights is that it is only recently that “*environmental rights*” have been introduced in the debate and recognized as human rights. Historically speaking, human rights have always been divided into three macro-categories: civil and political rights, social and economic rights, and cultural rights. In addition to this categorization, all the rights regarding dignity, life and survival have been defined as core rights. References to the environment were included only in social and economic rights due to the recognition of the right to live in an adequate environment and a safe environment.³⁸¹ This simple mention is not sufficient anymore. If society is always under a changing process, to the extent political tools change with it, the same should happen with the concept of human rights. Only in this way, they can address real and contemporary problems. However, the main problem with the litigation of human rights is that the process is extremely expensive, not everyone can access the right to have justice if a violation occurs, even though, the opportunity to claim justice is given to everyone. What is left, when the Court seems impossible to reach, is to get down in the streets and protest. The recent protests are all based on environmental justice claims, this is a new movement that seeks a just distribution of environmental risk and benefits amongst the population and the right to participate in environmental decision-making.³⁸²

In the last few years, protests have been organized everywhere, across the entire globe, people are in the street claiming justice with colorful banners. It was estimated that 185 countries have some joint

³⁷⁹The notion of climate apartheid has been introduced by Philip Alston, UN special rapporteur on extreme poverty and human rights, in the Report published in June 2019 on Climate change, as reported also by the Guardian available at <https://www.theguardian.com/environment/2019/jun/25/climate-apartheid-uk-expert-says-human-rights-may-not-survive-crisis>

³⁸⁰Knox, JH. (2009). *Climate Change and Human Rights Law*. Virginia Journal Of International Law. Pp.164-166

³⁸¹Moeckli, D., Shah, S., Harris, D. and Sivakumaran, S. (2014). *International Human Rights Law*. OUP. P.143

³⁸²Kerins, E. (2012). Defining Environmental Justice. Available at <http://rightnow.org.au/opinion-3/defining-environmental-justice/> (accessed 20 January 2022).

projects currently taking place in those countries.³⁸³ One detail that has surprised is that those crowds are mostly composed of young people, it seems that they are the most sensible about the topic, and they know that their future seems to be compromised if authorities do not act immediately. The involvement of the youngest makes the situation even more urgent, States rely on young generations to keep values and cultures alive in history, and now the hereditation is at risk.

Environment and humans have a long-established interdependent relationship, assuming that this link between them could be enforced by human rights, using them to claim justice, is a logical consequence of their relationship. This chapter will explore this relation using human rights as a key to claim justice for the violations caused by climate change and to analyze the inequalities in our society. However, it is better to specify that the classification into generations (section 2) is a practical and didactic choice for the sake of the analysis here presented. Still, a particular focus is given to the most vulnerable groups, such as women and the Indigenous population who have experienced massive human rights violations rooted in historical motivation that are now worsening because of their profound relations with the environment. Since the analysis explores the severe situation of climate victims, the study must include these groups that own the knowledge and the resilience to fight climate impacts.

1. Human Rights and environment

The relationship between humans and the environment has been long proven in our history and the literature, like in the philosophic field. For example, Marta Nussbaum in “*Creating Capabilities: The Human Development Approach*” proposes a list of human functional capabilities that for her should be considered as the minimum for human dignity. Indeed, at the eighth capability, we can find the natural environment as a value. Nussbaum suggests that animals, plants, and natural places empower individuals to have a sort of relationship that is essential to living a good human life, thus, for her, the environment is one of the components necessary for a dignified human life.³⁸⁴

Since the beginning of time, human beings have lived in the kingdom of nature and are always interacting with it. Nature influences us with the air we breathe, the water we drink, the food we eat. Thus, all living beings, including humans of course, and their environment are interdependent because they affect each other in different ways. All human populations make their income and jobs through

³⁸³Laville, S. & Watts, J. (2019). *Across the globe, millions join biggest climate protest ever*. The Guardian. Climate Change. Available at <https://www.theguardian.com/environment/2019/sep/21/across-the-globe-millions-join-biggest-climate-protest-ever> (accessed 20 January 2022).

³⁸⁴Nussbaum, MC. (2011). *Creating Capabilities. The Human Development Approach*. The Balknap press of Harvard University Press. P.34

the use of the resources available in their environment, and much employment relies on these underpinning resources too. In fact, many economies are mostly dependent on natural resources: for example, in the case of agriculture or with natural resource products collected and then sold. As a consequence, countries depend on natural resources to provide services to citizens and to support economic development, for example, through cash crops, forestry or mining. Following this discourse, it is easy to say that human actions also affect the environment in negative terms. Our impact can be visible or less visible, and this can be translated into land use (like forest exploitation, extinction of wildlife and changes in agricultural landscapes), urbanization, and of course, the pollution of water, seas and landscapes. All of these traces of human activities are visible. Less visible effects include the alteration of atmosphere composition, just to mention one example, that also causes climate change.³⁸⁵

Since human arrival on earth, humanity has used natural products for its own well-being. This process started by hunting animals and collecting fruits and plants to have food then learning how to cultivate the land to optimize nature products to transform it in substance. This has brought entire societies to discover and develop new and advanced methods to implement in the agriculture field. Everything changed with the Industrial Revolution, in those years many transformations took place, the industrial was at the center of the economic development of countries and people moved to the cities to work in those industries. So, the cities grew and became overcrowded, unsanitary, and polluted, where poor workers lived in crowded and unsafe buildings. From that moment, more natural resources were used and exploited in order to produce and gain more. This has pushed entire countries to search for natural resources beyond their borders and started a race to become the richest country, which ended in colonialism.³⁸⁶ Of course, the environment had negative impacts, air pollution started to become more present, trees were cut down to be used in factories while rivers and lakes were dried up.

It is a fair deduction, then, based on the interdependence relation, that if human hurts the environment, the latter can cause damage, as well, to human well-being. There are different consequences on our well-being like the rise of disease, new and old, and spread cases of cancer (brain cancer, breast cancer, childhood cancer, lymphoma, and so on) but also infertility and birth defects. Humans are also affected by the nature product itself, if the food produced or the water is polluted, these are going to damage humans' entire societies. When human life is affected to this extent, this damage to life is a violation of human rights. In fact, only after the industrial revolution experience, countries started to address human health in their agendas.

³⁸⁵Harris, F. (2005). *Global Environmental Issues*. John Wiley & Sons Ltd. Pp.3-5

³⁸⁶Allen, RC. (2017). *The Industrial Revolution: A Very Short Introduction*. Oxford University Press. Pp.2-8

Thus, is it right to claim that environmental issues, such as climate change, are not our main priority? Definitely not.

To further enforce this link between environment and human well-being, the United Nations, during the Conference on the Human Environment, established that “*man has the fundamental right to freedom, equality and adequate conditions of life, in an environment of a quality that permits a life of dignity and well-being, and he bears a solemn responsibility to protect and improve the environment for present and future generations.*”³⁸⁷ So, It is impossible to ignore that the environment and humans are strongly linked.

Besides, Governments have the duty to protect their citizens and to safeguard the lives of their citizens. Ignoring threats, like environmental issues which may cause damage, is ignoring the first responsibility a democratic government has. But, on the other hand, states have also the duty to protect the environment. Yet, environmental policies are still seen as a luxury by some States that prefer to give priority, for example, to economic policies that most of the time are not sustainable and end up affecting the well-being of the population. This is exactly why the populations all over the world are currently screaming for justice. Furthermore, an important feature of the current environmental issues is that the populations most affected happen to be the ones in the most unfavorable conditions. This has transformed the environmental discourse into a global justice discourse in which we all should share the benefits but also the burdens of environmental issues.³⁸⁸

In the last few years, people seem to be deeply touched by the moral duty to protect the environment, to fight climate change and to help those who are suffering the most from it. Environmental protest and activism movements are being organized and created to influence governments, to the extent that the environment is now a political matter, but this is not a surprise. If we think about why governments were born, for example using Hobbes³⁸⁹ idea of the contract, populations give complete power to the authorities who have to protect them (with the use of a sword if it is necessary) but what happens once the authorities fail to protect them against an enemy? They ask them to respect this implicit pact.

So, the entire conception of the natural environment has changed now that it has become a central political issue. Moreover, this transformation has underlined the strong link between nature and

³⁸⁷See the Principle 1 of the Declaration of the United Nations Conference on the Human Environment <http://www.imo.org/en/KnowledgeCentre/ReferencesAndArchives/HistoryofMARPOL/Documents/A%20CONF.48%2014%20Rev.1.pdf>

³⁸⁸This is the foundation of the environmental justice movement that is going to be discussed in the next pages.

³⁸⁹In his work “The Leviathan” (1651), Thomas Hobbes theorize that man lives in the state of nature, which is not a favourable condition because full of threats for mans’ life, this can be solved with living under the Leviathan. This is a figure that represents the government, a monarchy preferable, that has the authorities to protect and safeguard the social order.

humans. If we look at the case of climate change and its effect this link may be even stronger. Heavy rains, melting ice, ocean levels rising with the consequence of floods and high temperatures causing fire, threaten our very existence, our health, and the availability of food, water and housing. The worldwide attention to environmental protection, therefore, coincides with the general interest in safeguarding human rights. This link is not a forced one, the notion of sustainable development, overused in conventions, negotiations and laws has made a strong association of the human sphere with environmental responses, consequently, human rights have been read in this term. In this way, it is possible to engage the notion of human rights that seek the improvement of the quality of life for individuals in all of its dimensions.

The climate change issue, in this work, will be analyzed on two different levels that are strictly linked with each other: the level of States and the level of the people. Looking at the State level, climate change has been framed in an international regime in those states that have negotiated to find a solution to stop human activities that contributed to enhancing climate change consequences. This regime has been the most complex one to negotiate due to the economic interests involved in it, due to this, it is not as successful as we would have expected, even because a few mechanisms proposed have damaged the well-being of people. This is, in fact, the link with the second level. Climate change has resulted in massive violations of the quality of life of many populations all over the planet. The effect on people can be translated into human rights notions, one of the main responsibilities of States is to guarantee and protect human rights. Starting from this, if climate change is violating them, authorities must go beyond the international regime, which has sadly failed, and focus on the wellness of people safeguarding their rights from climate change.

2. Human rights and extreme climate events

The delicate balance, described above, between human rights and the rapidly changing climate has become an urgent subject of inquiry. The next section delves into the intricate nexus between fundamental human rights and the intensifying impacts of climate events. As global temperatures rise and natural disasters proliferate, the right to life, housing, food, and water emerge as linchpins of societal well-being. The purpose of this exploration is to unravel the intricate fabric of climate-induced impacts on human rights, offering both critical insights and a clarion call for informed, rights-centric action in the face of our climate-changed reality. Through meticulous case studies spanning diverse communities worldwide, this work reports the stark realities of rights violations in the face of environmental upheaval. From coastal villages swallowed by rising seas to arid regions strangled by drought, each case study serves as a poignant testament to the profound implications of climate change on the lives and livelihoods of those most vulnerable. By illuminating these tangible, often

harrowing examples, this analysis endeavors to inspire a collective call to action, advocating for a rights-based approach in the pursuit of a more equitable, resilient, and sustainable future.

2.1 Right to life

The right to life, a cornerstone of human rights, confronts an unprecedented challenge in the form of climate change. Article 3 of the Universal Declaration of Human Rights of 1948 established the right to life for every human being as “*Everyone has the right to life, liberty and security of person*”.³⁹⁰

The right to life is considered to be one of the most fundamental human rights, strictly linked to human dignity, if there is no life, we cannot attribute a value, such as dignity. Without the enjoyment of the right to life, the other human rights cannot exist. In fact, the right to life can be seen as a prerequisite for the protection and guarantee of others. The right to life can be invoked to claim that all humans should be left in peace and for this, they have the right to have this enforced. The right to life can be violated mainly in two ways: by direct actions that end life (like torture) and by indirect actions (like starvation).³⁹¹ To guarantee this right, international human rights treaties and customary international law put on states the obligation to not undertake acts that may harm or undermine human life. In fact, it is protected by the International Covenant on Civil and Political Rights, the Convention on the Rights of the Child, the European Convention, the American Convention and the African Charter. In these international instruments, the right is interpreted as a positive duty, thus, States are obliged to take positive measures to protect it.³⁹²

It is unarguable that the survival of people is related to the state of the environment. Human rights bodies have documented situations where environmental destruction can seriously affect human life, for this, it is unquestionable that climate change violates the right to life. Climate change is predicted to result in increasingly brutal weather events like tornadoes, hurricanes, and floods, that may cause a direct loss of life. This threat to life was confirmed by the OHCHR in the 2009 Report on Climate Change and Human Rights, where it is stated that:

*“ [...] with high confidence an increase in people suffering from death, disease and injury from heat waves, floods, storms, fires and droughts. Equally, climate change will affect the right to life through an increase in hunger and malnutrition and related disorders impacting on child growth and development, cardio-respiratory morbidity and mortality related to ground-level ozone. Climate change will exacerbate weather-related disasters which already have devastating effects on people and their enjoyment of the right to life, particularly in the developing world. ”*³⁹³

³⁹⁰The Universal Declaration of Human Rights, Paris, 10 December 1948, UN Doc. A/810, Art. 3.

³⁹¹Ramcharan, BG. (1985). *The Right to Life in International Law*. Martinus Nijhoff Publishers. P.63

³⁹²Mcinerney-Lankford, S., Darrow, M. & Rajamani, L. (2011). *Human Rights and Climate Change: A Review of the International Legal Dimensions*. World Bank Publications. Pp.11-13

³⁹³OHCHR. (2009). Report on climate change and human rights. Paras. 22–23

In addition, this may be more accentuated in a certain area of the world, amplifying the already poor conditions in some countries.

So, as our planet experiences rapid and often erratic shifts in weather patterns, rising sea levels, and intensifying natural disasters, the very essence of this fundamental right is under threat. Climate change poses a multi-faceted threat to the right to life. Its impacts are not isolated events but a complex web of interconnected challenges that affect communities worldwide. Addressing climate change is not only a matter of environmental concern but a fundamental human rights imperative. In addition, climate change exacerbates existing vulnerabilities, disproportionately impacting marginalized communities and exacerbating global inequalities.³⁹⁴ From the escalating frequency and severity of hurricanes to prolonged droughts and heatwaves, lives are disrupted, habitats are degraded, and access to basic resources like clean air and water becomes increasingly precarious. This mounting crisis compels us to recognize that the right to life is not merely a theoretical construct, but an urgent call to action. By addressing climate change with urgency and commitment, we safeguard not only the present, but the very future of life on Earth for generations to come. It is a collective responsibility to mitigate the impacts of climate change and ensure that the right to life is preserved for all, irrespective of geographic location or socio-economic status.

2.2 Right of housing

Extreme climate events, already mentioned, have also effects on the right to housing. The right to housing, an essential component of human dignity and well-being, faces unprecedented challenges in the wake of accelerating climate change. Climate-induced impacts, ranging from rising sea levels to extreme weather events, are disrupting communities and rendering homes uninhabitable, leaving millions without secure and adequate shelter. Having a home is central to every aspect of our well-being, that is why housing is a human right, as also defined by the Universal Declaration of Human Rights in article 25 which mentions that:

“Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control.”³⁹⁵

³⁹⁴The Environmental Justice Foundation. (2021). How the climate crisis is driving inequality and eroding human rights. EJF Report. Available at <https://ejfoundation.org/resources/downloads/EJF-Climate-Inequality-report-2021.pdf>

³⁹⁵The Universal Declaration of Human Rights, Article 25 (1).

Everyone needs a home, a place where to feel safe, secure to enjoy family life, have privacy and develop identity. Several international organizations and private actors have acknowledged the influence that housing can have on our lives. The Committee on Economic, Social and Cultural Rights has identified what requirements are needed to fulfil this right, it has listed seven elements: legal security of tenure, availability of services, affordability, habitability, accessibility, location and cultural adequacy.³⁹⁶ As a consequence, States should implement measures that include all of them, however, with climate change, authorities have failed to provide safe housing and basic infrastructure. During the 2018 seventy-third session of the UN General Assembly, in which it was presented the “*Report of the Special Rapporteur on adequate housing as a component of the right to an adequate standard of living, and on the right to non-discrimination in this context*”³⁹⁷, the right to housing has been discussed and address. The report states that 883 million people are frequently forced to live in informal settlements due to extremely serious environmental events, such as natural disasters or environmental degradation that has been enhanced because of climate change. Unfortunately, the settlements to which they migrate represent a risk, often they are non-resistant houses on land that are at risk of flooding, storms, mudslides, earthquakes, or polluted sites. But it is not only about floods or hurricanes, but people in poor neighborhoods do also not have the possibility to cool their houses in high temperatures, so the habitability requirements are missing.³⁹⁸

Therefore, climate change represents a clear and present threat to the right to housing. It not only disrupts existing housing stock but also exacerbates underlying issues of affordability, availability, and resilience. Addressing these challenges requires comprehensive policies and strategies that prioritize housing rights within the context of climate adaptation and mitigation efforts.

2.3 Right to food

Food is essential for human survival, whichever obstacle the enjoyment of this basic need for individuals, like climate change, can be considered a threat to life. One of the main problems with food is hunger. The phenomena of hunger have been recorded since the most ancient populations like Greek populations. Thanks to industrial development, new agricultural technologies were introduced and successfully applied to agricultural cultivation improving the productive capacity and weakening the problem of food insecurity. However, this issue has not been fixed, rather, it is still a serious issue

³⁹⁶Hohmann, J. (2013). *The Right to Housing: Law, Concepts, Possibilities*. Bloomsbury Publishing. Pp.15-22

³⁹⁷Report of the Special Rapporteur on adequate housing as a component of the right to an adequate standard of living, and on the right to non-discrimination in this context, September 2018, A/73/310/Rev.1

³⁹⁸International Alliance of Inhabitants. (2019). *The Nexus between the Right to Housing and Climate Change – Insights from the Climate Conference COP24 in Katowice, Poland*. IAI. Available at https://www.habitants.org/news/global_info/the_nexus_between_the_right_to_housing_and_climate_change_insights_from_the_climate_conference_cop24_in_katowice_poland

in contemporary societies that generates economic instability, political tensions, and armed conflicts in developing countries.³⁹⁹

The FAO reported that nearly 820 million people suffer from hunger every day, in some countries the quality of the food is not good enough to benefit from good health resulting from good food. In fact, the term nutrition indicates a process in which organisms use food to survive, grow, and keep normal the functions of human bodies. As a consequence, malnutrition happens when this process cannot be successful due to food intake problems. There are eight principal malnutrition issues in the world: low birth weights, childhood undernutrition underestimated, undernourished adults, pandemic anemia, extensive persisting vitamin A deficiency, adult chronic diseases accentuated by early undernutrition, obesity rates escalating and sustaining iodization programs. What causes malnutrition is food insecurity, that is the inaccessibility to food and all the benefits related to it. It is, also, important to underline that the availability of food, implies the quantities and types of foods in a certain area while food accessibility, indicates the possibility of finding that food. However, there are situations where even if food is available, people do not have enough money to be able to acquire it. In fact, there are cases where critical famine cases took place in countries where food supplies were adequate but due to huge economic inequalities among the population, there is unjust food distribution. Food insecurity, or more in general food issues, is not only about access to food but is also about access to production tools and opportunities to produce.⁴⁰⁰ Not having enough food and not good quality food is a violation of human rights because all vital functions and survival depend on food intake. Preventing hunger and malnutrition is more than a moral duty, it is a legally binding human rights obligation. Indeed, the right to food is recognized in the 1948 Universal Declaration of Human Rights as part of the right to an adequate standard of living in Article 25:

“Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control.”⁴⁰¹

The right to food has always been based on Economic, Social and Cultural Rights, which is why it is mentioned, in the 1966 International Covenant on Economic, Social and Cultural Rights in Article 11, other than being protected by different regional treaties and national constitutions.⁴⁰²

³⁹⁹Chen, Y. (2010). The Right to Food. *European Journal of Law Reform*, 12(3-4), 158-208.

⁴⁰⁰Kent, G. (2005). *Freedom from want The Human Right to Adequate Food*. Georgetown University Press. Pp.7-12

⁴⁰¹Article 25 of the 1948 Universal Declaration of Human Rights

⁴⁰²Article 11 of the 1966 International Covenant on Economic, Social and Cultural Rights: *“Right to an adequate standard of living including basic income, food, housing, water, sanitation and clothing and the continuous improvement of living conditions”*

Based on the formula of this article, the right to food takes an umbrella form in which the right to food, the right to be free from hunger and the right to adequate nutrition are represented. There is no need to stress how this right can be easily linked with the right to life, it is a logical assumption to make. But article 11 also underlines another key concept of human rights protection that of international cooperation. All States have the duty to cooperate to fight hunger and to improve methods of production, conservation and distribution through their technical knowledge, taking into account the food trade and distribution among different States. After all, with the globalization process, States have the duty to ensure the right to food not only in their jurisdiction but also in other countries. However, there is a lot of debate around the responsibility issue of human rights, the human right to food is obviously included, and this is if NGOs should also be held accountable and responsible. NGOs are regulated by the States in which they are situated and have only a legal human rights obligation, according to their statutes, but at the international level, they cannot be held accountable.⁴⁰³

The right to food has been described as an inclusive right because is not only about having a minimum ration of calories per person but is a right that comprehends all nutritional elements that an individual requires to have a healthy and active life, this also includes the possibility to have access to these nutritional elements. To be more precise, it has been described by the United Nations Special Rapporteur on the right to food:

“The right to have regular, permanent and free access, either directly or by means of financial purchases, to quantitatively and qualitatively adequate and sufficient food corresponding to the cultural traditions of the people to which the consumer belongs, and which ensures a physical and mental, individual and collective, fulfilling and dignified life free of fear.”⁴⁰⁴

From the definition, three fundamental elements can be traced: the availability, accessibility and adequacy of food. The availability requires that food should be available from natural resources (with production, by cultivating the land or for example, by fishing and hunting) but also that it should be available in markets and shops. The accessibility requires both economic and physical access, economic accessibility implies that food must be affordable, so not that expensive. While physical access means that it should be accessible to everyone, especially for the physically vulnerable, like children or persons with disabilities who may find difficulties in getting access to it. Lastly, adequate food indicates that food must comply with dietary needs, taking into account the individual's

⁴⁰³Kent, G. (2008). *Global Obligations for the Right to Food*. Rowman & Littlefield Publishers. Pp.47-53

⁴⁰⁴United Nations Special Rapporteur on the right to food. The Rapporteur's definition is also in line with the ones presented by the United Nations Committee on Economic, Social and Cultural Rights in their General Comment No. 12. (<https://www.ohchr.org/EN/Issues/Food/Pages/FoodIndex.aspx>).

characteristics like age, living conditions, occupation and sex but also cultural characteristics because food adequacy, at the same time, should be culturally adequate.⁴⁰⁵

The right to food is well specified at international levels through different conventions and treaties. What is interesting is that over the years, this right has been included directly at the domestic level of Nations States with the inclusion of norms in constitutions.⁴⁰⁶ Their inclusion in this type of legal instrument allows them to be enforced. This means that constitutional protection of a right can be used to question laws that may lead to violations of the right to food.

In addition, judicial interpretation has enforced the right to food in the right to life, in an implied way. For example, the Indian Constitution does not include the right to food directly but the Supreme Court of India, in the case “*People's Union for Civil Liberties v. Union of India*”, declared the state’s responsibility in the violation of the right to life because was lacking in the implementation of food distribution. The India Case was significant in opening the road to a domestic recognition of the right to food, in fact, after the success of this case, In Brazil, millions of people have been helped to change their poverty situation after the inclusion of the right to in the Brazilian constitution.⁴⁰⁷

So, the right to food, a fundamental human right enshrined in international law, is facing unprecedented challenges in the wake of accelerating climate change. Climate-induced disruptions to agricultural systems, shifts in growing seasons, and increasing frequency of extreme weather events are placing food security at risk, particularly for the world's most vulnerable populations. Addressing these challenges requires concerted efforts to build resilient food systems, reduce greenhouse gas emissions, and prioritize the right to food as a central tenet of climate adaptation and mitigation strategies.

2.4 Right to water

The right to food is often sided with the right to water and vice versa. Food and water are strictly linked and crucial for human life, yet they are both contemporary global issues.

In 1977, the UN Conference on Water took place in Mar del Plata, Argentina. The Conference was the first international intergovernmental meeting on ensuring adequate water supplies for the future, also underlining the water scarcity issue. It was a success, both for the active participation of the developing countries and for the discussions that followed on different aspects of water management.

⁴⁰⁵United Nations. (2010). *The Right to Adequate Food*. Office of the United Nations High Commissioner for Human Rights and FAO. Fact Sheet No. 34.

⁴⁰⁶FAO. (2020). Legal brief for parliamentarians in Latin America and the Caribbean No. 1. FAO. Available at <https://www.fao.org/3/cb0448en/CB0448EN.pdf>

⁴⁰⁷Garrow, EE. & Day, J. (2007). *Strengthening the Human Right to Food*. UC Irvine Law Review 7(2). Pp. 275-290.

The conference approved an action plan, the Mar de Plata Action Plan⁴⁰⁸, which was the first international coordinated approach to International Water Resources Management. The plan was formulated in two parts, the first part included a set of recommendations that covered all the essential factors of water management, while the second part was composed of twelve resolutions on a wide range of specific subjects in the water field. The State's representative discussed the most important water issues, such as the use and efficiency, health, pollution control and water policy. Nevertheless, safe water is still not enjoyable for millions of people, to the extent that safe and drinkable water is included in the UN 2030 Sustainable Development Goals Agenda.⁴⁰⁹ The effort of the UN in to promote safe water is what has recognized water as a human right. The right to water is a logical descent of the right to life, individuals cannot live without it so the right to life has to consequently include it as one of the conditions human lives require. But ironically, only a few international instruments recognize a human right to water, the first reference to it was in the General Comment No.15 on the Right to Water, adopted by the UN Committee on Economic, Social and Cultural Rights, which states that:

“The human right to water entitles everyone to sufficient, safe, acceptable, physically accessible and affordable water for personal and domestic uses. An adequate amount of safe water is necessary to prevent death from dehydration, to reduce the risk of water-related disease and to provide for consumption, cooking, personal and domestic hygienic requirements.”⁴¹⁰

This definition underlines the necessity of the right chained with human life and defines the right to water as safe, acceptable, physically accessible, and affordable water for personal and domestic use. It also establishes priorities in using it, the Comment set out the minimum level of water necessary for meeting the obligations, which is water for basic needs. In addition, it defines standards for safety, cleanliness and equal access to water, that should be ensured at the physical and economic level. It is important to note that sufficient water as quantity is not enough to guarantee a human right to water, in fact, in most cases, water received is contaminated and not safe for human health. Regarding accessibility, it has four dimensions: physical accessibility, economic accessibility, non-discrimination and information accessibility. Physical accessibility should focus on physical safety and security, especially for those populations living under conflicts and vulnerability. The economic accessibility regards the affordability of water for everyone. Lastly, information accessibility means

⁴⁰⁸See the United Nations, Mar de Plata Action Plan, UN Conference on Water (1977) https://www.internationalwaterlaw.org/bibliography/UN/UN_Mar%20del%20Plata%20Action%20Plan_1977.pdf

⁴⁰⁹The United Nations Sustainable Development Goals to achieve in 2030. Water is mentioned in the goal 6 “safe water and sanitation” (<https://www.un.org/sustainabledevelopment/sustainable-development-goals/>)

⁴¹⁰UN Economic and Social Council Committee on Economic, Social and Cultural Rights, General Comment no 15, The legal basis of the right to water (2), adopted 26 November 2002.

that everyone has the right to receive information related to water. The non-discrimination accessibility is implicitly included in all the previous three components where the right to water is recognized for everyone as an accessible good that allows us, without any discrimination for sex, religion and ethnicity, to live with dignity.⁴¹¹ In addition, the Comment provides guidelines for States on the interpretation of the right to water that goes under Article 11 of the International Covenant on Economic, Social and Cultural Rights, like the right to food, including both the right to an adequate standard of living. Except this, the UN General Assembly in 2010 adopted a Resolution⁴¹² to directly address the water issue. This really short Resolution other than recognizing the human right to water, calls for the States to act “*to provide financial resources, capacity-building and technology transfer, through international assistance and cooperation, in particular to developing countries, in order to scale up efforts to provide safe, clean, accessible and affordable drinking water and sanitation for all*”.⁴¹³

However, the right to water raises several challenges. Even if the basic need for water is recognized to support life, including it in the adequate standard of living or health rights, seems to hide the real implications of the right to water, which are far beyond the concept of the need to drink safe water which is the most immediate that we could think of. In addition, it is still difficult to enforce the right which remains a moral duty and not a legal obligation for States. Indeed, the legal foundations of the human right to water are deeply affected by international water laws voids. If we look at the past, for example, the Ottoman Civil Code recognized water as a human good for drinking and water for agricultural purposes, accessible to everyone. Therefore, water could be achieved from rivers becoming public domain. Nowadays, water control has significantly changed, in the current global water issues, the aim of treaties is to settle the management of waters between states more than achieving water conservation.⁴¹⁴

Particular protection to vulnerable groups should be given regarding the right to water. The first minority mentioned are women who should always be allowed to participate in decision-making processes regarding water resources. The poor are also mentioned as disproportionately affected and excluded from the enjoyment of the right to water. Their situation is particularly grave since they do not have adequate access to water and sanitation, but also, they are not able to pay for water and this results in bad hygiene and health. In fact, States have the obligation to ensure that poor citizens, in rural or urban suburbs, have access to water facilities. Moreover, the human right to water issue has

⁴¹¹Cahill-Ripley, A. (2011). *The Human Right to Water and its Application in the Occupied Palestinian Territories*. Routledge Research in Human Rights Law. Pp.24-29

⁴¹²UN General Assembly resolution 64/292, 3 August 2010.

⁴¹³UNGA Resolution 64/292 (2)

⁴¹⁴Westra, L. (2010). *Climate change and the human right to water*. Journal of Human Rights and the Environment, 1(2). Pp.161-188.

not been broadly addressed under environmental law. Yet, water is a social and cultural good, this is a common environmental law approach that should be extended to water. This is also the approach taken in General Comment number 15, which reflects the idea that everyone has the responsibility and the moral obligation to use water respecting sustainable methods.⁴¹⁵

Thus, the right to water, a fundamental human right essential for life and dignity, is facing unprecedented challenges due to the impacts of climate change. Climate-induced disruptions to hydrological cycles, altered precipitation patterns, and rising temperatures are placing water resources under immense strain, particularly in regions already grappling with water scarcity. Overall, climate change poses a substantial threat to the right to water. Its impacts are far-reaching, affecting not only water availability but also its quality, accessibility, and reliability. Addressing these challenges requires coordinated efforts to build resilient water systems, promote sustainable water management practices, and prioritize the right to water as a central component of climate adaptation and mitigation strategies.

2.5 Right to health

The right to health underscores the inherent dignity of every individual and recognizes that good health is not a privilege, but a fundamental human entitlement. Upholding this right is not only a moral imperative but also a vital step towards building more equitable, resilient, and prosperous societies.

The right to health is intimately connected to climate change in several critical ways. In fact, UNEP has declared on several occasions, through reports and meetings, that the climate emergency violates the human right to health, among other human rights. This is not only through premature deaths but also through developing different diseases of the respiratory and cardiovascular system, new diseases like dengue fever, malnutrition, allergies, injuries and mental illness. This human right to health was formulated thanks to people who claimed and obtained formal recognition through laws and policies that they are entitled to have a healthy life and that the State has to guarantee it.

The constitution of the World Health Organization, adopted by the International Health Conference in 1946, inspired by the UN, in the preamble defines health as:

*“a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity. The enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being without distinction of race, religion, political belief, economic or social condition.”*⁴¹⁶

⁴¹⁵Cahill-Ripley, A. (2011). *The Human Right to Water and its Application in the Occupied Palestinian Territories*. Routledge Research in Human Rights Law. Pp.30-50

⁴¹⁶See the Constitution of the World Health Organization, 1946, preamble.

The constitution not only gives a definition but has set the basis for the recognition of health as a standard that should be enjoyed by every human being. However, this definition has been criticized for its abstractness, but the scope was to make a shift from a negative definition (meaning absence of disease) to a positive definition. Yet, a different definition has been proposed with a different approach, one of the proposed ones is the biostatistical conception of health. The latter, predictably, use biological definitions of what a healthy organism is, also including issues linked to equity or social factors. From a human rights perspective, the WHO definition and approach, also used by many other international bodies, is preferable because the biostatistical approach does not define what a human rights approach to health policy should achieve for the population. Indeed, in the 1948 Universal Declaration of Human Rights references to the right to health are contained, once again, in Article 25:

“Everyone has the right to a standard of living adequate for the health of himself and of his family, including food, clothing, housing and medical care and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control”⁴¹⁷

Thus, the human right to health is recognized under the right to an adequate standard of living, the same as for the right to food, water and housing. Since 1948, it has been included in the most important UN human rights treaties, including the ICESCR of 1966. Article 12 of the ICESCR, indeed, covers the right to health defining it as *“the right of everyone to the enjoyment of the highest attainable standard of physical and mental health.”⁴¹⁸* This article provides a more specific definition compared to the WHO ones, while the second part of the article is directed to nation-states giving them guidelines for the full realization of the right. In addition, several regional human rights treaties mention and recognize the right to health, like the Arab Charter on Human Rights and the African Charter on the Rights and Welfare of the Child.⁴¹⁹ However, millions of people are still suffering all over the world, lacking adequate health care measures, this led to the inclusion of health issues in the Millennium Development Goals during the United Nations Millennium Summit in September 2000 with the goal to solve several issues by 2015. Thus, Member States took the responsibility to fight HIV, malaria, and tuberculosis and to improve the mental health of its citizens. Sadly, even if some progresses were made to meet some of the goals in the most affected developing countries, in several

⁴¹⁷Universal Declaration of Human Rights, 1948, Article 25 (1).

⁴¹⁸International Covenant on Economic, Social and Cultural Rights, 1966, Part III, Article 12 (1).

⁴¹⁹Zuniga, JM., Marks, SP. and Lawrence, O. (2013). *Advancing the Human Right to Health*. Gostin. Oxford University Press. Pp.1-9

countries progresses have been slow, sporadic, or non-existent. The idea behind those goals was to create a bridge between issues shared by the biggest economies and less developed countries. In addition, the commitment to reach those goals came from the highest authorities, so, governments all over the world committed individually to those goals including them in their domestic policies.⁴²⁰ The year 2015 arrived and the international community realized that healthcare issues were still spreading in many countries. Following this success, the UN included another set of health goals in the 2030 Agenda for Sustainable Development, putting “*ensuring healthy lives and promote well-being for all at all ages*” as goal 3.⁴²¹ The goal, which corresponds to several actions, aim to decrease the global maternal mortality percentage, prevent newborn death, and stop disease (such as AIDS, tuberculosis and malaria) but also reinforce the prevention of substance abuse, reduce deaths and injuries from road accidents, ensure universal access to sexual and reproductive health-care services, universal health coverage, and reduce deaths or illnesses caused by pollution and chemical substances. Together with the UN, several NGOs with expertise in human rights lobbying and advocacy have also focused their work on health issues, for example, Amnesty International with its campaign on maternal mortality. This international effort and cooperation have made it possible to frame health as a human right generating accountability that goes from soft to hard, this, is done through indicators and benchmarks to supervise State actions. This responsibility is framed by both normative and instrumental considerations that originated from an agreement that underlines how health is central to giving humans a life of dignity. As a consequence, the right to achieve what is defined by treaties as “*the highest attainable health*” necessitates that importance should be given to the individual’s biological and socio-economic preconditions but also to the State’s available resources to define this high level of health. From this consideration, we can say that the health standards are not the same in every country, instead, they rely on the availability of resources. This has brought issues in defining a universal meaning of the term health. For example, the approach adopted under the WHO that defines health in its preamble has not been welcomed by the interpretative community that seeks the recognition of the right in every country. However, even if States refused to accept the WHO’s approach when they were drafting the ICESCR, we have to underline that the notion of health, considered by international law is a model of health that has a multidimensional construct. In this way, the international community can include both psychosocial and physical components of what should be taken into account when health is considered.⁴²²

⁴²⁰MacDonald, TH. (2016). *The Global Human Right to Health Dream or possibility?*. Forewords by Noël A Kinsella and John A Gibson. CRC Press. Pp.1-4.

⁴²¹See the sustainable development goals n°3, Good health and well-being. Available at <https://sustainabledevelopment.un.org/sdg3>

⁴²²Tobin, J. (2012). *The right to health in international law*. Oxford University Press. P.44-130

The right to health can be read in environmental terms if we intend it as a life free from pollution, in this way, it can be linked with the right to a safe environment as a prerequisite to enjoying a life of dignity. A safe environment allows an individual to be realized in his private and social life, which brings the individual into shaping his identity. Using this justification, the enjoyment of a safe environment became a human right, with all the benefits that arise from this recognition.

In light of these connections, addressing climate change is not only an environmental imperative but also a critical public health concern. Efforts to mitigate climate change and adapt to its impacts are essential for safeguarding the right to health for current and future generations. This requires coordinated action at the local, national, and global levels to build resilient health systems and promote policies that prioritize both climate action and public health.

2.6 Right to a Safe Environment

The idea of a substantive human right to a safe environment is a concept which has attracted a lot of scholars since the 70s, years when the UN during the United Nations Conference on the Human Environment held in Stockholm, defined as the first principle of the Declaration that:

“Man has the fundamental right to freedom, equality and adequate conditions of life, in an environment of a quality that permits a life of dignity and well-being, and he bears a solemn responsibility to protect and improve the environment for present and future generations. In this respect, policies promoting or perpetuating apartheid, racial segregation, discrimination, colonial and other forms of oppression and foreign domination stand condemned and must be eliminated.”⁴²³

However, even if the literature regarding this right has increased in the following years, very little was achieved. Nevertheless, several academic authors are in favor of a larger recognition of this right, improving justifications while others simply claim that it does not exist. This disagreement is originated from a general confusion on how the environment and human rights are linked. The most common justification for the right to a safe environment is that the important link between human rights and the environment is not sufficiently recognized in the current international law. This was also advocated by John Knox who underlined the importance of a safe, clean, healthy, and sustainable environment that should also be recognized in regional and domestic laws. Moreover, He has suggested that:

“[...]the Human Rights Council consider supporting the recognition of the right in a global instrument. A model could be the rights to water and sanitation, which, like the right to a healthy environment, are not

⁴²³See the Declaration Of The United Nations Conference On The Human Environment, 1972, Principle 1

explicitly recognized in United Nations human rights treaties but are clearly necessary to the full enjoyment of human rights."⁴²⁴

The creation of a new international tool could be a possible solution to enforce this right and create a common ground for recognition. In fact, the recognition can lift the right to a safe environment at the same of other human rights. Consequently, individuals could claim a violation and could act against the State for failing to respect and protect their rights. However, this right lacks a universal definition that has been argued over and over, without a clear definition it is difficult to frame it in human rights terms and then implement it. Some scholars claim that the competence to give accurate standards should be left to judges or decision-makers. At this point, whoever defines it, has to answer the question "What makes an environment safe?". The criteria needed, for sure, should include substantive standards to address air and water pollution, deforestation, emissions and any other activities that harm the environment. As already mentioned, and as declared also by Knox, none of the current human rights treaties comprises a reference to a right to a safe environment at the international level. At the regional level, however, a few treaties mention a few safe environment-related rights.⁴²⁵ For example, in the African Charter on Human and People Rights, Article 24 provides "*All peoples shall have the right to a general satisfactory environment favourable to their development*"⁴²⁶. Moreover and interestingly, the African Charter links the right to a safe environment with the right to health, in fact, for the African Commission an unsafe environment represents also a violation of "*the right to enjoy the best state of physical and mental health*"⁴²⁷, for this, the Commission has also recognized it as a positive right, meaning that the governments have obligation to respect and even preventive action to implement to safeguard the environment. In addition, in the African Charter, environmental rights are viewed as necessary for the economic development of the nation and African populations. This underlines the tendency of reading human rights and environmental rights in contrast with economic interest while the two issues should be sided in policies.⁴²⁸ This relation should be enforced even more in developing countries like Africa. Not only these two rights are always debated to find the justification to be enforced, but Climate change is currently causing the spread of cardiovascular and respiratory diseases, such as asthma caused by pollutants present in the air, violating the enjoyment of these rights by individuals. The IPCC sustain that mitigation mechanisms are necessary to fight health risks originating from climate

⁴²⁴Report of the Special Rapporteur on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment, part III, 14.

⁴²⁵Lewis, B. (2018). *Environmental Human Rights and Climate Change Current Status and Future Prospects*. Springer. Pp-59-70

⁴²⁶The African Charter on Human and Peoples Rights, 1981, Article 24

⁴²⁷Ibid. Article 16

⁴²⁸Knox, J. & Pejan, R. (2018). *The Human Right to a Healthy Environment*. Cambridge University Press. Pp. 65-68

change because they can be a response to unexpected natural disasters. This tendency can be also found in Article 3 of the UNFCCC which states that “*the Parties should take precautionary measures to anticipate, prevent or minimize the causes of climate change and mitigate its adverse effects.*”⁴²⁹ Indeed, effective protection for the health of people caused by climate change, particularly for the most vulnerable people, necessitates more decisive actions.⁴³⁰

The purpose of this section was to demonstrate that climate change, driven by human activities, poses a significant threat to this right, as it leads to a wide range of environmental hazards and disruptions that endanger the safety and well-being of individuals and communities worldwide.

3. The recognition of the Right to a Healthy Environment

Following the rationale of this analysis, we have to include an additional right that is pivotal in the climate justice framework other than being the youngest one.

The right to a healthy environment has been developed since the 1970s when it was first introduced by the 1972 Stockholm Declaration. In the first principle, we can read that: “*Man has the fundamental right to freedom, equality and adequate conditions of life, in an environment of a quality that permits a life of dignity and well-being*”.⁴³¹

However, the recognition itself was surrounded by doubts. At the national level, the debate was animated by those in favor, because the recognition would have generated positive procedural and substantive outcomes such as increased public participation or cleaner air and water, and those who argued that it doubled existing rights. At the international level, States have generally contested the idea of the recognition, this was read as not accepting the fact that environmental harm means limitation to fundamental rights.⁴³²

Today, it is included in regional human rights treaties and environmental treaties binding on more than 120 States. It enjoys constitutional protection in more than 100 States and is incorporated into the environmental legislation of more than 100 States. In total, 155 States have already established legal recognition of the right to a healthy and sustainable environment. At the national level, for example, Portugal was the first country to enshrine this right in its constitution already in 1976. Since then, the right to a healthy environment has rapidly spread to other constitutions, in a fashion unseen

⁴²⁹The United Nations Framework Convention On Climate Change, 1992, Article 3 (3)

⁴³⁰Hesselman, H. & Toebe, B. (2015). *The Human Right to Health and Climate Change: A Legal Perspective*. Global Health Law Groningen. Research Paper, 2015/1 (Input to Study on "Human Rights to Health and Climate Change" of the UN OHCHR). Pp.1-27

⁴³¹Declaration of the United Nations Conference on the Human Environment in ‘Report of the United Nations Conference on the Human Environment’ UN Doc A/CONF.48/14/Rev.1 (1973) Principle 1

⁴³²Limon, M. (2009). Human Rights and Climate Change: Constructing a Case for Political Action. *Harvard Environmental Law Review* 33 no. 2. Pp. 439-476

for any other “new” human right. States developed an important regional legal corpus affirming the right to a healthy environment. We can find it in the African Charter on Human and Peoples’ Rights in Article 24 where “*all peoples shall have the right to a general satisfactory environment favourable to their development*”⁴³³ which confers this right not to individuals but to a group. Comparably article 38 of the Arab Charter of Human Rights (2004)⁴³⁴. In Latin America, the Protocol of San Salvador to the American Convention on Human Rights (1998) recognizes the right of everyone to “*live in a healthy environment*”⁴³⁵, and the Escazú Agreement(2018)⁴³⁶ contribute by moving the focus to future generations. In Europe, the recognition is less explicit. For example, the Aarhus Convention (1998) mentions the right in its first article “*the right of every person of present and future generations to live in an environment adequate to his or her health and well-being*”⁴³⁷. Instead, the European Convention on Human Rights⁴³⁸ includes all environmental issues indirectly by innovative interpretation of the Convention.

Finally, an international and uniform recognition arrived in October 2021 with Resolution 48/13⁴³⁹ adopted by the Human Rights Council that recognized officially that “*the right to a safe, clean, healthy and sustainable environment as a human right that is important for the enjoyment of human rights*” and encouraged States to adopt policies for the enjoyment of such right. This resolution was a victory for those who were in favor as part of their argument was that there was a gap in the international human rights structure that needed to be filled.⁴⁴⁰ Surely, the recognition of a right to a healthy environment as a global instrument push towards universal protection. After the recognition of the Human Rights Council, on July 26, 2022, the United Nations General Assembly adopted an additional resolution underlining that everyone has a right to a healthy environment. This is a significant development in recognizing the intrinsic legal relationship between human rights and

⁴³³The African Charter on Human and Peoples' Rights, 2004, article 24, available at <https://www.achpr.org/legalinstruments/detail?id=49>

⁴³⁴The Arab Charter on Human Rights, article 38 “*Every person has the right to an adequate standard of living for himself and his family, which ensures their well-being and a decent life, including food, clothing, housing, services and the right to a healthy environment. The States parties shall take the necessary measures commensurate with their resources to guarantee these rights*”, available at <https://digitallibrary.un.org/record/551368>

⁴³⁵The Protocol of San Salvador to the American Convention on Human Rights, 1998, article 11.1 “*Everyone shall have the right to live in a healthy environment and to have access to basic public services*”, available at <http://www.oas.org/en/sare/social-inclusion/protocol-ssv/docs/protocol-san-salvador-en.pdf>

⁴³⁶The Escazú Agreement, Regional Agreement on Access to Information, Public Participation and Justice in Environmental Matters in Latin America and the Caribbean, 2008, article 1, available at <https://ccam.org.jm/web/wp-content/uploads/ESCAZU-Agreement-Full-Text.pdf>

⁴³⁷UNECE, Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (Aarhus Convention), article 1, available at <https://unece.org/DAM/env/pp/documents/cep43e.pdf>

⁴³⁸European Convention on Human Rights, available at https://www.echr.coe.int/documents/convention_eng.pdf

⁴³⁹A/HRC/RES/48/13

⁴⁴⁰UNGA ‘Report of the Special Rapporteur on the Issue of Human Rights Obligations Relating to the Enjoyment of a Safe, Clean, Healthy and Sustainable Environment’ UN Doc A/73/188 (19 July 2018) (Special Rapporteur 2018 Report) para.53

environmental protection.⁴⁴¹ The UNGA, while repeating that climate change and environmental degradation are among the most pressing threats to humanity's future, called on states to increase their efforts to ensure their population have access to a clean, healthy and sustainable environment. However, the resolution is not legally binding but underlines that the right to a clean, healthy, and sustainable environment is “*related to other rights and existing international law*”⁴⁴² and confirms that its promotion requires the full implementation of the multilateral environmental agreements under the principles of international environmental law.⁴⁴³

Nevertheless, from the analysis, one issue regarding the right to a healthy environment is finding a clear and fixed definition. International texts refer to a right “*to a healthy environment*” or a right “*to live*” in a healthy environment. The adjective “*healthy*” created competition: some may promote the protection of an “*ecologically sound*” environment (draft IUCN Covenant), “(permitting) *a life of dignity and well-being*” (Stockholm Declaration), “*adequate to his or her health and well-being*” (Aarhus Convention) and “*respecting biodiversity*”. The 2007 Malé Declaration on the Human Dimension of Climate Change chose to formulate it as “*the right to an environment capable of supporting human society and the full enjoyment of human rights*”.⁴⁴⁴ The majority of national constitutions today recognize this right, but the formulation may be different as the rights to a “*clean*”, “*safe*”, “*favourable*”, “*wholesome*”, or “*ecologically balanced*” environment. Consequently, the denominations lead to different forms of protection. The fundamental interconnection between the protection of the environment and the effective preservation of human rights is at the center of each of these formulations. Part of that is because of the right to a healthy environment's character as a “*claim right*”. Claim rights, unlike liberty rights, imply a positive obligation of third parties towards the right-holder.

As anticipated above, the right to a healthy environment has drawn criticisms. Among those, its anthropocentric character as the idea that humans have a right to a healthy environment is strongly influenced by the Western conception of human rights that places humans at the center of the world. This conception should be balanced with an eco-centric perspective, which puts nature at the core.⁴⁴⁵ An example is provided by the African Charter on Human and Peoples’ Rights (1981) which recognizes the right of all “peoples” to a satisfactory environment. Additionally, some jurisdictions

⁴⁴¹A/76/L.75

⁴⁴²A/76/L.75, p.3

⁴⁴³ILO, 2022, “UN General Assembly recognizes human right to a clean, healthy, and sustainable environment” , available at https://www.ilo.org/global/about-the-ilo/newsroom/news/WCMS_857164/lang--en/index.htm

⁴⁴⁴Boer, B. (2017). Environmental Principles and the Right to a Quality Environment. PRINCIPLES OF ENVIRONMENTAL LAW. L. Kramer, E. Orlando, eds, Edward Elgar. Forthcoming, Sydney Law School Research Paper No. 17/05.

⁴⁴⁵Aquila, Y. (2021). *The Right to a Healthy Environment*. IUCN. Available at <https://www.iucn.org/news/world-commission-environmental-law/202110/right-a-healthy-environment>

have recognized the rights to nature like the Supreme Court of Colombia which established that the Colombian Amazon can be a subject of rights. As the definition remains too general and without strict and concretely applicable provisions, the right to a healthy environment remains a simple addition to the third generation of human rights. Effectively, the right to a healthy environment lacks legal force in international environmental law.⁴⁴⁶

4. The Human Rights City and climate change

It has been explained how cities are one of the main contributors to anthropological global warming and that the global effort of cities is reunited under organizations such as the C-40. The latter has played a pivotal role in driving climate action in cities around the world. By harnessing the collective power of urban centers, C-40 demonstrates that cities are crucial actors in the global effort to combat climate change. Through collaboration and shared learning, the initiative helps cities transform into more sustainable, resilient, and livable environments for their residents. In fact, modern urbanization is facing several challenges raised by environmental issues, inequalities are among those and are also indicators of human rights negligence in cities. Urbanization can be a transformative force in protecting human rights at the city level, however, this can be realized only if all dimension of human rights is respected: availability, accessibility, acceptability, adaptability, quality, and appropriateness of the rights of adequate life, food, water, sanitation and housing for everyone.⁴⁴⁷ Even at the city level, human rights establish the minimum standards fundamental for people to live in freedom, equality and dignity.⁴⁴⁸ Citizens, throughout the enjoyment of rights, have the freedom of choice and expression in their community while their basic needs are fulfilled. Therefore, human rights have a crucial role in the urban context which can be summarized in four essential functions. First of all, human rights lay out the rights of citizens that governments have to fulfil. Second, they determine how individuals must be treated in the urban context, on which values. The third function is the empowerment of citizens who can participate in the political and managerial agenda of urban spaces, allowing them to pursue accountability if needed. Lastly, human rights guarantee access to justice to resolve disputes, protecting people from abuse from individuals or entities in powerful positions.⁴⁴⁹

⁴⁴⁶IISD. (2022). *UNGA Recognizes Human Right to Clean, Healthy, and Sustainable Environment*. Available at <https://sdg.iisd.org/news/unga-recognizes-human-right-to-clean-healthy-and-sustainable-environment/>

⁴⁴⁷UN-Habitat, *Human Rights*, <https://unhabitat.org/topic/human-rights>

⁴⁴⁸UN-Habitat. (2017). *Human Rights in Cities Handbook Series Volume I, The Human Rights-Based Approach To Housing And Slum Upgrading*. UN-Habitat. Pp.27-30. Available at <https://unhabitat.org/sites/default/files/download-manager-files/The%20Human%20Rights-Based%20Approch%20to%20Housing%20and%20Slum%20Upgrading.pdf> (accessed 20 April 2022)

⁴⁴⁹UN-Habitat. (2020). *Human Rights, Rule of Law and The New Urban Agenda*, UN-Habitat. P.2. Available at https://unhabitat.org/sites/default/files/2020/07/human_rights_rule_of_law_and_new_urban_agenda_un-habitat_2020.pdf (accessed 20 April 2022).

In a certain way, human rights shape the relationship between people and their governments, creating a difference between individuals who are a human being and their governmental authorities that as such are obligated to respect, protect, and fulfil these rights. This occurs also in cities with the establishment of the relationship between citizens and their local authorities. Yet, at all levels, whether international, national or local, with the ratification of human rights treaties, the government is required to respect, protect, and fulfil the rights explicated in those treaties.

This Human Rights-Based Approach to cities is useful as operates a holistic approach able to address inequalities among citizens and discrimination against minorities. The approach is a conceptual framework that has its normative foundation on international human rights standards with the aim to promote and protect human rights. However, it is particularly important as it discovers and analyzes inequalities, discriminatory practices, and unjust distributions of power. Theoretically, it is based on a process built upon four processes: human rights analysis, causality analysis, role pattern analysis and capacity gap analysis.⁴⁵⁰ The analysis of gaps allows us to integrate environmental considerations, such as sustainability concerns and interventions in urbanization that may apply real changes. Indeed, the human rights-based approach should be employed during the formulation, planning and design phases of urban policies, programs, and projects.⁴⁵¹

At the local level, by applying this type of approach the local authorities are recognized as pivotal to fulfil human rights obligations as local authorities are the primary source of services in communities. In addition, after the decentralization of government that took place globally and in certain sectors such as the health sector, local authorities have gained even more responsibility regarding the promotion of human rights in their territories. This has been also recognized by international organizations, like the United Nations, that have more than on one occasion underlined how regional and local governments share the same responsibility as the central government regarding human rights implementation.⁴⁵²

This sensitiveness regarding human rights at the city level brought to life the notion of a “Human Rights City” which has its origin at the end of the 90s thanks to the People’s Movement for Human Rights Learning that realized how saw human rights in local communities improved living conditions of the most vulnerable groups. Their methodology saw a local learning community, where citizens,

⁴⁵⁰United Nations. (2003). *The Human Rights Based Approach to Development Cooperation Towards a Common Understanding Among UN Agencies*. UNSDG Human Rights Working Group. Available at <https://unsdg.un.org/resources/human-rights-based-approach-development-cooperation-towards-common-understanding-among-un> (accessed 23 April 2022).

⁴⁵¹Ibid. Pp.27-30.

⁴⁵²Van den Berg, E. & Oomen, B. (2014). *Towards a Decentralization of Human Rights: The Rise of Human Rights Cities* (September 2, 2014). In Van Lindert, T & D. Lettinga (Eds.), *The Future of Human Rights in an Urban World: Exploring Opportunities, Threats and Challenges*. Amsterdam: Amnesty International. Pp 11-16.

civil society and local governments worked together for a just city based on human rights.⁴⁵³ The positive results generated by the PMHRL studies find their achievements in the fact that, as already mentioned here, cities and local communities are the heart of people's lives. Whether in metropolitan, urban or rural areas, the local level is the level on which social, political and economic issues take place. These are also places where the climate crisis strikes. This is why cities are strategic to address local and global issues such as gender equality, good governance, sustainability and environmental protection. Human rights approaches gave the possibility to translate international standards at the local level.

The notion of a Human Rights City represents a visionary approach to urban governance, one that places the protection and promotion of human rights at the center of a city's policies, programs, and practices. Human Rights Cities are communities that commit to upholding and advancing the full spectrum of human rights for all their residents, regardless of their background, identity, or status. Basically, the concept recognizes that cities have a unique role to play in advancing human rights on a local level. By embedding these principles into urban governance, Human Rights Cities work to create more inclusive, just, and equitable communities where all residents can live with dignity and thrive.

5. Climate apartheid

The inclusion of human rights in climate change law led to important results where the focus shifted from studying if the relation exists to exploring the implications of such a relationship. The human rights recognition was significant as it gave a concrete legal framework to analyze state efforts in fighting climate change. In addition, since the primary cause of the global warming has been attributed to developed states and because human rights analysis is strictly linked to state action, human rights can analyze the liability of developed countries. The human rights lens is also useful to shame proactive strategies that can prevent human harm and anticipate catastrophic events.⁴⁵⁴ However, there is the need to underline the differences between mitigation and adaptation also in the human rights lens. First of all, adaptation policies are a better fit to impact those who suffer climate change-related human rights violations. Additionally, adaptation in the legal field is stuck in debates that surround other fields such as biology or economics.⁴⁵⁵ Therefore, the human rights lens is a powerful tool to improve and strengthen adaptation efforts. Multiple adaptation measures involve

⁴⁵³Grigolo, M. (2019). *The Human Rights City: New York, San Francisco, Barcelona*. Routledge. Pp.1-4

⁴⁵⁴Hall, MJ., & Weiss, DC. (2012). Avoiding adaptation apartheid: climate change adaptation and human rights law. *Yale Journal of International Law*, 37(2), 309-366.

⁴⁵⁵Satterthwaite, D. et al (2020). Building Resilience to Climate Change in Informal Settlements. *One Earth*. 2. Pp.143–156.

human rights, we can think of the measures concerning food or water, additionally, we can include all the measures regarding the availability of resources to support the adaptation needs of vulnerable populations. Also, disaster risk management can be included in adaptation measures since it can tackle the situation of the vulnerable and marginalized ones.⁴⁵⁶

At the same time, the human rights-based approach in climate mitigation delivers a trail for international action able to stop the most severe impacts of climate change. Employing these climate mitigation policies to realize human rights obligations is also a way to guarantee that government actions aimed at mitigating do not violate human rights. This strategy is part of the agreement achieved during the 2010 Cancun Climate Summit.⁴⁵⁷ This approach allows the inclusion of a wide range of human rights principles into mitigation such as universality and inalienability, indivisibility, non-discrimination and equality, participation and inclusion, accountability, and the rule of law.⁴⁵⁸

Climate injustices are generated in numerous sectors of our societies and given the different levels of resources owned by people and governments to respond, there is the risk of developing what is called “*climate apartheid*”. The UN special rapporteur Alston, indeed, declared that “*We risk a 'climate apartheid' scenario in which the wealthy pay to escape overheating, hunger, and conflict*”.⁴⁵⁹ The current situation is that the richest, have a bigger probability and capacity to adapt to climate consequences but they are also responsible for greenhouse gas emissions as they are the most who benefit from services that produce the most. In fact, it is said that 10% of the wealthiest citizens are responsible for half the emissions, while the poorest contribute to 10% of the total.⁴⁶⁰ However, besides the alarm of what the notion of climate apartheid evokes, is still one of the mere underdeveloped concepts that surround the climate crisis. Surely, the notion covers the unfair distribution of the climate impacts on populations, despite their wealth, nationality or race. As Alston suggested, the climate apartheid notion can be seen as an anticipation of what the future might be based on a new organization of social relations as we know.⁴⁶¹ However, it is a notion that finds its origin in history, in fact, understanding the current climate crisis as “apartheid” means understanding how climate could replicate the past social and geopolitical relations that put in place the initial global warming. Therefore, climate apartheid interprets the past with the present and it reformulates the way

⁴⁵⁶CIEL. (2011). Climate Change & Human Rights: A Primer. CIEL. Available at https://www.ciel.org/Publications/CC_HRE_23May11.pdf, p.9

⁴⁵⁷UNFCCC, Cancun Agreement, 2010.

⁴⁵⁸Meier, BM., Bustreo, F. & Gostin, LO. (2022). Climate Change, Public Health and Human Rights. *Int. J. Environ. Res. Public Health*, V 19. Pp. 6-7

⁴⁵⁹United Nations. (2019). World faces ‘climate apartheid’ risk, 120 more million in poverty: UN expert. *Climate and Environment*. Available at <https://news.un.org/en/story/2019/06/1041261> (accessed 22 February 2022).

⁴⁶⁰A/HRC/41/39

⁴⁶¹Lubinsky J. (n.d.) Climate Apartheid, explained. *Climate Culture*. Available at <https://www.climateculture.earth/5-minute-reads/apartheid-and-the-climate> (accessed 22 February 2022).

in which we link the climate crisis with permanent types of social inequality. Indeed, significant attempts to tackle the changing ecology aimed at solving social injustices must recognize and challenge the historically rooted injustices that express the current climate apartheid.⁴⁶² Nevertheless, many scholars have researched the different implications of climate apartheid. For example, for Bond⁴⁶³ the notion is useful to individuate the political ecology of the uneven impacts in Africa, for Dawson⁴⁶⁴ it creates awareness regarding the vulnerability of climate refugees, and for Tuana⁴⁶⁵ the term indicates the unequal impacts of climate change linked to centuries of racism and exploitation. Scholars believe that colonialism, racial capitalism and hetero-patriarchy have aggravated the climate crisis standardizing dehumanization and exploitation of oppressed communities as something normal to experience while the privileged ones benefit from climate-friendly infrastructures and policies. Consequently, climate apartheid is the global system of discrimination, segregation, and violence based on race, class, and gender that is hidden by the climate change notion to justify and reproduce itself.⁴⁶⁶ An additional example is the current situation in Israel where among the political motivations of the conflict, the appropriation by Israel of the Palestinian natural resources worsens the climate crisis. The difficulties of Palestine are also of climate and environmental origin and, thus, Palestinian civil society organizations have been seeking justice for decades. However, we must underline that the Palestinian Authority is not working towards the achievement of climate and environmental justice as it keeps separating these issues from the delink climate and from the military occupation of Palestine. In this way, climate injustices are depoliticized and result in something normal to live with, exactly the climate apartheid situation. Achieving climate justice in Palestine means giving back to Palestine the right to access their natural resources, yet this side of the conflict is never addressed during international negotiations.⁴⁶⁷

To this end, climate change issues are more than debated in international and national arenas. On the contrary, the inequalities produced by climate events are still lacking the appropriate attention of

⁴⁶²Mccordick M. (2021). Climate Apartheid: Connecting legacies of imperialism with the present climate crisis. *Brown Political Review*. Available at <https://brownpoliticalreview.org/2021/10/climate-apartheid/>

⁴⁶³Bond, P. (2016). Who wins from “Climate Apartheid?”: African climate justice narratives about the Paris COP21. *New Politics*, 15(4), 83.

⁴⁶⁴Dawson, A. (2017). *Extreme cities: The peril and promise of urban life in the age of climate change*. Brooklyn, NY: Verso Books.

⁴⁶⁵Tuana, N. (2019). Climate apartheid: The forgetting of race in the anthropocene. *Critical Philosophy of Race*, 7(1), 1–31.

⁴⁶⁶Long, J., Rice, J.L., & Levenda, A. (2020). Climate Urbanism and the Implications for Climate Apartheid. In: Castán Broto, V., Robin, E., While, A. (eds) *Climate Urbanism*. Palgrave Macmillan, Cham.

⁴⁶⁷Dajani, M. (2022). How Palestine’s climate apartheid is being depoliticized. *Open Democracy*. North Africa, West Asia: Opinion. Available at <https://www.opendemocracy.net/en/north-africa-west-asia/how-palestines-climate-apartheid-is-being-depoliticised/> (accessed 23 February 2022).

national authorities.⁴⁶⁸ For sure, improved policies based on appropriate analysis of countries and their ecological and societal situations must be drafted and implemented. This means that all communities and minorities should be included and considered during the decision-making process, such as women, indigenous people and the poorest since are the most exposed to face inequalities issues.

5.1 Gender vulnerability and women in climate change

After the start of the debate around climate change and its effect on human well-being, international organizations and NGOs underlined how this phenomenon exacerbated already existing inequalities, especially between men and women. Indeed, women are more vulnerable to climate change than men since women and men experience climate change differently. There are, in fact, three ways in which women are more vulnerable: by biological differences, by following already existing social norms and by new forms of gender discrimination.⁴⁶⁹ Climate change embraces all of them.

Not only do developing countries suffer the most but poor women in developing countries are also among the most vulnerable because of their role in productive systems. In developing countries such as Africa, women have responsibilities regarding food security and the facility of water and energy for the household. For this reason, climate-related events like drought or rainfall negatively affect their capability to carry out these activities, even because extreme climate events influence the quality and quantity of natural resources available for human use. Also, girls are sometimes obliged to drop out of school to contribute to the collection of water and harvesting. This, obviously, has long-term consequences for their education and future.⁴⁷⁰ Equally, old women suffer from heat stress and malnutrition caused by climate-related events and at the same time, they do not know how to access public or community health services. In fact, elderly women suffer also from inequalities due to economic and social deprivation linked to the inability to access jobs, education, technology and credit services which affect their capacity to access services that could help them to adapt to climate change.⁴⁷¹ However, we should underline also women capabilities and contributions because women are powerful actors of change with their exclusive knowledge and expertise. In many countries, especially developing countries, women are the leaders in resource management of the communities

⁴⁶⁸John, J. (2022). Climate Apartheid: Politics Around Climate Change Inflicted Inequalities. PREPRINT (Version 1) available at Research Square.

⁴⁶⁹Godwell, N. (2014). Addressing women in climate change policies: A focus on selected east and southern African countries, *Agenda*, 28:3. Pp.156-167

⁴⁷⁰Plan International. (2021). 5 Ways Climate Change Is Disrupting Girls' Lives. Available at 5 ways climate change is disrupting girls' lives. Plan International. Available at plan-international.org (accessed 23 February 2022).

⁴⁷¹Demetriades, J., & Esplen, E. (2010). The gender dimensions of poverty and climate change adaptation. *Social dimensions of climate change: Equity and vulnerability in a warming world*, 133-143.

in which they live. They perform agricultural activities such as planting and caring for seedlings on plantations.⁴⁷² Linked to such activities, women are also responsible for food security in their communities and climate change can directly affect food production, distribution and price. For example, the unconventional temperature can reduce the rainy season, which influences the growing patterns. Women gather and produce food, collect water and source fuel necessary for heating and cooking. All of these are difficult to perform with climate change, with droughts and floods for example.⁴⁷³ For these reasons, women should play a central role in adaptation and mitigation strategies. Because of the daily tasks, women have the correct understanding of what is needed in order to adapt to changing environments and formulate practical solutions. However, due to the social and economic limits women face, in those communities the most at risk, they are not participating in shaping good and sustainable policies. Women's empowerment and advancing gender equality can provide results in numerous sectors and bring a total green shift to the political agenda.⁴⁷⁴ Yet, there is a general lack of attention to gender in climate change because of the uncertainty produced by climate change. For sure, the vulnerability of women is taken for granted, therefore, even if there is a universal consensus on their disadvantaged position, this assumption obstacles women in presenting their concerns. This automatically strengthens the differences between men and women. Even because, the generalization overshadows the vulnerability of other groups, equally at risk. Especially in societies where women have the classic and constructed male roles, women are not able to present their problems, and this reinforces the differences and hides climate issues like droughts and famine.⁴⁷⁵ As already explained, women have responsibilities that make them closely dependent on nature, this gave women deep and extensive environmental knowledge and experiential expertise. While in the early 1980s, there was much emphasis on women as victims of environmental degradation, by the end of the decade, the positive image of women as efficient environmental managers and conservers of resources was far more prominent. This close relationship between women and the environment is at the center of ecofeminism. The latter sustains that women and nature are connected because both are experiencing oppression by institutions and Western culture that have a high degree of patriarchy.⁴⁷⁶ Basically, women's inequalities for years have been

⁴⁷²Hannan, C. (2009). Gender Mainstreaming Climate Change. *Kvinder, Køn & Forskning* Nr. 3-4

⁴⁷³Parvin, G. et al. (2013). Impacts of climate change on food security of rural poor women in Bangladesh. *Management of Environmental Quality: An International Journal* 24.

⁴⁷⁴Phiri, K., Ndlovu, S. & Chiname, TB. (2013). Climate Change Impacts on Rural Based Women: Emerging Evidence on Coping and Adaptation Strategies in Tsholotsho Zimbabwe. *Mediterranean Journal of Social Sciences*, volume 5 issue 23. P. 2545 – 2552.

⁴⁷⁵Kameri-Mbote, P. (2013). Climate Change and Gender Justice: International Policy and Legal Responses. In Ruppel O., Roschmann C., & Ruppel-Schlichting K. (Eds.), *Climate Change: International Law and Global Governance: Volume I: Legal Responses and Global Responsibility*. Baden-Baden: Nomos Verlagsgesellschaft mbH. Pp. 323-348

⁴⁷⁶Leach, M. (2007). Earth Mother Myths and Other Ecofeminist Fables: How a Strategic Notion Rose and Fell. *Development and Change*, 38: 67-85. <https://doi.org/10.1111/j.1467-7660.2007.00403.x>

simplified, making suffer single identities and interests, in order to include gender violations into the political agenda. It is easier for the institutions to embrace women as victims instead of including them as agents of positive change to shape policies addressing the complexity, which produces gendered vulnerability and the power relations that characterize it.⁴⁷⁷ The rising climate justice debate focuses on framing the existing social differences during the climate change negotiations; indeed, the goal is to achieve agreements and policy regimes that can tackle these issues.⁴⁷⁸

Scholars explained that the lack of attention to gender issues originated from a masculine understanding of social issues that is still prominent. To contrast this approach, several frameworks have been shaped in order to analyze the social aspects of climate change by looking at the areas weakened by the phenomenon. Among these, there are sustainable development, climate justice, human rights and ethics. Unfortunately, gender equity is still not central in climate discourse, especially at the level of the decision-making process.⁴⁷⁹ Regarding this, however, the United Nations initiated the discourse addressing the issue to the international community by publishing reports, research and organizing conferences focused on women and the climate effects.

Since the 90s, with the creation of the UNFCCC, the United Nations has been the leader in negotiating an international climate regime that could fight the advancement of global warming which threatens human survival. Thus, States have negotiated and consequently signed the official texts of the Kyoto Protocol⁴⁸⁰ and the Paris Agreements⁴⁸¹, the two main official documents that shape the international response to fight climate change. Yet, the social dimensions of climate change, including its impact on gender relations are still missing in any documents. On one hand, the central mandate of the UNFCCC was to negotiate an agreement able to limit GHG emissions and build a scientific consensus regarding climate change. Fortunately, the UN is always the first in line in noticing the rise of new global issues, such as the gender dimension of climate change which is being sensitized by the organization in the last decade. Even though there is no official mention in the text agreed by the States or in the constituent texts of the UNFCCC or UNEP, the gender dimension indeed is a current and frequent issue debated by the UN. For example, the gender dimension of climate change can be weakly read in the preamble of the action plan realized during the UN Climate Change Conference⁴⁸²

⁴⁷⁷Cornwall, A., Harrison, E., & Whitehead, A. (2007). Gender myths and feminist fables: The struggle for interpretive power in gender and development. *Development and Change*, 38(1), 1–20

⁴⁷⁸Resurrección, B.P. (2013). Persistent women and environment linkages in climate change and sustainable development agendas. *Women's Studies International Forum*, Volume 40, Pp.33–43

⁴⁷⁹Terry, G. (2009). No climate justice without gender justice: An overview of the issues. *Gender and Development*, 17(1), 5–18.

⁴⁸⁰The Kyoto Protocol 1997, FCCC/CP/1997/L.7/Add.1 (<https://unfccc.int/documents/2409>)

⁴⁸¹UNFCCC, The Paris Agreement, 2015 (<https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>)

⁴⁸²UNFCCC, the Bali Climate Change Conference, COP 13, December 2007

in Bali, in December 2007, where is addressed together with the social development and poverty alleviation sections.⁴⁸³

Besides, the strategy chosen by the UN is that of gender mainstreaming which is promoted in every meeting but also applied in all of the UN agencies. The Gender Mainstreaming approach aims at achieving gender equality by exposing gender as a socially constructed phenomenon in order to reshape in more equitable arrangements the way gender is included in the political agenda. Following its definition, Gender Mainstreaming is now viewed as the process of reorganization, improvement and development of policy processes in order to include gender equality at all the stages and dimensions of policymaking. What is also crucial to underline is that inclusion is supposed to be made by the policy actors, only in this way, equality can be achieved.⁴⁸⁴ Unfortunately, this promising process did not proceed as expected. The first reason is that it was developed by radical NGOs and women's lobby groups operating at the transnational level. Then, the concept seems to be unclear about what is its vision because gender mainstreaming approaches are shaped in cultural contexts, they might be interpreted differently. A third explanation is that sometimes policies instead of being gendered reinforce gender inequalities based on how they define the issue addressed. A fourth explanation for the failure is the unwillingness of key actors to commit to gender equality, especially at state bureaucratic levels. Lastly, in the local contexts and institutions where these practices and processes are supposed to be developed, these bodies are gendered too.⁴⁸⁵ Still, gender is the right starting point for analyzes because it highlights the inequalities between men and women and the implications of these differences in order to reduce them. Regarding climate change, gender mainstreaming can be a solution to ensure that in climate mitigation and adaptation, women and men can benefit from equality by transforming the mainstream.⁴⁸⁶

Gender mainstreaming in climate negotiations appeared for the first-time during COP-13 when states, organizations and NGOs conveyed a common commitment. Thus, gender equality is now one of the essential principles included in mitigation and adaptation policies. This is partially the consequence of the importance gained by climate justice. Gender activists have claimed for years to change the current climate perspective, focused only on technologies and emission markets that did not include justice in policies and mechanisms. Even because this lack of justice dimension was

⁴⁸³Ibid., preamble, p.3

⁴⁸⁴Padovani, C. (2016). Gendering the European Digital Agenda: The Challenge of Gender Mainstreaming Twenty Years after the Beijing World Conference on Women. *Journal of Information Policy*, 6, 403-435. [doi:10.5325/jinfopoli.6.2016.0403](https://doi.org/10.5325/jinfopoli.6.2016.0403)

⁴⁸⁵Alston, M. (2007). Gender mainstreaming and climate change. *Women's Studies International Forum* 47, 287–294.

⁴⁸⁶Pratiwi, N., Rahmawati, Y., & Setiono, I. (2016). Mainstreaming gender in climate change adaptation: A case study from Cirebon, Indonesia (pp. 40-45, Rep.). International Institute for Environment and Development. Retrieved February 21, 2021, from <http://www.jstor.org/stable/resrep18050.10>

partially the reason the entire framework is inefficient.⁴⁸⁷ Furthermore, COP13 even if did not bring big changes, for the first time a global civil society network of women was established. This group published papers and reports in order to insert women's and gender perspectives into the negotiations. This led to a series of activities on women's and gender issues which contributed to highlighting the issue and these efforts are still seen today as we saw greater growth in the concerns raised about the gender dimension in climate change.⁴⁸⁸

One last area in which gender mainstreaming operates to address inequalities is that of women's participation in the decision-making process. In fact, women should be included comprehensively and systematically in climate change policy during all the phases: development, implementation and evaluation.⁴⁸⁹ Indeed, women have to enjoy equal opportunities to participate in climate-related decisions, both at the international and national levels. As reported by the UNFCCC in the Gender Composition Report⁴⁹⁰, women are still underrepresented in the UN bodies, good balance was reached only by two constituted bodies in 2019. The report underlines the inconsistent changes that vary each year. In 2019 data, for example, only 5 of 15 constituted bodies had a female representation of 38%, less than in 2018 when 8 of 13 bodies touched the same percentage. Even worse, in the Clean Development Mechanism (CDM) Executive Board female representation is 10%. Furthermore, equal participation of women means greater benefits to the international community because when there is women's presence at negotiations, the quality of women's participation is impressive. Women can play a strong and generally positive role thanks to their networking and interpersonal skills and due to the general ability of women to think and plan for the long term. This allows women to develop a proactive attitude, especially with the representatives of developing countries, key to developing efficient climate policies. This type of interaction forges strong and mutual understanding links useful to build the alliance necessary during negotiations.⁴⁹¹

Climate change threatens human survival, the international community has failed to stop its advancement and the only way to survive is by implementing efficient adaptation policies. However, climate-related events have caused a new wave of inequalities in every corner of the planet. Women

⁴⁸⁷Röhr, U., & Hemmati, M. (2008). A Gender-Sensitive Climate Regime??. GenderCC — Women for Climate Justice. Available at [Microsoft Word - Conclusions for Grovers book_end_logo.doc \(genanet.de\)](#). (accessed 21 February 22).

⁴⁸⁸Hemmati, M. (2008), EMERGING ISSUES PANEL Gender Perspectives on Climate Change. Commission on the Status of Women Fifty-second session. Available at <https://www.un.org/womenwatch/daw/csw/csw52/panels/climatechange/M.Hemmati%20Presentation%20Climate%20Change.pdf>. (accessed 4 March 2022)

⁴⁸⁹Dankelman, I. (2010). Gender and Climate Change: An Introduction. Routledge. Pp 173 - 190

⁴⁹⁰UNFCCC. (2019). Women Still Underrepresented in Decision-Making on Climate Issues under the UN. UNFCCC. Available at <https://unfccc.int/news/women-still-underrepresented-in-decision-making-on-climate-issues-under-the-un>

⁴⁹¹ Hemmati, M., & Röhr, U. (2009). Engendering the climate-change negotiations: Experiences, challenges, and steps forward. *Gender and Development*, 17(1). Pp.19-32

result to be the most vulnerable, especially in those countries where they have responsibilities, which are strictly reliant on weather patterns and natural resources, such as food and fuel. Consequently, women have obtained deep and extensive environmental knowledge and expertise. For this reason, the debate should go beyond the classic discourse that sees women only as victims of environmental degradation. A new, positive and proactive image of women is essential to stress the benefits that their participation in the climate decision-making process could bring.

The aim of this section was to underline that women play a multifaceted and critical role in the context of climate change, both as disproportionately affected stakeholders and as powerful agents of change. Understanding and addressing the gender dimensions of climate change is essential for effective and equitable climate action. Empowering women, recognizing their contributions, and addressing their unique vulnerabilities is not only a matter of human rights and social justice, but also a strategic imperative for building a more resilient, equitable, and sustainable future in the face of climate change.

5.2 Indigenous populations

When speaking about the victims of the climate crisis, indigenous people are the first group to be indicated as vulnerable. At the same time, their natural knowledge and resilience put them at the frontlines of climate adaptation. Indigenous people have been able to pass their secrets and traditions, which create a strong connection with the environment, through generations but lack the correct resources to respond adequately to the climate crisis. Consequently, researchers have reported countless tribal communities who suffer from severe climate change impacts such as deviations and loss in cultural species, and land loss due to erosion or flooding. This environmental and climate crisis is amplifying injustices and discrimination that started during the colonialism era.⁴⁹²

According to the UN, there are 476 million indigenous people that live in 90 countries across the world, corresponding to around 6% of the global population and divided into more than 5,000 distinct groups.⁴⁹³ These millions of people practice unique traditions and own their social, cultural, economic and political characteristics distinctly from those of the societies in which they live, from the Arctic to the South Pacific.⁴⁹⁴ There is no universal definition of indigenous and tribal peoples, the ILO

⁴⁹²See the Status of Tribes and Climate Change Working Group (STACCWG), (2021). Status of Tribes and Climate Change Report, Institute for Tribal Environmental Professionals, Northern Arizona University, Flagstaff, AZ. [Marks-Marino, D. (ed.)] <http://nau.edu/stacc2021>

⁴⁹³See the United Nations Indigenous People, available at <https://www.un.org/en/fight-racism/vulnerable-groups/indigenous-peoples>

⁴⁹⁴See the World Bank Indigenous People available at <https://www.worldbank.org/en/topic/indigenouspeoples>

Convention No. 169⁴⁹⁵ contains a definition that tries to include both objective and subjective criteria for identifying the peoples. Article 1 reports that indigenous people are:

*“tribal peoples in independent countries whose social, cultural and economic conditions distinguish them from other sections of the national community, and whose status is regulated wholly or partially by their own customs or traditions or by special laws or regulations”*⁴⁹⁶

However, most of the time, these groups are known by the terms “*native peoples*”, “*aboriginal peoples*” and “*first nations*” which underlines the link with the national territory in which are situated. Following the commitment to respect their diversity and protect their identity, the convention uses the inclusive terminology of “*indigenous and tribal peoples*” attributing the same set of rights to both groups.⁴⁹⁷

Indigenous groups can be found in different areas of the planet but from every angle, they suffer from climate consequences. In the Arctic, we can find around 400,000 indigenous peoples and here global warming is felt twice as hard. In this geographic area, there are the Sami people of northern Norway, Sweden, Finland and Russia who observed the first signs of climate change in the 1980s due to an increase in winter rainfall. As already explained in this chapter, these populations are deeply anchored in their traditions and survive by hunting and fishing, the latter with higher temperatures, increased rainfall and melting of ice platforms are difficult to perform. This difficult situation is also experienced by the animals that will be haunted, for example, reindeer starve because do not find flora to eat and risk their life by walking on the melting platforms. In addition, hunting or guarding reindeer defines the status of these people, without them they feel like nothing, and their identity is missing. As anticipated, indigenous people know and share their natural knowledge, for example, they are able to identify the rainy season, but as the weather patterns have changed, they are not able to plant crops correctly with the risk of wasting their resources.⁴⁹⁸ There are numerous examples that can be brought to explain their link with the environment such as their ability to nurture rare plants or to maintain mammals. Moreover, some African and Asian groups preserve traditionally some forest areas where animals and plants are not endangered by human presence. Overall, nature for them is an essential part of their society to the point that having proper relations with nature is indispensable to having relations with other individuals.⁴⁹⁹ However, climate change impacts are also

⁴⁹⁵See the Indigenous and Tribal Peoples Convention, 1989 (No. 169), https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_ILO_CODE:C169

⁴⁹⁶Ibid., Art. 1

⁴⁹⁷ILO. (n.d.) Who are the indigenous and tribal peoples?. ILO. Available at https://www.ilo.org/global/topics/indigenous-tribal/WCMS_503321/lang--en/index.htm

⁴⁹⁸Baird, R. (2008). The impact of climate change on minorities and indigenous peoples. *Briefing*. *Minority Rights Group International: London*.

⁴⁹⁹Alcorn, JB. (1993). Indigenous Peoples and Conservation. *Conservation Biology*, 7(2). Pp.425

related to knowledge and culture, for example, Australian indigenous how the flooding risks have a direct impact on their cultural sites impeding the interchange of their cultural knowledge.⁵⁰⁰

Thus, their proximity to the environment meant that indigenous people were among the first to notice the disastrous effects of climate change. For this, since 2013, indigenous representatives participated in meetings at international conferences and have also created other forums to enable their consideration when debating human rights and environmental protection. Even from their publications, indigenous people are highly motivated to contribute to the cause as it is vital to their own survival. In fact, their desire to stop oil companies from their extraction activities corresponds to the very same interest declared by environmental groups and international organizations expressed in regulation to reduce greenhouse gas emissions and global warming. The two interests are perfectly combined because protecting the well-being of indigenous peoples means protecting their culture, traditions and biodiversity contributing to finding alternative energy sources methods.⁵⁰¹ However, not only their traditions are at risk but their integration into the society. In Australia, for example, the exposure of Indigenous Australian groups to climate impacts is combined by with already existing socio-economic disadvantages. These are inadequate health and educational services, insufficient infrastructure and limited employment opportunities that find their origins in colonial and post-colonial periods.⁵⁰² This is why scholars stress that climate impacts should not be alienated from social justice and historical issues, even in climate adaptation policies that should be drafted following the needs of the local communities giving them opportunities for community engagement.⁵⁰³

At the same time, we must notice that the debate regarding Indigenous peoples and the injustices caused by climate change suffers from additional inequality. In fact, their vulnerability is unequal among the different regions because it reflects the national political circumstances, the risks posed by climate and engagement by Indigenous Peoples Organizations and their communities in advocacy activities. In this regard, the role of the media in the national and international discourse on Indigenous issues is deeply influenced by them shaping how national authorities perceive their vulnerability.⁵⁰⁴

⁵⁰⁰Nurse-Bray, M., Palmer, R., Smith, TF. & Rist, P. (2019). Old ways for new days: Australian Indigenous peoples and climate change. *Local Environment* 24:5. Pp.473-486

⁵⁰¹Etchart, L. (2017). The role of indigenous peoples in combating climate change. *Palgrave Commun* 3, 17085. <https://doi.org/10.1057/palcomms.2017.85>

⁵⁰²Dunlop, M., & Brown, P. (2008). Implications of Climate Change for Australia's National Reserve System: A Preliminary Assessment. Canberra, ACT: CSIRO Sustainable Ecosystems Report to the Department of Climate Change and the Department of the Environment, Water, Heritage and the Arts.

⁵⁰³Hill, R., & Lyons, P. (2014). Adaptation Pathways and Opportunities for Indigenous Peoples. In *Adaptation Pathways and Opportunities for the Wet Tropics NRM Cluster Region: Volume 2: Infrastructure, Industry, Indigenous Peoples, Social Adaptation, Emerging Planning Frameworks, Evolving Methodologies and Climate Adaptation Planning in Practice*. edited by Catherine Moran, Stephen M Turton, and Rosemary Hill. Pp.144–167.

⁵⁰⁴Boykoff, J. (2012). US media coverage of the Cancún climate change conference. *PS: Political Sci Politics* 45:251–258. <https://doi.org/10.1017/S104909651100206X>Return to ref 2012 in article

Initially, the image of the Indigenous peoples as victims was used to stress the necessity to implement mitigation policies. For example, the Inuit Case, described above, has been useful also to other indigenous groups to put climate at the center of their difficulties making the problem a reality. In adaptation policies, instead, indigenous people were seen as simple and isolated cases of how difficult is to act locally in the climate crisis. Some scholars, therefore, underlined that the Indigenous distress was sold to mitigation policies to convince the public so that they could share those initiatives that do not include exclusively Indigenous population. This demonstrates why it is crucial that Indigenous peoples should be included in mitigation decision-making instead of being ignored.⁵⁰⁵ This means that their severe conditions are also linked to their relationship with national authorities and the rest of society. There is no doubt that the relationship among these actors should be based on mutual responsibility in coordinated climate action. It is not a surprise that in societies where there are higher levels of trust, consent, and reciprocity there is more probability of working together and successfully to achieve environmental protection and social justice quickly and justly when they are required.⁵⁰⁶

In conclusion, recognizing and respecting the rights and knowledge of indigenous peoples is not only a matter of justice but also a critical component of effective climate change mitigation and adaptation. Inclusive policies and initiatives that empower indigenous communities in the face of climate challenges are vital for building a more resilient, sustainable, and just future for all.

⁵⁰⁵Belfer, E., Ford, J.D. & Maillet, M. (2017). Representation of Indigenous peoples in climate change reporting. *Climatic Change* 145. Pp.57–70

⁵⁰⁶Whyte, K. (2020). Too late for indigenous climate justice: Ecological and relational tipping points. *WIREs Clim Change*; 11:e603. <https://doi.org/10.1002/wcc.603>

PART IV JUSTICE, LAW AND LITIGATIONS

Fighting climate change requires commitments based on the three pillars of power: the legislative power drafts ad hoc laws, the executive power implements those laws, and the judiciary power reviews laws and solves disputes. Regarding the third power, in particular, courts and judges have a pivotal role in holding governments or private actors accountable for effectively addressing climate change. Ever since the international community has framed human rights in international and domestic laws, it is possible to enforce them and claim a violation that is to be judged by competent powers. In simple words, taking the Universal Declaration of Human Rights as an example,⁵⁰⁷ is not legally binding, whereby human rights included are also enshrined in the constitutions of states that have ratified the declaration. A violation of this can be invoked before a national court and following the domestic rules of the litigation process, some cases proceed and arrive at the Supreme or Constitutional Courts, the highest in the hierarchy.

The same is the case for the rights contained in the "European Charter of Fundamental Rights".⁵⁰⁸ Every time a state fails to guarantee or fulfil a right towards its citizen it must be liable for its behavior. Moreover, the state has the responsibility to respect the Constitution. Dedicating several norms in constitutional documents to the recognition of human rights is a way to ensure certainty of access to justice if a state violates these rights. Most human rights instruments were framed before environmental discourse started and long before people started to claim a safe, clean, healthy and sustainable environment. In addition to this narrative, only a few human rights instruments recognize environmental degradation as an impediment to the enjoyment of human rights. Consequently, individuals who may suffer from any kind of environmental degradation can only claim justice indirectly from human rights bodies, demonstrating a violation of their rights to life, food, water and so on. For this intent, climate litigations are the subject of the study here. These cases have been described as a subcategory of international human rights litigations through which victims of climate change can obtain the recognition of damages from companies, states and those responsible for CO₂ emissions. Thus, it allows access to justice for individuals creating a harder form of accountability for governments.

This chapter explores climate litigation as the main tool to enhance the protection of human and environmental rights. Before doing so, the work analyzes what "justice" can mean when speaking

⁵⁰⁷See United Nations General Assembly. The Universal Declaration of Human Rights (UDHR). New York: United Nations General Assembly, 1948.

⁵⁰⁸See Council of Europe. "Convention for the Protection of Human Rights and Fundamental Freedoms." Council of Europe Treaty Series 005, Council of Europe, 1950.

about environmental or climate injustices and it compares the debate on how to guarantee justice by looking at the cosmopolitan notion of justice as it might seem the most appropriate following the international characteristics of climate change. After having reported how the notion of climate justice was developed and how it is currently being adapted to different human necessities. The analyzes will then report how the realization of justice has seen new actors such as young people who have organized protests all over the world to be heard by governments. The framework of climate justice here reported will be concluded by examining climate litigation by looking at their classification of and reporting the debate that surrounds the non-fixed definition issue. As climate litigation is now duplicated in numbers and can be found at all levels of jurisdiction, a comparison of courts is here reported to show what the different courts can achieve in climate matters. A final comment is made regarding arbitration to underline the differences and their utility compared to climate litigation in achieving climate justice.

1. Achieving justice in climate disasters

As demonstrated, the climate crisis raised significant issues regarding the unequal exposure and resilience of different social groups. The consequence step is guaranteeing justice to those groups but what is justice and how can we achieve it?

Attempts to answer these questions can be traced in the global environmental justice discourse. After all, the unfairness and inequities rooted in climate change originating from human activities result in disasters that almost every dynamic of the planet could be responsible for.⁵⁰⁹

When we speak of justice, it can be useful firstly to analyze, even if briefly, the different theories and concepts in order to find a link with environmental injustices. Justice can be analyzed through the libertarian model where individual rights are central and therefore individuals owe moral duties to others, or through the egalitarian model that sees equality and fairness as essential for matters for justice.⁵¹⁰ One of the first authors who spoke about justice was Rawls. In his theory of justice, he developed the concept of fairness by highlighting the importance of the public use of reason for a liberal society as opposed to the problem of reasonable disagreement for a good life and a just society.⁵¹¹ As we nowadays know, public reason and deliberative democracy necessitate constitutional guarantees of basic equal rights, for example, freedoms to participate in public

⁵⁰⁹Clark, N., Chhotray, V. Few, R. (2013). Global justice and disasters. *The Geographical Journal*, 179: 105-113. <https://doi.org/10.1111/geoj.12005>

⁵¹⁰Quinn, M. (2019). *Justice and Egalitarianism: Formal and Substantive Equality in Some Recent Theories of Justice*. Regno Unito: Taylor & Francis.

⁵¹¹Rawls, J. (1999). *A Theory of Justice*. Regno Unito: Harvard University Press.

discourses or the independent judicial protection of basic rights. These are also legal requirements for public debate to find a consensus on the principles of justice.⁵¹²

Going back to climate change, environmental justice supporters refuse to have a universal definition of justice, they refer mainly to the notion of “*perceived injustice*” based on unreasonable inequalities and the lack of fair treatment for people and social groups that are already marginalized and disadvantaged.⁵¹³

However, climate change is a global issue, consequently, the injustices provoked by climate events have a global nature and global theories of justice might be beneficial to achieve global justice. Moreover, the atmosphere does not respect national boundaries and global warming is caused by rich people despite their nationality and suffered by poor people despite their nationality. So, the primary responsibility is attributed to the millions of people who emit half of the world’s carbon in their rich countries of the North.⁵¹⁴ Still, the climate crisis raises several questions of justice. First of all, the primary question of justice regards the duties of the present generations towards future generations which is a question of intergenerational justice. Then, the second question of justice interests the division of emission rights, burdens and benefits of the present generations, especially among developing and developed countries which is a global justice matter. The last question of justice regards the future vulnerable people to climate change which is another question of global justice with intergenerational considerations.⁵¹⁵

Overall, social justice is strictly linked to environmental issues, several debates seem pertinent to climate change. Analyzing cosmopolitanism can be useful due to its universal moral community that appears to be a correct fit for climate matters. For example, it supports emissions trading if it is effective and does not cause any violations of human rights.⁵¹⁶ Then, the political scholars of cosmopolitans look at the geographical extent of emissions trading to assess the evolving network of global institutions keen on the protection of the environment. Additionally, economic cosmopolitans support that the international emissions markets can be a challenge to all of the regulatory and protectionist trends in the global economy.⁵¹⁷ However, cosmopolitans claim that duties of justice can exist also in the international community, not bound by national borders. For example, in the

⁵¹²Petersmann, E. (2008). Human Rights, International Economic Law and ‘Constitutional Justice’. *European Journal of International Law*, Volume 19. Issue 4. pp. 769–798, <https://doi.org/10.1093/ejil/chn041>

⁵¹³Walker, G. & Bulkeley, H. (2006). Geographies of environmental justice. *Geoforum* 37 655–9

⁵¹⁴Jamieson, D. (2010). Climate Change, Responsibility, and Justice. *Sci Eng Ethics* 16, 431–445 <https://doi.org/10.1007/s11948-009-9174-x>

⁵¹⁵Meyer, L. & Roser, D. (2006). Distributive Justice and Climate Change. The Allocation of Emission Rights. *Analyse & Kritik*, 28(2), 223-249. <https://doi.org/10.1515/auk-2006-0207>

⁵¹⁶Page, E. (2009). License to kill? Cosmopolitanism, climate change and global emission trading. In *5th ECPR General Conference, Potsdam University, Potsdam*.

⁵¹⁷Page, E. (2011). Cosmopolitanism, climate change, and greenhouse emissions trading. *International Theory*, 3(1), 37-69. doi:10.1017/S1752971910000333

egalitarian distributive justice model, justice can only occur between people subject to a common coercive legal structure, which is represented by the states.⁵¹⁸ Yet, some cosmopolitans support the idea that duties of social justice belong to each person and to all other persons, without the limits of state coercion or common national cultures, thus there are no limits to duties. This view can focus on human rights and their universal nature as they can be violated by international practices and governments.⁵¹⁹ Additionally, cosmopolitans distinguish the burdens of climate change in a way that delivers allowances to developing countries. This could frame an associative duty able to establish a new form of political authority at the global scope that can make collective decisions addressing global warming and realistically enforce those decisions. Indeed, we found our communities in a difficult position, both for states and future generations, that claim a new duty of justice under a global political project to address the human impact on our climate. Nevertheless, the political notion of justice is reliant on the “*collective goods justification*” of the state, even in environmental matters as it claims that the state is needed to provide a set of goods indispensable for the well-being of the society and protection of our rights.⁵²⁰ In climate terms, this means avoiding damaging levels of GHG emissions as a global public good. GHG emissions are produced by numerous sectors in our economies, thus, numerous actors and types of interests are involved. This results in a lack of interest by the parties to cooperate voluntarily without the interference of coercive political institutions.⁵²¹ Consequently, an effective climate change regime based on this voluntary cooperation would be ideal but is currently missing. In this, the role of an international authority would help to coordinate states' actions while supervising the compliance of these actions. Central is the principle of requiring nations to make reparation for historic acts of injustice which seems to not be applied when speaking of global warming unless it is said that injustices lay on not having an equal opportunity to emit GHG gases.⁵²² Still, as Rawls wrote, there is the natural duty of justice to generate institutional conditions that create active and collective choices. The natural duty of justice is the main argument when justifying the political authority applied by states to individual subjects to justify their political duties in their communities, even without their consent.⁵²³

⁵¹⁸Miller, D. (2007). *National Responsibility and Global Justice*. New York: Oxford University Press; 264.

⁵¹⁹Pogge, T. (2008). *World Poverty and Human Rights*. 2nd ed. London: Polity Press. 364.

⁵²⁰Maltais, A. (2008). Global warming and the cosmopolitan political conception of justice. *Environmental Politics*, Vol. 17, No. 4, pp. 592-609. <http://dx.doi.org/10.1080/09644010802193476>

⁵²¹Ostrom, E. (1990). *Governing the Commons: The Evolution of Institutions for Collective Action*. Cambridge: Cambridge University Press.

⁵²²Miller, D. (2009). Global justice and climate change: how should responsibilities be distributed? Parts I and II. *Tanner lectures on human values*, 28.

⁵²³Maltais, A. (2008). Global warming and the cosmopolitan political conception of justice. *Environmental Politics*, Vol. 17, No. 4, pp. 592-609. <http://dx.doi.org/10.1080/09644010802193476>

One final point of analysis is that even if it is related to the Rawlsian notions of distributive justice, cosmopolitanism challenges the idea of the restricted conception of the scope made by Rawls which is also the main justification for justice. Some scholars, indeed, support that the claims of social justice should not be regulated by arbitrary national or territorial frontiers and should in fact overcome them.⁵²⁴ This is a consequence of globalization as institutions all over the planet are now linked and found themselves bounded by mutual assistance schemes. Environmental and climate matters are deeply influenced by globalization; therefore, these cosmopolitanism views are not far from reality.⁵²⁵

Finally, the ideal cosmopolitan social democracy delivers an ethical and conceptual language on how to frame political and institutional conditions, including barriers, to achieve global social justice. In doing so, it draws from successes and failures of the current international order that includes human rights and multilateralism regarding international issues.⁵²⁶

Improving justice conditions as well as individual access to justice is a matter of enforcing the rule of law which is based on the principle that the law is supreme, and everyone is equal before the law and accountable for their actions. To improve environmental and climate justice conditions is essential to tackle the environmental rule of law.

1.1 The environmental rule of law

According to the OECD, the “*rule of law*” is a notion that indicates law supremacy, even above governments as the law, indeed, protects fundamental rights and guarantees justice to everyone. Therefore, the notion implies the existence of a set of shared standards for actions defined by law that is enforced through procedures and defended by accountability mechanisms. For this, the rule of law is the key dimension through which we can determine the quality and good governance of a country.⁵²⁷ At the same time, the rule of law has been a contested principle: first of all, regarding its nature mostly jurisprudential, then, the debate questions whether the rule of law should be interpreted in a narrow sense that creates a consistent and predictable process with fixed and transparent rules sided with limitations on governmental power, or as more normatively rich.⁵²⁸ Still, the principle underlines that authorities must be constrained by the law and their legitimated authority derives significantly from how their power is defined and constrained by public norms that represent the rule

⁵²⁴Beitz, C. R. (1999). Social and Cosmopolitan Liberalism. *International Affairs* 75: pp347-377.

⁵²⁵Frankel, J. A. (2003). The environment and globalization.

⁵²⁶McGrew, A. (2004). Cosmopolitanism and global justice. *Ritsumeikan Annual Review of International Studies*, 3(1), 1-17.

⁵²⁷OECD. (2013). Rule of law in *Government at a Glance 2013*. OECD Publishing. Paris. DOI: https://doi.org/10.1787/gov_glance-2013-9-en

⁵²⁸Waldron, J. (2008). *The Concept and the Rule of Law*. 43 Ga. L. Rev. 1, 6

of law.⁵²⁹ Environmental degradation and the climate crisis led scholars to push for shifting the notion toward environmental issues. The etymological establishment of the “*environmental rule of law*” is credited to the UNEP with its Governing Council Decision 27/9⁵³⁰ in February 2013 as the decision indeed integrated the rule of law in environmental terms to tackle environmental law violation and achieve sustainable development. In addition, the 2019 UNEP Report states that the environmental rule of law can:

“offer a framework for addressing the gap between environmental laws on the books and in practice and is key to achieving the Sustainable Development Goals ... institutions [judiciary] are key drivers of sustainable development”⁵³¹

Environmental rule of law is composed of several elements and the effective functioning of the environmental governance framework depends highly on the multiple levels of institutions, sectors, and actors that work together.⁵³² Moreover, environmental rule of law is based on fair, clear, and implementable laws. The latter derives from the original rule of law principles such as the supremacy of law, equality before the law, accountability, fairness in the application of the law, separation of powers, participation in decision-making, and procedural and legal transparency.⁵³³ The clarity in law provisions is a key element as it ensures that everyone can easily understand the implications and implement laws correctly. Clarity allows us also to understand the obligations of the authorities as laws must define responsibilities.⁵³⁴ Thus, environmental matters can use the rule of law to build a complex framework that mediates among the numerous environmental interests, even though, the environmental governance that arises is highly bureaucratic and for this vastly criticized.⁵³⁵

The inclusion of environmental matters in the rule of law is not a total surprise, the diffusion of environmental rights in national laws and documents hints at this general recognition of the relation between a safe environment and its effect on human rights. Surely, using human rights as a means for tackling environment-related harms, depends on the strength of the rule of law.⁵³⁶

⁵²⁹Cinnamon-Piñon, C. (2021). Climate Change, Human Rights, and the Rule of Law. Ohio State Legal Studies Research Paper No. 591, 25 UCLA J. Int'l L. Foreign Aff. 11 (2020-2021), Available at SSRN: <https://ssrn.com/abstract=3761842>

⁵³⁰UNEP/GC.27/17

⁵³¹United Nations Environment Programme (UNEP). (2019). Environmental Rule of Law: First Global Report. 8, 38.

⁵³²Ebbesson, J. (2010). The rule of law in governance of complex socio-ecological changes. *Global Environmental Change*, 20(3), 414-422.

⁵³³Bingham, T. (2011). *The rule of law*. Penguin Uk.

⁵³⁴United Nations Environment Programme. (2019). Environmental Rule of Law: First Global Report. UNEP. P.20

⁵³⁵Cinnamon-Piñon, C. (2021). Climate Change, Human Rights, and the Rule of Law. Ohio State Legal Studies Research Paper No. 591, 25 UCLA J. Int'l L. Foreign Aff. 11 (2020-2021), p.25

⁵³⁶Scott, J. (2019). *From Environmental Rights to Environmental Rule of Law: A Proposal for Better Environmental Outcomes*. 6 Mich. J. Env't & Admin. L. 203

One final point is that in the rule of law, the judiciary acts as the guardian of the law, which remains true also for the environmental rule of law framework. The judiciary represents the third power of states and is an independent institution that protects and enhances the values of solidarity, respect, and responsibility. The judiciary has gained an important role in transforming our societies in terms of sustainability, this is based on the fact that the environmental rule of law puts societies at the center of the sustainable path. Over the years, the judiciary has been able to make sustainability enter courts which contributed to important changes. Nonetheless, the law enforcement and compliance process along with accountability and transparency are crucial to achieving sustainability.⁵³⁷

The rule of law, however, interrogates how norms can include justice and rights, especially at the international level as countries have different legal and normative traditions that cooperate and coexist to meet common and global goals, such as fighting climate change.⁵³⁸ This aspect is reflected also in goal 16 of the Sustainable Development Goals which “*promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels*”⁵³⁹. The goal, indeed, underlines how an effective rule of law, with all its elements, is the correct tool to achieve sustainability, which is strictly linked to climate change. Thus, the rule of law enables justice, even in environmental matters and the environmental rule of law is able to achieve justice. In this regard, the notion of climate justice is crucial. Issues of justice are indivisibly linked to the climate crisis, for this, policies and laws must be drafted in order to find solutions to injustices.

2. Climate justice

The debate developed so far, along with the human rights violation reported in the previous chapter, brings the discussion on the climate justice notion that is at the center of worries of the international community.

Climate justice scholars stress that climate change is both a moral and justice issue, thus, not only a science and finance issue. Climate justice, in fact, shifted the focus on how climate change affects people differently, unevenly, and disproportionately. Consequently, the goal is to limit marginalization, exploitation, and oppression to achieve equity and justice. Obviously, the climate justice approach is based on intentionality, which is a process that assesses who is negatively affected

⁵³⁷Gill, GN., & Ramachandran, G. (2021). Sustainability transformations, environmental rule of law and the Indian judiciary: connecting the dots through climate change litigation. *Environmental Law Review*, 23(3), 228-247.

⁵³⁸Sandholtz, W. (2019). *Resurgent Authoritarianism and the International Rule of Law* 3. KFG Working Paper Series. Working Paper No. 38.

⁵³⁹See United Nation, Sustainable Development Goal 16, The Agenda 2030. <https://sdgs.un.org/goals/goal16> .

by climate change in adaptation and mitigation initiatives.⁵⁴⁰ In other words, climate change not only has an impact on the environment but modifies also the right distribution of benefits and burdens in space and time. Consequently, it widens inequalities between developed and developing countries, at the same time undermining the well-being of present and future generations. To be more precise, the communities most struck by poverty, bad health, political failure and social exclusion are the ones most exposed to air and water pollution and most affected by climate change and other global environmental problems. This is why there is a need to address climate change with a theory of distributive justice.

The current climate crisis has transformed this discourse into a “*climate justice*” movement. Mary Robinson has declared that climate justice moves the focus from justice applied to the environment to justice that must be applied to the people. This is because climate change is correlated to people’s enjoyment of food, housing and education. In fact, climate justice is “*an approach that aims to find just and fair solutions to climate crisis while protecting people and their rights*”⁵⁴¹. As utopic as can be, the goal of the climate justice theory is the elimination of emissions, only in this way the inequalities created can be erased. In this industrialized and technological era, it is impossible to reach this result to the extent that this goal makes people laugh. However, the climate justice theory, like the other distributive justice theories, has its own principles. First of all, the burdens and responsibilities for saving the environment have to be carried out by everyone, populations and nations, the same, with the same benefits. Based on this, human rights, moral and legal responsibilities should be reinvented reflecting the common but differentiated responsibility principle. At the same time, it is important that climate justice theory stays aware of specific situations, such as the small island developing state issues. But this theory also directly addresses climate negotiations and national policies because we cannot analyze this issue leaving aside the problems that those negotiations have brought. The biggest problem of a theory with a human rights approach is that there is no law incorporating the responsibility to respect them. On the other hand, there is the certainty that this kind of approach has the power to focus attention on people, and their well-being, providing at the same time moral attention during climate negotiations. This is the biggest problem at the international law level: finding a normative and common ground to frame the duties of the authorities, as well as obligations, in global climate justice, based on its principles.⁵⁴²

⁵⁴⁰Sultana, F. (2022). Critical climate justice. *The Geographical Journal* 188. Pp.118– 124.

⁵⁴¹Gearty, C. (2014). *An interview with Mary Robinson, President of the Mary Robinson Foundation – Climate Justice*. Journal of Human Rights and the Environment. Vol 5 special issue. P.18

⁵⁴²Baxi, U. (2016). *Towards a climate change justice theory?*. Journal of Human Rights and the Environment, Vol. 7 No. 1. pp.7-31

Still, the ethical discourses about climate change led to a proliferation of activities and organizations to promote climate justice. Among those initiatives, we can find the foundation of the “*Environmental Justice and Climate Change Initiative*”⁵⁴³ in 2001 which was the result of the first “*Climate Justice Summit*” held at The Hague during the COP6 meeting of the UNFCCC. Different groups of environmental justice, climate justice, and advocacy groups took part in the event to represent hundreds of communities at climate risk. While the UNFCCC operates at the global level, different regional climate justice organizations were created. Following this spotlight of attention, climate justice has been central, especially in the US, which is not surprising considering that the US is the first country to produce emissions of greenhouse gasses. Here, the “*Environmental Justice Leadership Forum on Climate Change*”⁵⁴⁴, composed of numerous local and regional environmental justice organizations, was created in 2008. Its focus is on tackling vulnerable communities and factors causing climate change. For this, the principles of climate justice elaborated by them request a zero-carbon economy and equal protection.⁵⁴⁵ In addition, and more recently, the High-Level Advisory Committee (HLAC)⁵⁴⁶ released a Declaration on Climate Justice in which world leaders are called to take action on climate change in a way to create a future that is fair and just for everyone. The Declaration summarizes five priorities that must be achieved. The first priority is to give a voice to those most affected by climate change, listen to their solutions and inspire them to act. The second priority is to find a new way to grow the economies, this means that by limiting the emissions there is the possibility to transform the economic systems based on low-carbon production which also creates inclusive sustainable development and reduces inequalities. Third, the committee wants authorities to invest in future policies to reduce climate risks. The fourth priority is the commitment linked with accountability because to reach climate justice there is the need to fix weak governance. The last priority mentioned is the rule of law. A strong legal framework is crucial to guarantee transparency, credibility, longevity and effective implementation of climate policies.⁵⁴⁷

⁵⁴³See UNECE, *Environmental Justice and Climate Change Initiative* available at <https://aarhusclearinghouse.unece.org/resources/environmental-justice-and-climate-change-initiative-ejcc>

⁵⁴⁴See *Environmental Justice Leadership Forum on Climate Change* available at <https://www.weact.org/campaigns/ejforum/>

⁵⁴⁵Schlosberg, D. & Collins, LB. (2014). *From environmental to climate justice: climate change and the discourse of environmental justice*. WIREs Clim Change. doi:0.1002/wcc.275

⁵⁴⁶The High-Level Advisory Committee (HLAC) is composed by 23 leaders representing all regions of the world including representatives from government, private sector, civil society and academia. They provide advice and strategic guidance about climate justice. (<https://www.wri.org/our-work/project/climate-justice-dialogue/high-level-advisory-committee>)

⁵⁴⁷See The May Mary Robinson Foundation- Climate Justice and the World Resources Institute “*Declaration On Climate Justice*”, the High Level Advisory Committee, September 2013 (<https://www.mrfcj.org/media/pdf/Declaration-on-Climate-Justice.pdf>)

From this analyzes, climate justice can be understood as a global social movement, especially because climate change is a global issue and must be treated in this way. Yet, the relationship between social movements and climate change is receiving attention only recently. On one side, those who study social movements define and analyze them in political terms, on the other hand, social scientists who study climate change have ignored social movements focusing their attention on negotiation and institutions concerned with climate change. But these global social movements have helped to better understand the climate change issue, even on a political level.⁵⁴⁸ Additionally, when looking at the international dimension of the climate crisis, we tend to ignore that equity and justice issues occur mainly at the local level. The latter has received less attention than the international level. This is also a problem as climate action and adaptation projects cause more inequalities in developing countries, creating the classic “winners and losers” debate that surrounds climate plans.⁵⁴⁹

An effective climate justice framework would establish more equal responsibilities and provide developing countries with more control and ownership over climate actions. Consequently, they would even benefit more from climate finance and effectively address their needs. Often, this lack of control of developing countries is a consequence of a general concern about their corruption and public fund mismanagement. Climate justice, indeed, could create an equal power balance, while still taking into consideration corruption and fund mismanagement.⁵⁵⁰

Climate justice can be achieved through the four pillars of climate justice. The first one is the distributional pillar. The distributive dimension of climate justice underlines how costs and benefits, or even social goods currently are allocated wrongly across space and time in our societies. For example, racialized, gendered and class-based discrimination can be noticed in access to resources other than in the impact of climate solutions.⁵⁵¹ In this case, women are intensely disadvantaged because of existing cultural and social norms that tend to exacerbate the impacts of climate change, as already said.⁵⁵² The second pillar is procedural justice, which tackles the decision-making processes and responses to climate change that must be fair, accountable, and transparent. Just procedures are essential to regulate the distribution of goods across the communities while having transparent and accountable decision-making processes that include also access to information and

⁵⁴⁸Jamison, A. (2010). *Climate Change Knowledge and Social Movement Theory*. Wiley Interdisciplinary Reviews: Climate Change. pp 811-823

⁵⁴⁹Thomasa, DSG. & Twyman, C. (2005). Equity and Justice in Climate Change Adaptation Amongst Natural-Resource-Dependent Societies. *Global Environmental Change*, 15, 115–124.

⁵⁵⁰Jafry, T. (Ed.). (2018). *Routledge Handbook of Climate Justice* (1st ed.). Routledge. <https://doi.org/10.4324/9781315537689>

⁵⁵¹Terry, G. (2009). No climate justice without gender justice: An overview of the issues. *Gender and Development*, 17(1), 5–18.

⁵⁵²Hoare, N. (2018). *Activists, defenders, investigators: These are the women who inspire us*. Global Witness. <https://www.gcu.ac.uk/climatejustice/>

meaningful participation in decision-making.⁵⁵³ The third pillar recognizes that justice aims at the recognition of the differences among indigenous and marginalized groups that experience daily cultural, social and political marginalization and discrimination. For this, it encourages that these groups should be guaranteed a fair representation without alteration or fear of punishment.⁵⁵⁴ The final and fourth pillar is obviously intergenerational justice.⁵⁵⁵ This last one lived a particular revival in the last couple of years with the Fridays for Future campaigns and the engagement of youth movements⁵⁵⁶ with climate justice. As already anticipated, justice for future generations is one of the main claims in the climate justice debate that pushes for the accountability of the current generation of decision-makers and polluters for their failure to fight climate change.

A few final comments must be made in order to address also the critics that surround the climate justice notion, not for the sake of the critics but because they can be points of improvement to implement a better framework of justice. First of all, scholars and activists remain split regarding the scale of the fair distribution of emissions reduction burdens and tackling climate impacts under the UNFCCC, in this sense the discussions focus on uneven responsibility, debts and historical inequalities of societies.⁵⁵⁷ The second issue is that most of the adaptation theories tackle the question of scale moving their attention to the local level while this level should also be analyzed on how it interacts and somehow supports the marginalization practices that enhance dynamics of exclusion by local powers.⁵⁵⁸ The third critic moved is that climate justice emphasizes human experiences and needs, having an anthropocentric approach supporting the idea of human exceptionalism, for this reason, we should take into account not only interhuman and intergenerational perspectives but also multispecies ones.⁵⁵⁹

The final comment wants to underline that the theorization of climate justice here described is highly influenced by European and North countries studies. In fact, it is well known that the assumptions of global justice, individualized rights, and responsibilities of nation-states in protecting and enforcing rights for the citizens have a universal nature.⁵⁶⁰ This seems, in fact, to exclude those contexts with authoritarian or weak regimes with violent episodes and a lack of democratic values

⁵⁵³Sovacool, B., & Dworkin, M. (2014). *Global energy justice: Problems, principles and practices*. CUP.

⁵⁵⁴Fraser, N. (2000). Rethinking recognition. *New Left Review*, 3, 107.

⁵⁵⁵Page, E. (2006). Climate change. In *Justice and future generations*. Edward Elgar.

⁵⁵⁶The role of the youngest is developed along this chapter in the next sections.

⁵⁵⁷Parks, B. C., & Roberts, J. T. (2006). Globalization, vulnerability to climate change, and perceived injustice. *Society and Natural Resources*, 19(4), 337-355.

⁵⁵⁸Brown, C. J., & Purcell, M. (2005). There's nothing inherent about scale: Political ecology, the local trap and the politics of development in the Brazilian Amazon. *Geoforum*, 36(5), 607-624.

⁵⁵⁹Tschakert, P. (2020). More-than-human solidarity and multispecies justice in the climate crisis. *Environmental Politics*, 1-20. <https://doi.org/10.1080/09644016.2020.1853448>.

⁵⁶⁰Tower, A. (2020). We need to talk about climate migration as a justice issue. Retrieved from <https://www.climate-refugees.org/perspectives/2020/7/29/we-need-to-talk-about-climate-migration-as-a-justice-issue>

that still call for climate justice. Even if climate justice is not translated into certain languages, the experiences of these countries could contribute to building a more universal definition of climate justice.⁵⁶¹

The current climate justice claims here reported are deeply rooted in the origins of the environmental justice movements, referring to this literature is useful to better understand the development of justice in environmental matters.

2.1 The original “Environmental Justice” movement

The initial environmental degradation noticed after the 70s led to the creation of “*environmental justice*”⁵⁶² movements. This notion is essential to grasp the claims of fair distribution of justice while dealing with climate change.

In the environmental justice literature, the most used definition was the one developed by the US Environmental Protection Agency (EPA), which states that:

*Environmental Justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.*⁵⁶³

This definition of environmental justice specifies that the ideal way to achieve justice is through the equal application and distribution of laws that demand fair participation in the development of environmental policies and regulations. It also suggests that the laws must be equally applied to everyone regardless of race, ethnicity, or economic status. In that sense, good governance promotes environmental justice and creates equal levels of exposure to hazards across all social demographics.⁵⁶⁴ However, the definition delivered by EPA seems to leave outside its scope the growing extension of environmental hazards across the countries that are the foundation of unequal and unjust toxic exposure. This deficiency has been highly criticized because it implies that the implementation of laws and the promotion of neoliberal eco-efficiencies will not reduce the uneven distribution of environmental harm, nor mitigate damages for future generations.⁵⁶⁵

⁵⁶¹Newell, P., Srivastava, S., Naess, L. O., Torres Contreras, G. A., & Price, R. (2021). Toward transformative climate justice: An emerging research agenda. *Wiley Interdisciplinary Reviews: Climate Change*, 12(6), e733. <https://doi.org/10.1002/wcc.733>

⁵⁶²The US Environmental Protection Agency was among the first organization to mention it and to be dealing with the issue. (<https://www.epa.gov/environmentaljustice>)

⁵⁶³See EPA, Environmental Justice at <https://www.epa.gov/environmentaljustice/learn-about-environmental-justice>

⁵⁶⁴Schlosberg, D. (2007) *Defining environmental justice: Theories, movements, and nature*. Oxford: Oxford University Press.

⁵⁶⁵Harvey, D. (2005) *A brief history of neoliberalism*. Oxford: Oxford University Press

At the same time, the term environmental justice can comprehend two interpretations of the same problem, on one side there are social movements that are concerned with the equal distribution of environmental risks generated by human activities, on the other side it refers to a theory of justice that focuses on environmental issues.⁵⁶⁶ Even if it seems to have been developed only recently, environmental injustices were discovered already in the mid-1900s. One of the first scholars to raise questions about this issue was William Burch.⁵⁶⁷ In fact, during the research for one of his studies, he noticed the poor environmental quality in an African-American neighborhood. However, the start of the environmental justice movement was documented only in the 1970s and in the academic literature Robert Bullard is probably the most published of the scholars. During his studies, like Burch, he found out that African-American communities were surrounded by garbage dumps, landfills, and incinerators. This led him to focus on the hypothesis that African communities, given their economic and political vulnerability, have been regularly targeted for the siting of toxic facilities and environmental hazards. He also underlined that these communities had a higher probability of suffering from these bad facilities than the rest of the population. Given this fact, he declared that this unequal environmental protection is the outcome of environmental decision-making that has undermined procedural, geographic, and social equity. In this context, for him, procedural equity refers to fairness in the enforcement and implementation of government rules and regulations.⁵⁶⁸ Sadly, race is still an indicator used to analyze whether toxic waste facilities are situated in the U.S. Experts reported that even when socioeconomic factors are analogous between white and non-white communities, people of color are still the ones to live with high probability near environmental hazards.⁵⁶⁹

Additionally, environmental justice comprehends distinctive temporalities and spatial scales. With the notion of temporality, we also refer to historical references of injustices inflicted on certain communities. On the other hand, justice does not involve fixed spatial scales but an interaction between states and local spatial coincide. These two dimensions have vital consequences in addressing environmental justice, for example in redress beyond individual compensations or legal frameworks of jurisdiction. It also entails reflecting on the unequal responsibilities for environmental changes and addressing notions of response-ability, that is the capacity of campesinos to respond and not only to react with both patience and urgency to socio-environmental harms.⁵⁷⁰

⁵⁶⁶Morin, J.-F., & Orsini, A. (Eds.). (2020). *Essential Concepts of Global Environmental Governance* (2nd ed.). Routledge. <https://doi.org/10.4324/9780367816681> p.107

⁵⁶⁷See Burch, W. (1971). *The Peregrine Falcon and the Urban Poor. Some Sociological Interrelations*

⁵⁶⁸Warrick, C. (2015). History of the Environmental Justice Movement. 10.13140/RG.2.1.3317.3208, pp. 1-3

⁵⁶⁹Rudolph, L., Harrison, C., Buckley, L. & North, S. (2018). *Climate Change, Health, and Equity: A Guide for Local Health Departments*. Oakland, CA, and Washington, DC., Public Health Institute and American Public Health Association

⁵⁷⁰Bocarejo, D. (2020), Cultivating Justice beyond Law. *PoLAR*, 43: 304-318. <https://doi.org/10.1111/plar.12379>

Intersectionality is a framework useful for environmentalism to achieve the goal of environmental justice, which is the fair treatment of all people in regard to their environment. This approach is said to be framed by the work of Hazel M. Johnson. Indeed, she experienced sexism, racism, and classism and intersectional environmentalists are now taking their opportunity to re-develop environmental education starting from her work.⁵⁷¹

Yet, environmental justice can be achieved at all levels of governance, and the development of the “Urban Climate Justice” notion is an indicator that this is in fact achievable.

2.2 The new Urban Climate Justice

During this study, it has been reported multiple times that cities are the places where we produce most of the emissions that concentrate on the atmosphere. Following this evidence, it has been confirmed that urban informal settlements are also among the most vulnerable places where climate-related events have disastrous effects. For this reason, the local communities are precious elements of climate governance as they own the local knowledge and expertise to survive these extreme events. We have to underline that too often their role is ignored during the planning of adaptation measures.⁵⁷²

Discussions about cities and climate policies have reached their peak, there are no doubts that cities are the first level on which mitigation policies can take place, especially throughout the urban knowledge centered on building sustainable cities. However, adaptation strategies in cities are less explored. One way towards adaptation is the new notion of “*Urban Climate Justice*”⁵⁷³, which is becoming the subject of decision-making programs. The notion itself can be interpreted once again as distributive justice, therefore the fair distribution of benefits and burdens but also as procedural justice achieving equity among individuals.⁵⁷⁴ As for climate justice, urban climate justice seeks to distribute fairly among the individuals the climate effects, fighting inequalities that arise from these events in cities. The notion, obviously, calls for the possibility of accessing justice by challenging someone in a court. Climate litigations⁵⁷⁵ were born in this situation, what is new is that citizens have now started to challenge their authority for neglecting climate commitments. This takes political

⁵⁷¹Thomas, L. (n.d.). *The Intersectional Environmentalist: How to Dismantle Systems of Oppression to Protect People + Planet*. US: Little, Brown., pp.60-69

⁵⁷²Fayombo, OO. (2021). Discursive constructions underlie and exacerbate the vulnerability of informal urban communities to the impacts of climate change. *Climate and Development*, 13(4), 293-305.

⁵⁷³Steele, W., MacCallum, D., Byrne, J. & Houston, D. (2012). Planning the Climate-just City. *International Planning Studies*. 17 (1): pp. 67-83.

⁵⁷⁴Steele, W., Mata, L. & Fünfgeld, H., (2015). *Urban climate justice: creating sustainable pathways for humans and other species*, Current Opinion in Environmental Sustainability, Volume 14. Pp. 121-126, ISSN 1877-3435, <https://doi.org/10.1016/j.cosust.2015.05.004>.

⁵⁷⁵Climate Litigation are explored in the next sections.

participation and citizenship to a new level, also the relation with the local authority would be transformed following these new waves of claims to justice.

As already said, urban climate injustice focuses on disproportionate burdens of environmental and social matters linked to already existing vulnerabilities, such as urban air pollution, flooding or even unstable employment that are aggravated by changing climate.⁵⁷⁶ Scholars have focused their studies on two dimensions: the first is representation in decision-making while the second is accountability. Regarding the latter, indeed, some scholars noted the importance of distributing benefits and disadvantages of adaptation actions across the city, especially in those communities that experience different levels of adaptive capacity, economic status and political participation among their citizens.⁵⁷⁷ Other than stressing principles of justice related to the climate crisis, the urban climate justice movements challenge the relation between science and policy, for example by guaranteeing that ignored groups are included in the governance and that human rights become central. In fact, urban climate justice looks at vulnerable populations, like indigenous peoples, women and ethnic minorities making sure they engage in the political discourse and contribute to mitigation and adaptation science policies.⁵⁷⁸ Basically, urban climate justice for informal settlements can be summarized by combining all those processes that lead to significant engagement of these vulnerable groups in order to gain benefit from their participation in their cities areas.⁵⁷⁹

Also, scholars underline the gender dimension of urban climate justice. Women, indeed, experience several difficulties in urban areas as in some communities they are responsible for water collection and cooking. The latter is also responsible for local air pollution which might affect the health of women with respiratory diseases, and infections.⁵⁸⁰

Urban climate justice if achieved can generate social, economic and health benefits for the population and for their day-to-day lives in cities. For this reason, the role of science should not be ignored and must work together with the political authorities.⁵⁸¹ However, scholars on urban climate change have not been considered enough and in these emerging and interconnected contexts of climate, the urban phenomena have been evaluated as something contained and cohesive that view

⁵⁷⁶Bulkeley, H., Edwards, G.A.S. & Fuller, S. (2014). Contesting climate justice in the city: examining politics and practice in urban climate change experiments. *Global Environmental Change*. vol. 25. pp. 31-40. <https://doi.org/10.1016/j.gloenvcha.2014.01.009>

⁵⁷⁷Chu, E., & Michael, K. (2019). Recognition in urban climate justice: Marginality and exclusion of migrants in Indian cities. *Environment and Urbanization*, 31(1), P.139

⁵⁷⁸Corburn, J. (2009). Cities, Climate Change and Urban Heat Island Mitigation: Localising Global Environmental Science. *Urban Stud.* 46. Pp.413-427.

⁵⁷⁹Friend, R., & Moench, M. (2013). What is the purpose of urban climate resilience? Implications for addressing poverty and vulnerability. *Urban Climate*, 6, 98-113. <https://doi.org/10.1016/j.uclim.2013.09.002>

⁵⁸⁰Terry, G. (2009). No climate justice without gender justice: An overview of the issues. *Gen. Dev.* 17. Pp. 5-18.

⁵⁸¹Corburn, J., Njoroge, P., Weru, J., & Musya, M. (2022). Urban Climate Justice, Human Health, and Citizen Science in Nairobi's Informal Settlements. *Urban Science*, 6(2), 36. MDPI AG. Retrieved from <http://dx.doi.org/10.3390/urbansci6020036>

cities as a static and confined territory while forgetting the connections with regional and global networks. For this, urban climate justice demonstrates this link between global and local political-economic and climate-environmental change issues characterized by urban futures.⁵⁸²

Also, climate change alters the classic and well-known notion of urban planning that focuses on putting the cities at the center of the planet, showing nature in society and looking for a historical lesson to build the future. In fact, planning is essential to imagine an improved society and contemplate how to build it.⁵⁸³

Thus, Climate justice addresses the just division, fair and equal distribution of the burdens of climate change and stresses the responsibilities that we all have in implementing mitigation approaches. But it is also a concept that shifts the focus on people and climate and environmental movements recently developed demonstrate not only that individuals care but they also want to participate in the debate.

3. Citizenship and activism: framing the Environmental Citizenship

The climate crisis is deeply felt by populations all over the world to the point that significant levels of activism, participation and protest were registered everywhere. This is not surprising as they are at the foundation of democracy itself. Democracy without citizen participation misses a big and key part of its concept.

In fact, a social movement is a process in which mobilized people seek to effect a political change. this is exactly what climate change activists are trying to achieve.⁵⁸⁴ Thus, all these organizations working in the framework of climate justice started to organize protests all over the world hoping that State authorities would change their policies. In a few years, the world has seen a new wave of activism of people protesting in the street hoping to provoke a real change.⁵⁸⁵

Climate, citizen, and activism are elements that only recently have been studied together highlighting their relations. The analysis at this point will explore the processes, techniques, and tools used by citizens, committees and institutions.⁵⁸⁶

⁵⁸²Goh, K. (2021). *Form and Flow: The Spatial Politics of Urban Resilience and Climate Justice*. Regno Unito: MIT Press.

⁵⁸³Friedmann, J. (1987). *Planning in the Public Domain: From Knowledge to Action*. Princeton, NJ: Princeton University Press.

⁵⁸⁴Crossley, N. (2002). *Making Sense of Social Movements*. Regno Unito: McGraw-Hill Education.

⁵⁸⁵Pew Research Center. (2021). Gen Z, Millennials Stand Out for Climate Change Activism Social Media Engagement With Issue. Available at <https://www.pewresearch.org/science/2021/05/26/climate-and-generations-acknowledgments/>

⁵⁸⁶Pimbert, M., & Wakeford, T. (2001). Overview—deliberative democracy and citizen empowerment. *PLA notes*, 40, 23-28.

Citizenship is a multidimensional concept. First of all, we have to clarify the object of citizenship which historically has been states. Then, there is the issue of defining the subjects and this is essential since it indicates who belongs to the community. Traditionally, only those inside the community participate in the political process. The innovative aspect is that climate-related activism can overcome the borders of a nation-state. Obviously, a certain sense of belonging in the community and identification must remain for the citizens to act within its territory.⁵⁸⁷ Following this last element, specifically, when there is an issue affecting the community, this is able to mobilize the citizens that call for a solution to their problem. Climate consequences created an international community of individuals who suffer (more or less) from environmental degradation and for this reached an agreement by protesting and making their voices heard by their governments. Therefore, there is an explicit association between citizenship and the environment, focusing on participation and rights related to this relation and on duties that may arise from it might be useful to better understand this trend of climate activism.⁵⁸⁸ Moreover, cultural, economic, and social circumstances are strategic to develop new types of citizenship that could be far from the traditional notions of rights, participation or status that usually are associated with it. One key element is the presence of an unknown common matter recognized by everyone that becomes the subject of rights, such as environmental and climate issues. Cities, in this regard and once again, constitute one space where this relationship can be developed but also where new relations, actors and voices can be created.⁵⁸⁹

If we had to give a definition of climate activism, we could use a general definition. Activism is a confrontational activity aimed at preventing and expressing opposition to what is felt as unjust. Thus, climate activism focuses on the unjust situation caused by anthropogenic global warming.⁵⁹⁰ With this general and extensive definition, we are able to include a wide range of forms of climate activism, such as public advocacy, joining climate NGOs and think tanks, lobbying, initiating litigation and performing boycotts. Moreover, climate protests are confrontational, public, and collective acts designed to achieve climate goals by changing social and legal norms.⁵⁹¹

Civil organized actions are nothing new and are also common as we learn about them every day, for example with roadblocks or any other forms to attract attention to the climate crisis. Climate activism gives us the chance to think about the “*environmental defenders*” notion and its legal tools.

⁵⁸⁷Wiener, A. & Della Sala, V. (1997). Constitution-Making and Citizenship Practice: Bridging the Democracy Gap in the EU, 35 JCMS 595 at 602-3

⁵⁸⁸Reid, C. (2000). Environmental citizenship and courts, 2 Env L Rew 177

⁵⁸⁹Sassen, S. (2006) The repositioning of citizenship and alienage: emergent subjects and spaces for politics. *Globalizations* 2.1, 79–94.

⁵⁹⁰Garcia-Gibson, F. (2023). The ethics of climate activism. *WIREs Climate Change*, e831. <https://doi.org/10.1002/wcc.831>

⁵⁹¹Kurtz, R. M. (2020). Direct action and the climate crisis. *Radical Philosophy Review*, 23(2), 261–297.

At the UN level, the term used is that of “*environmental human rights defenders*” which are described as “*individuals and groups who, in their personal or professional capacity and in a peaceful manner, strive to protect and promote human rights relating to the environment, including water, air, land, flora and fauna*”.⁵⁹² Still, it has been clarified and also noticed such activities, sometimes tend to challenge the confines of what “peaceful” means.⁵⁹³

Surely, protests are more concrete and spectacular than direct climate policies. The activist movements, for example, “Fridays For Future”, want to change legislation, executive decisions, and social norms. Other groups instead advocate for direct actions and participate in limiting or even destroying fossil fuel companies and power plants. These actions ambition to stop those behaviors that produce emissions while pushing for political reform.⁵⁹⁴

However, is this new activism working? An American study explained that efficacy depends on the people with a past in civic engagement and leaders who exercise social influence on it. The process to be successful also depends on those individuals that enter into contact with climate change issues for the first time and then participate in activism as they believe it is a way to reduce the risks that learned about. Scholars have also indicated some elements that might be able to predict climate activism: the sentimental involvement of people, the belief that these actions should be implemented, a history of civic engagement, opinion from the leaders about global warming, activism response efficacy and political efficacy.⁵⁹⁵

Scholars have also analyzed the types of outcomes it produces. First of all, it generates communication with elected authorities asking for mitigation action but also it generates work for these people who might decide to volunteer in organizations.⁵⁹⁶ Also, an interesting element of this new activism is the participation of mostly young people which raised focus on their role. Surely it is an interesting component but at the same time is not that surprising. Since the start, indeed, climate change has been linked with the future, so, their involvement is a logical consequence.⁵⁹⁷ Generally speaking, the common feeling among people is hopelessness, helplessness, and apathy, consequently, they decide to take part in marches.

⁵⁹²A/71/281

⁵⁹³Eaton, C. (2016). Human Rights Defenders in the United Nations Framework. 25 Human Rights Defender 5

⁵⁹⁴Garcia-Gibson, F. (2023). The ethics of climate activism. *WIREs Climate Change*, e831. <https://doi.org/10.1002/wcc.831> p.6

⁵⁹⁵Krosnick J., Holbrook A., Lowe L., Visser P. (2006). The origins and consequences of democratic citizen’s policy agenda: a study of popular concern about global warming. *Clim Chang* 77:7–43

⁵⁹⁶Roser-Renouf, C., Maibach, E. W., Leiserowitz, A., & Zhao, X. (2014). The genesis of climate change activism: From key beliefs to political action. *Climatic change*, 125, 163-178.

⁵⁹⁷O’Brien, K., E. Selboe, & B. M. Hayward. (2018). Exploring youth activism on climate change: dutiful, disruptive, and dangerous dissent, *Ecology and Society*, 23(3):42

However, climate movements have been also highly criticized. The first criticism is regarding the composition of these movements constituted mostly of white and middle-class individuals, sometimes even of higher classes. Then, most of the time the activities organized end in an arrest or civil disobedience, thus, not everyone might be ready to take part in it. Lastly, some climate movements tend to adopt an approach in which consequences are felt by vulnerable people.⁵⁹⁸

So, environmental and climate issues are now at the center of the lives of the people and pushed them to actively participate, at different levels, to find a common solution. This has been analyzed by scholars who noticed the greening transformation of citizenship, their studies brought the notion known as “*Environmental Citizenship*”.⁵⁹⁹ The latter focuses on the notion of the ecological footprint to balance the civic rights and duties of citizens. Generally, is based on the idea that individuals with their activities exploit the resources unevenly, therefore, environmental citizenship comprehends social justice principles as its main values.⁶⁰⁰ Similarly, “*Ecological Citizenship*” is a variant of the previous one but still indicates a normative framework for citizens on how to manage their lives in a sustainable way by tackling the actions of the individuals considering them both as voters and consumers while addressing power and justice implications.⁶⁰¹

Overall, this ecological version of citizenship sustains that even private activities have effects on the well-being of the citizens, and for this, they should be considered as part of the citizenship characteristics. In fact, each citizen does not own any fixed ecological space in the traditional and public life of society, thus, both private and public are the starting point to re-think civic rights and duties.⁶⁰² Rethinking citizenship, consequently, means also individuating new values and increasing the space of these responsibilities but also the fact that citizenship now assumes global and universal characteristics.⁶⁰³ However, we have to underline that this new dimension of citizenship does not explore the individual and state relation but looks at private and citizens which specifies that environmental citizenship does not recognize any political space. Scholars underline that its space should be synonymous with negative effects as environmental matters develop geographically and

⁵⁹⁸Cripps, E. (2022). What climate justice means and why we should care. Bloomsbury Publishing.

⁵⁹⁹Hadjichambis, A.C., Reis, P. (2020). Introduction to the Conceptualisation of Environmental Citizenship for Twenty-First-Century Education. In: , *et al.* Conceptualizing Environmental Citizenship for 21st Century Education. Environmental Discourses in Science Education, vol 4. Springer, Cham. https://doi.org/10.1007/978-3-030-20249-1_1

⁶⁰⁰Wackernagel, M., Rees, W.E. (1996). Our Ecological Footprint: Reducing Human Impact on the Earth; New Society Publishers: Philadelphia, PA, USA

⁶⁰¹Wolf, J., Brown, K., & Conway, D. (2009). Ecological citizenship and climate change: perceptions and practice. *Environmental Politics*, 18(4), 503-521.

⁶⁰²Jagers, S.C., & Matti, S. (2010). Ecological Citizens: Identifying Values and Beliefs that Support Individual Environmental Responsibility among Swedes. *Sustainability*, 2, 1055-1079.

⁶⁰³Dobson, A. (2003). Citizenship and the Environment. Oxford University Press: Oxford, UK.

over the years. Consequently, the duties of the citizens pass from generation to generation and across national borders.⁶⁰⁴

Younger generations are obviously part of citizens and definitely the most active in fighting climate change.

3.1 Participation of younger generations

Numerous official international documents mention the importance of the involvement of the youngest in environmental protection. For example, Agenda 21 aims at implementing several action plans for sustainability and development while preserving future generations.⁶⁰⁵ Moreover, the youngest adults have been the main voices in climate protests and activism. The reasons behind their participation can be traced to the fact that children will deal with the long-term effects of climate but are also among the most affected in the present, for example, due to the higher temperatures mortality among children increased over the years.⁶⁰⁶

However, we have to stress that when young people are mentioned in political debates focusing on the environment and climate change, their role is always imagined with future implications instead of being considered as present participants.⁶⁰⁷ Still, young people started their engagement in fighting following Greta Thunberg in 2018 during the protest outside the Swedish parliament and from that moment became the leader of the global youth activist movement. The rhetoric established by Greta, that the future has been stolen by human activities, was the most used and inspired them to participate in strikes such as “the Global Climate Strike”⁶⁰⁸ that took place on the 20th of September 2019 where nearly 8 million people were in the streets claiming justice. The success behind young people lies in the use of the internet and social media which help them to get organized and harmonized at the same time in all parts of the world. The movements spread in every nation successfully influencing the political agenda in Europe which led to a great victory of the Green Party at the European Parliament election in May 2019.⁶⁰⁹ This movement is mainly about the youngest, in fact, the idea behind it is a

⁶⁰⁴Karatekin, K., & Uysal, C. (2018). Ecological citizenship scale development study. *International Electronic Journal of Environmental Education*, 8(2), 82-104

⁶⁰⁵Malone, K. (2001). Children, Youth and Sustainable Cities. *Local Environment: The International Journal of Justice and Sustainability*, 6(1), 5–12. doi:10.1080/13549830120024215.

⁶⁰⁶See the Office of the United Nations High Commissioner for Human Rights, *Analytical Study on The Relationship Between Climate Change and the Full and Effective Enjoyment of The Rights of The Child*, Thirty-fifth session, U.N. Doc. A/HRC/35/13 (2017).

⁶⁰⁷Percy-Smith, B., & Burns, D. (2013). Exploring the role of children and young people as agents of change in sustainable development. *Local Environment: The International Journal of Justice and Sustainability*, 18(3), 323–339. doi:10.1080/13549839.2012.729565.

⁶⁰⁸See The Global Climate Strike <https://globalclimastrike.net/>

⁶⁰⁹See “Fridays for Future movement” <https://www.fridaysforfuture.org/about>

worldwide strike where people would leave schools, or workplaces, joining the march for climate action.⁶¹⁰

Since the involvement of Greta in the activism the young portion of the population started their participation also in legal actions such as climate-related litigation in national and international courts all over the planet. Their contribution underlined how children and the youngest are not seen as political actors, one positive effect is that now their role has been recognized globally. This, for sure, has contributed to modifying both the procedural and individualistic dimensions of international human rights law which is changing its traditional characteristics.⁶¹¹

Several factors seem to influence their experience of climate change activism: their geographic location, social norms, policies of exclusion of their communities and histories of marginalization.⁶¹² Studies have also reported that there are cultural distinctions in how young people engage in protest and activism. For example, young people in global North countries expressed lower levels of belief or even concern than their counterparts in the global South. This is the result of thinking of climate change as a problem far from them because at the global level or due to the government and their approach to the issue.⁶¹³

Historically speaking, young people have been on the frontline in other historical moments, such as the apartheid in South Africa, the first intifada in the Occupied Palestinian Territories and the Arab Spring in 2010.⁶¹⁴ Their participation in big and sensitive issues should not be ignored. The youngest, in fact, seems to be always ready to engage with matters that have great significance in their lives. This happened also with the environmental theme. The Lancet published a study in September 2021 reporting that the majority of teenagers (mostly from sixteen to twenty-five) were experiencing climate anxiety.⁶¹⁵ Therefore, it might be that the youngest fight for the problems that worry them the most while declaring that it is crucial for their well-being to live in harmony with nature.⁶¹⁶ We

⁶¹⁰Engelfried, N. (2019). How the youth-led climate strikes became a global mass movement. *Waging NonViolence*. Available at <https://wagingnonviolence.org/2019/09/youth-led-global-climate-strike-thunberg-margolin/>

⁶¹¹Daly, A. (2022). 'Climate Competence: Youth Climate Activism and Its Impact on International Human Rights Law' in *Human Rights Law Review*, 22 (2). Pp. 1-24.

⁶¹²Adger, W. N., Pulhin, J. M., Barnett, J., Dabelko, G. D., Hovelsrud, G. K., Levy, M., et al. (2014). "Human Security Climate Change 2014: Impacts, Adaptation, and Vulnerability," in Part A: global and sectoral aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change ed CB Field et al. Change. Cambridge: Cambridge University Press, 755–791.

⁶¹³Lee, K., Gjersoe, N., O'Neill, S., & Barnett, J. (2020). Youth Perceptions of Climate Change: A Narrative Synthesis. *Wires Clim. Change* 11, 3. doi:10.1002/wcc.641

⁶¹⁴Hall. (2016). Youth in The Civil Rights Movement!' *America's Promise Alliance*. Available at: <https://www.americaspromise.org/opinion/youth-civil-rights-movement>

⁶¹⁵Wu, H. (2021). Statistically speaking: the future is frightening: high levels of climate anxiety in young people linked to government inaction. *Children's Legal Rights Journal*, 42(1), 73-[ii].

⁶¹⁶Prendergast, K. et al (2021) Youth Attitudes and Participation in Climate Protest: An International Cities Comparison *Frontiers in Political Science Special Issue: Youth Activism in Environmental Politics*. *Front. Polit. Sci.* 3:696105. doi:10.3389/fpos.2021.696105

have to also underline that education does not alter their participation, even though, climate change activists are highly educated, an American study found that among the protestants there is a significant portion not educated, yet they still decided to participate in organized actions in their communities. It has also been demonstrated that most American activists participate in different peace movements across the United States.⁶¹⁷

The organization of the teen was subject to numerous studies. First of all, scholars have analyzed how communication started before the protests. Twitter is the main instrument used by the youngest to coordinate, nothing surprising as social media are now central in their lives. For example, data from Twitter revealed that there is a wider composition of people which indicates a surprising and bigger network of relations involved.⁶¹⁸ Nonetheless, climate change activists are not all young people. In fact, the average age of participants during the activities was 38 years old.⁶¹⁹

Lastly, despite the historic conditions of the climate protests in the last years, across the cities there were meaningful impediments to political protest experienced by young people that include social norms, government policy, and gender inequities. In fact, some national governments appeared to have discouraged youth protests and this effect deeply youth willingness to engage in public protest and decision-making.⁶²⁰ Still, public participation with all its components it's a human right and this should be guaranteed by public authorities in all its forms.

3.2 Participation and access to information in environmental matters

Public participation in environmental matters has been recognized already in the past decade, thus, it is now both a principle of international environmental governance as well as a matter of human rights which is also internationally recognized as such. For example, parties to the UNFCCC under Article 6⁶²¹ must support the widest participation in the environmental process and guarantee public access to information regarding climate change and its effects. Indeed, Agenda 21 view public participation and access to environmental information are essential procedural parameters to achieve sustainable development as they improve societal, economic and environmental values.⁶²²

⁶¹⁷Fisher, D R. (2008). Who are climate change activists in America. *Environmental Law Reporter News & Analysis*, 38(12), 10864-10867.

⁶¹⁸Segerberg, A. & Lance Bennett, W. (2011). Social Media and the Organization of Collective Action: Using Twitter to Explore the Ecologies of Two Climate Change Protests. *The Communication Review*, 14:3, 197-215, DOI: [10.1080/10714421.2011.597250](https://doi.org/10.1080/10714421.2011.597250)

⁶¹⁹Fisher, DR. (2008). *On Social Networks and Social Protest: Understanding the Organizational Embeddedness of Protest*. ISERP Working Paper No. 08-01.

⁶²⁰Pickard, S. (2019). *Politics, Protest and Young People: Political Participation and Dissent in 21st Century Britain*. London: Springer.

⁶²¹See Article 6, UNFCCC, <https://unfccc.int/resource/ccsites/zimbab/conven/text/art06.htm>

⁶²²Banas, P.A. (2010), International ideal and local practice – access to environmental information and local government in Poland. *Env. Pol. Gov.*, 20: 44-56. <https://doi.org/10.1002/eet.528>

In this regard, the Aarhus Convention⁶²³ is essential as it gives the public the right to access information and to participate in the decision-making process in the environmental field, and as a consequence to ask for compensation if these are not fulfilled. For this reason, the Convention is a peculiar international treaty regime with intertwined concepts of environmental law and human rights law. The latter is in fact developed in environmental contexts.⁶²⁴ As already anticipated, the Convention defines minimum standards that the Parties have to respect regarding access to information, public participation access to justice in environmental matters which are envisioned to deliver wide public participation and access to justice. Also, it gives a general definition of what is intended for the “*public concerned*” as well as underlining to States that they must consider NGOs when drafting environmental policies because of their interest in this field.⁶²⁵

However, the text does not mention terms like “climate” or “climate change” but the definition of “environmental information” contained in Article 3⁶²⁶ is general and not exhaustive, therefore, concepts of global warming, greenhouse gas emission and climate change can be intended as included in the definition. Yet, divergent legal interpretations and conflict might arise from it, especially to the applicability of public participation regarding renewable energy activities and adaptation projects.⁶²⁷ There are differences between the Convention and the standards proposed by the UNFCCC, used as an example in this section. First of all, UNFCCC envisions the procedural provisions reading them in the principle of common but differentiated responsibilities. Instead, the parties to the Aarhus Convention, for the EU, the procedural rights are more defined than the ones of the UNFCCC. Besides, in the Aarhus Convention with Article 9⁶²⁸, the right to go to court is stronger in the words used than in the UNFCCC.⁶²⁹ The provision regarding the possibility of making an appeal to courts is the center of the convention and on which derives its effectiveness. Yet, this character cannot be used as a benchmark to assess the implementation of the convention.⁶³⁰ The right to access to justice

⁶²³See UNECE. (1998). CONVENTION ON ACCESS TO INFORMATION, PUBLIC PARTICIPATION IN DECISION-MAKING AND ACCESS TO JUSTICE IN ENVIRONMENTAL MATTERS

⁶²⁴Barritt, E. (2020). *The Foundations of the Aarhus Convention: Environmental Democracy, Rights and Stewardship*. Regno Unito: Bloomsbury Publishing.

⁶²⁵Jonas Ebbesson, J. (n.d.). *The Eu And The Aarhus Convention: Access To Information, Public Participation In Decision-Making And Access To Justice In Environmental Matters*. Briefing. Policy Department C: Citizens' Rights And Constitutional Affairs Pe 571.357, Available At https://www.movimentoeuropeo.it/Images/Ipol_Bri2016571357_En.Pdf

⁶²⁶See Article 3, The Aarhus Convention, 1998.

⁶²⁷Peeters, M. & Nóbrega, S. (2014). Climate Change-Related Aarhus Conflicts. *Rev Euro Comp & Int Env Law*, 23: 354-366. <https://doi.org/10.1111/reel.12076>

⁶²⁸See Article 9, The Aarhus Convention, 1998.

⁶²⁹Morgera, E. (2005). An Update on the Aarhus Convention and Its Continued Global Relevance. *14:2 Review of European Community and International Environmental Law*. 138;

⁶³⁰Pirker, B. (2016), The Aarhus Convention's Effects in the EU Legal Order. *Rev Euro Comp & Int Env Law*, 25: 81-91. <https://doi.org/10.1111/reel.12124>

include also NGOs, indeed, following Article 12⁶³¹, NGOs can request an internal review and start proceedings before the Court of Justice. In addition, NGOs have the right to access justice even in cases where EU institutions failed the internal review of the Aarhus Regulation.⁶³² In fact, in the EU legislation, Member States must guarantee the NGOs standing in national courts if they want to challenge a decision where access to environmental information was ignored, delayed or denied. This is also allowed with Directive 2003/4/EC⁶³³ which specifically includes NGOs.⁶³⁴

Then, another interesting feature is that the Aarhus Convention comprehends a historic provision for the parties that must promote procedural rights in international settings and governance.⁶³⁵ Specifically, Article 3.7 reports that “each *Party shall promote the application of the principles of this Convention in international environmental decision-making processes and within the framework of international organizations in matters relating to the environment*”.⁶³⁶

Overall, general international environmental principles, as well as human rights law, already deliver arguments for participation in the decision-making process by the public, also at the international level. But it is also true that the explicit legal obligation included in the text does not include how this participation should be endorsed. In fact, European governments raised this issue in 1998 during the adoption of the Aarhus Convention.⁶³⁷ At the same time, article 9.4⁶³⁸ clearly states quality standards for the different procedures which must be adequate and effective remedies, fair, equitable, timely and not excessively expensive. Respecting these standards seems to be the most difficult part for the states.⁶³⁹ Nevertheless, long and time-consuming procedures are the reality of almost all domestic jurisdictions.

4. Climate Litigations

As described above, the unequal distribution of climate burdens and injustices led to organized movements and protests based on climate justice claims to ask for a fair and right distribution of burdens and benefits of climate change. These movements resulted in a growing body of climate

⁶³¹See Article 12, The Aarhus Convention, 1998.

⁶³²Garçon, G. (2015). Limits of NGO Rights to Invoke Access to Justice under the Aarhus Convention. *European Journal of Risk Regulation*, 6(3), 458–469. <http://www.jstor.org/stable/24769578>

⁶³³See *OJ L 41, 14.2.2003, p. 26–32*

⁶³⁴Stec, S. & and Casey-Lefkowitz, S. (2000). The Aarhus Convention: An Implementation Guide. United Nations 2000. Available at <http://live.unece.org/fileadmin/DAM/env/pp/acig.pdf>.

⁶³⁵Duyck, S. (2015), Promoting the Principles of the Aarhus Convention in International Forums. *Rev Euro Comp & Int Env Law*, 24: 123-138. <https://doi.org/10.1111/reel.12125>

⁶³⁶See Article 3.7, The Aarhus Convention, 1998.

⁶³⁷Boyle, A. (2008). Human Rights or Environmental Rights? A Reassessment. 18:3 *Fordham Environmental Law Review*. 471, at 477.

⁶³⁸See Article 9.4, The Aarhus Convention, 1998.

⁶³⁹Lavrysen, L. (2009). An introduction to the Aarhus Convention. *Proceedings of the International Conference on the Practical Implementation of the Aarhus Convention*. Presented at the International Conference on the Practical Implementation of the Aarhus Convention, Brno.

cases brought to courts by victims. Indeed, climate change litigations gained importance in the past decade as they can advance or delay effective action on climate change. This role was also recognized by the IPCC due to the ability to modify climate governance across nation-states and because they can enforce climate commitments made by governments. Among these climate cases, strategic cases are gaining importance as aimed at bringing major changes in society and the behavior of governments, pushing for advancing climate policies or creating public awareness.

4.1 Definitions

Climate litigation is one face of climate governance and is becoming increasingly common in the international law field. De facto the global arena has experienced a growing number of climate cases, but litigation on these occasions have been mainly about air quality and environmental assessment. It is crucial to underline that there is no universal or definitive definition of climate litigation, its definition is limited to reporting that they define legal actions that more or less explicitly mention climate change and its consequences. We can find numerous attempts to give an ad hoc explanation of this phenomenon, but the description varies following the different characteristics that are chosen to create some sort of classification. Some scholars, who are more flexible, write that the notion indicates situations that can be characterized as climate change cases, even when the climate is not the main subject of the case. Generally, climate cases have two main characteristics in common. Firstly, these cases are brought before judicial bodies, therefore, we can also count cases before administrative and investigatory bodies. Secondly, these cases raise law issues or consider the role of science in mitigation and adaptation policies.

On the other hand, more rigid scholars do not include cases with a weak reference to climate actions and policies in the same classification as climate litigation.

However, as figure 8 shows, climate cases can include different variations of climate actions and policies, from cases with climate as a central issue to cases that have implications for mitigation and adaptation.

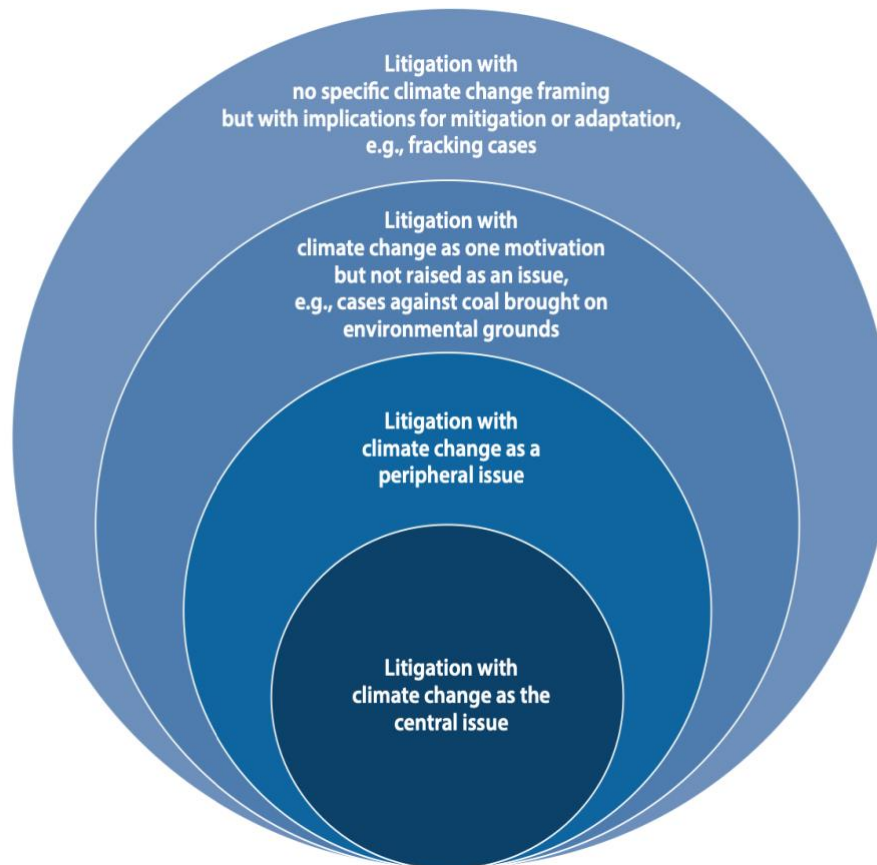


Figure 8 retrieved from Peel & Osofsky 2015a

classifying the cases, we have to underline that the adoption of the Paris Agreement opened the path to a new type of climate litigation focused on the state's commitments to reducing emissions. Indeed, all the parties submitted their nationally determined contributions with the promise to increase them over time knowing that they will be subject to accountability review and assessment process. States are required to implement domestic mitigation measures by shaping their national legislation following climate mitigation approaches. In addition, states agreed to communicate their ambitious goals for mitigation, adaptation, finance, technology transfer, capacity building, and transparency. From this, we can derive that the entire success of the international response negotiated to fight climate change depends on effective and coherent climate policies implemented by Member States to the Paris Agreement. Therefore, all elements explained above can be challenged with litigation in the domestic courts. Obviously, these cases do not seek the enforcement of the Paris Agreement at the national level but aim at challenging the domestic policies implemented by governments to give effect to international commitments. In fact, the majority of the studies regarding climate litigation have been focused on cases that present a pro-regulatory purpose, which are cases linked to the Paris Agreement commitments.

There is also the need to underline that climate policies and climate-related litigation have evolved and are still evolving, as is the nature of the phenomenon itself. Recently, another type of climate

litigation is becoming central to fighting climate injustice: the so-called strategic litigation cases. In these, the motivation for bringing the cases to courts is beyond the interests of the applicants as the final goal is to modify the system. For example, the principal aim most of the time is to advance climate policies, create public awareness, or change the behaviors of the government. This type of litigation is widely studied as academics and activists seek to understand the potential regulatory impact of such litigation, which can often be costly to claimants and may direct resources away from other efforts. The strategic cases explained later in this article, are also crucial for human rights protection as these are useful in bringing rights claims directly to courts.

Historically, climate litigation cases developed firstly in common law countries, like the United States of America and the United Kingdom, where we can find numerous relevant cases. However, these initial cases tackled mainly the greenhouse gas emissions issues.⁶⁴⁰ One main issue, especially in that initial momentum for climate litigation, was the difficulty encountered by the claimants, whether individual or represented by Non-Governmental Organizations (NGOs), in affirming their arguments in courts due to the problem of determining that the emissions from a country were responsible for their violation.⁶⁴¹

Still, climate cases proliferated globally and are now present at the national and international levels and have been decided by international organizations as well as national courts. At the national level, the cases are classified into two categories:⁶⁴² The first includes civil cases against companies accused of being major greenhouse gas emitters, and the second is composed of administrative cases against governments and their administrative agencies.

At the international level, the collection of cases is more complex. To ease the work, climate-related cases have been framed in three types of international procedures.⁶⁴³ The first typology indicates procedures aimed at realizing positive effects in mitigation and adaptation. The second refers to regressive proceedings which stop states from adopting national and international climate policies that could be in contrast with other types of norms, such as trade liberalization. The last is administrative litigation mainly shaped by the United Nations Framework Convention on Climate Change (UNFCCC) and the Kyoto Protocol to safeguard climate commitments.⁶⁴⁴

⁶⁴⁰Osofsky, H.M. (2011). The Role of Climate Change Litigation in Establishing the Scale of Energy Regulation. 101 *Annals of the Association of American Geographers* 775.

⁶⁴¹Abate, R. (2019). Climate Change Litigation in Domestic Courts and Human Rights Commissions. In *Climate Change and the Voiceless: Protecting Future Generations, Wildlife, and Natural Resources* Cambridge: Cambridge University Press. pp. 17-42.

⁶⁴²Osofsky, HM. (2005). The Geography of Climate Change Litigation: Implications for Transnational Regulatory Governance. *Washington University Law Quarterly* 83. 1789–1855.

⁶⁴³Tim, S. (2009). *International Courts and Climate Change: Progression, Regression and Administration*. Forthcoming in Rosemary Lyster (ed). *Revelling in the Wilds of Climate Change Law* (Australian Academic Press, Brisbane). Legal Studies Research Paper No. 09/115 .

⁶⁴⁴ Ibid.

Despite the significance gained by litigation at the international level, global warming actions and climate-related cases so far have mostly been brought only in domestic courts instead of international bodies. In fact, there are few cases initiated at the international level. The first case was the petition by the Inuit people to the Inter-American Commission on Human Rights⁶⁴⁵, followed by petitions developed by environmental groups to The United Nations Educational, Scientific and Cultural Organization's World Heritage Committee aimed at including natural sites as world heritage sites due to the threat posed by global warming.⁶⁴⁶ We can also take into consideration the European Union (EU) framework, even though cases before the Court of Justice of the European Union (CJEU) are not making progress and four cases are still pending before the European Court of Human Rights (ECtHR).⁶⁴⁷ The climate lawsuits filed before the CJEU were brought directly against the EU as applicants contesting some legislative acts, claiming that these breached EU treaties and human rights under the EU Charter of Fundamental Rights.⁶⁴⁸ The cases before the ECtHR have been presented but there is no update in their regard.⁶⁴⁹

We have to emphasise that climate governance is a multidimensional subject, therefore, several actors interact actively in the system and litigious procedures are able to connect all the different climate factors. Surely, litigation results can actively shape a new approach to the mitigation and adaptation to climate change.⁶⁵⁰ In addition, in the opposing position, we can find several types of defendants, from private actors to governments. For the latter, cases result in binding judicial orders that often are sided with new climate goals, extensive climate regulations and also investments in infrastructure with social effects.⁶⁵¹ Private actors face modified regulatory environments or the delay and denial of projects that could potentially harm the environment.⁶⁵² We can also find lawsuits targeting fossil fuel producers as liable for flawed products or for failing to give a correct warning regarding the use of such products and their risks. These cases claim to aim at the strict liability for

⁶⁴⁵See Petition To The Inter American Commission On Human Rights Violations Resulting From Global Warming Caused By The United States December 7, 2005 https://Earthjustice.Org/Sites/Default/Files/Library/Legal_Docs/Summary-Of-Inuit-Petition-To-Inter-American-Council-On-Human-Rights.Pdf .

⁶⁴⁶See Petition to the World Heritage Committee:The Role of Black Carbon in Endangering World Heritage Sites Threatened by Glacial Melt and Sea Level Rise, January 29, 2009

⁶⁴⁷Bertelmann, BS. (2022). 2. Court of Justice of the European Union (CJEU). *Yearbook of International Environmental Law*. yvac029. <https://doi.org/10.1093/yiel/yvac029>

⁶⁴⁸Van Zeben, J. (2021). The Role of the EU Charter of Fundamental Rights in Climate Litigation. *German Law Journal*, 22(8). 1499-1510. doi:10.1017/glj.2021.78

⁶⁴⁹Hartmann, J. (2022). European Climate Litigation: A Tale of Two Courts, The Global Network for Human Rights and the Environment at <https://gnhre.org/community/european-climate-litigation-a-tale-of-two-courts/>

⁶⁵⁰Peel, J. & Osofsky, HM. (2015). *Climate Change Litigation Regulatory Pathways To Cleaner Energy*. Cambridge University Press. pp.1-15

⁶⁵¹UNEP/ United Nations Environment Programme. (2020). *Global Climate Litigation Report: 2020 Status Review*. Nairobi. UNEP

⁶⁵²Ibid.

defects in the design.⁶⁵³ This strict liability doctrine started with lawsuits against the tobacco industry as emission producers, however, the link between production and the harm in climate cases was difficult to establish.⁶⁵⁴ Applicants may sometimes try this approach to hold producers and distributors liable for product defects with legal arguments based on the current knowledge of the carbon industry.⁶⁵⁵

4.2 Historical developments

Nowadays it is certain that the environmental consequences of climate change affect disproportionately the poorest with severe effects also on human rights.⁶⁵⁶ These consequences threaten the rights expressed in the Universal Declaration of Human Rights,⁶⁵⁷ from the right to live with adequate standards which include food, clothing, housing and medical care to civil and political rights.⁶⁵⁸ As already explained, climate litigation is a recent tool employed by activists and victims to pressure states to apply better policies and stresses the human rights violation aggravated by the lack of action by governments. Rights-based litigation has been growing since 2015. Initially, there were few rights-based climate cases but now these have multiplied. In fact, a study published by the Climate Litigation Accelerator shows that almost 90% of the cases are based on rights grounds.⁶⁵⁹ Attempts to use rights-based claims in climate cases appeared in the early 2000s.

One of the first litigation was the “*Gbemre v. Shell Petroleum Development Company*” case in Nigeria.⁶⁶⁰ Jonah Gbemre, representing the Iwherekan community, claimed that the extraction activities of the famous oil company were violating the rights to life and dignity of the entire community, rights that are recognized both in the Nigerian Constitution and the African Charter on Human and Peoples' Rights.⁶⁶¹ The Nigerian federal court ruled that the oil companies had to stop the

⁶⁵³Clark, M. & Hussain, T. (2018). Climate change litigation: A new class of action. White Case at <https://www.whitecase.com/insight-our-thinking/climate-change-litigation-new-class-action>

⁶⁵⁴Olszynski, M., Mascher, S. & Doelle, M. (2017). From Smokes to Smokestacks: Lessons from Tobacco for the Future of Climate Change Liability. *The Georgetown Env'tl. Law Review*, Vol. 30 at <https://www.law.georgetown.edu/environmental-law-review/in-print/volume-30-issue-1-fall-2017/from-smokes-to-smokestacks-lessons-from-tobacco-for-the-future-of-climate-change-liability/>.

⁶⁵⁵Weller, MP. & Tran, ML. (2022). Climate Litigation against companies. *Clim Action* 1, 14.

⁶⁵⁶Leichenko, R., & Silva, JA. (2014). Climate change and poverty: Vulnerability, impacts, and alleviation strategies. *Wiley Interdisciplinary Reviews: Climate Change*, 5(4). 539-556. <https://doi.org/10.1002/wcc.287>

⁶⁵⁷See the Universal Declaration of Human Rights (UDHR), 1948, at <https://www.un.org/sites/un2.un.org/files/2021/03/udhr.pdf>

⁶⁵⁸Levy, BS. & Patz, JA. (2015). Climate change, human rights, and social justice. *Annals of global health*. 81(3), 310-322.

⁶⁵⁹Guruparan, K. & Moynihan, H. (2021). *Climate change and human rights-based strategic litigation*. Chatham House Briefing Paper at <https://www.chathamhouse.org/sites/default/files/2021-11/2021-11-11-climate-change-and-human-rights-litigation-guruparan-et-al.pdf>

⁶⁶⁰See *Gbemre v Shell Petroleum Development Company Nigeria Limited and Others* (2005) AHRLR 151 (NgHC 2005) <http://climatecasechart.com/non-us-case/gbemre-v-shell-petroleum-development-company-of-nigeria-ltd-et-al/>

⁶⁶¹See The African Charter on Human and Peoples' Rights, art.5

activities that were flaring gas in the Niger Delta because these practices were considered unconstitutional since violated, indeed, the mentioned fundamental rights. In fact, in the ruling the direct effects on human health are mentioned:⁶⁶²

“ [...]a. *Poisons and pollutes the environment as it leads to the emission of carbon dioxide, the main green house gas; the flares contain a cocktail of toxins that affect their health, lives and livelihood.* b. *Exposes them to an increased risk of premature death, respiratory illness, asthma and cancer.* c. *Contributes to adverse climate change as it emits carbon dioxide and methane which causes warming of the environment, pollutes their food and water.* d. *Causes painful breathing chronic bronchitis, decreased lung function and death.* e. *Reduces crop production and adversely impacts on their food security.* “

Based on these words, and evidence, it is difficult to ignore the environmental implications on human rights, their link is visible so is the violation. There are several cases similar to this with constitutional claims, like the already mentioned Inuit competition, even if it was unsuccessful, on how litigation can help in creating a broad ground on rights-claims on climate cases.

The “*Lago Agrio litigation*” is also significant for this analysis. In 1993 and 1994, some Ecuadorian and Peruvian citizens filed a class-action lawsuit at the US federal court against Texaco, an oil company operating in those areas.⁶⁶³ In both lawsuits, the citizens declared that Texaco's oil operations, started in 1964, polluted the rainforests and rivers in Ecuador and Peru. Their operations resulted in environmental and human health damage. However, the two lawsuits were dismissed by the US federal court in 2002 with the justification of non-convenient grounds. At the same time, Texaco agreed that Ecuador and Peru's courts would have jurisdiction over the cases. Consequently, a year later, another class-action lawsuit was brought against the company, that in the meanwhile in 2001 was acquired by Chevron. The litigants alleged that Chevron's activities caused an increase in cancer rates and other serious health problems.⁶⁶⁴ The trial lasted over two decades and was moved over and over between the two different national jurisdictions. In 2009, after the lawsuit, Chevron started an Investor-state dispute settlement (ISDS),⁶⁶⁵ which made a claim to ask the ISDS tribunal to interfere with Ecuador's national justice system. Moreover, in the first instance, Chevron asked to

⁶⁶²Gbemre v Shell Petroleum Development Company Nigeria Limited and Others (2005):4(7).

⁶⁶³See Respectively the “Aguinda v. Texaco” at <http://theamazonpost.com/post-trial-brief-pdfs/brief/50cAguinda1.pdf>) and “Jota v. Texaco” at <https://casetext.com/case/jota-v-texaco-inc>, accessed 3 September 2022.

⁶⁶⁴Rad, Y. (2018). *Research Handbook on Human Rights and Investment*. Edward Elgar Publishing.

⁶⁶⁵As explained by the Business & Human Rights Resources Centre: “*ISDS is a mechanism contained in investment and trade agreements that allows an investor of a state party to bring a claim against another state party that is hosting the investment, if that state has allegedly breached a standard in the agreement. ISDS was originally envisaged as a way to protect investors from arbitrary state abuse. This had the ultimate goal of promoting foreign investment between state parties. Nowadays, there are concerns that ISDS has the potential to chill social and environmental regulation by allowing corporations to sue governments when such regulation negatively impacts their investments.*”. See <https://www.business-humanrights.org/en/investor-state-dispute-settlement-isds>.

be protected from the 1993 Ecuador court case, but when this case concluded against Chevron in 2011, they asked for the judgement to be overridden. During the years of the trial, the company constantly challenged the process: they claimed that the case was settled in a 1998 legal agreement with the Ecuadorian government and in the 2011 judgement accused the system to be corrupted. We have to notice that the Ecuadorian government did sign the agreement with Chevron in 1998 releasing it from any further responsibility for the disaster. However, the agreement also stated that Chevron was to be released only from additional government claims. So, the additional third-parties claims were not affected by this agreement. The defense of Chevron responded that the case was brought on a collective basis, affecting the rights of an entire community rather than individual property rights. In addition, the company promised that they would engage in greener practices. In reality, the efforts of the company in the Amazon to protect the environment and communities' rights turned out to be a sham. The company continued to pollute the land, the air, and various rivers. Sadly, but not surprisingly, the ISDS tribunal in September 2018 decided in Chevron's favor, assigning to the Ecuadorian government an undisclosed pay-out to Chevron and deciding to overrule the domestic justice ordering also Ecuador to prevent the court from enforcing its judgment. In this way, Chevron is not obliged to comply with Ecuador's national justice system. This is the biggest defeat for those communities, environmentalists and humanity at large. Chevron's activities are devastating and polluting the Amazon while killing entire indigenous communities that are not able to make their claim as defendable the economic interests.⁶⁶⁶

Putting aside the Ecuadorian example, among the diverse climate litigation cases, there is a common element: the use of climate science. As Hunter formulated in his work, this is because the litigious impact depends on how the victim can conduct climate science, and on how the litigant presents their strategy in collecting all the scientific evidence.⁶⁶⁷ The use of science is important not only because climate change theory is based on it but also because of the conviction and credibility it is based on. The Intergovernmental Panel on Climate Change (IPCC) has spent several years building this scientific consensus, and all the IPCC's reports are cited as scientific resources. Moreover, Hunter advances the hypothesis that climate litigation encourages the prioritization of certain science debates in the denial discourse that, usually, in both journalistic and political approaches, have equal weight to the broad consensus views regarding science.⁶⁶⁸

⁶⁶⁶Gómez, MA. (2013). The Global Chase: Seeking The Recognition And Enforcement Of The Lago Agrio Judgment Outside Of Ecuador. *Stanford Journal Of Complex Litigation*. Vol 1, n° 2, Spring.

⁶⁶⁷Kaminski, I. (2022). How scientists are helping sue over climate change. *The Lancet*. Volume 6. Issue 5. DOI:[https://doi.org/10.1016/S2542-5196\(22\)00098-5](https://doi.org/10.1016/S2542-5196(22)00098-5)

⁶⁶⁸Hunter, David B. (2008). *The Implications Of Climate Change Litigation For International Environmental Law-Making*. Washington College Of Law Research Paper No. 14 at

Additionally, climate change litigation has helped to emphasize the fragility of the international climate regime. For instance, many of the litigation cases were planned as an indirect solution to Australia and the US's withdrawal from the Kyoto Protocol, like in the "*Massachusetts v. EPA*" case.⁶⁶⁹ Massachusetts, together with other states, requested the Environmental Protection Agency to regulate carbon dioxide emissions of some new vehicles that were contributing to global warming. Massachusetts sustained that EPA was required to regulate these emissions due to the Clean Air Act.⁶⁷⁰ EPA denied the request that was under the petition, sustaining that the Act did not authorize the EPA with such competencies regarding greenhouse gas emissions. In addition, EPA argued, the Agency enjoyed the discretion to defer a decision to research. Massachusetts appealed to the Court of Appeals for the D.C. Circuit, and a divided panel sustained EPA's argument. Even though this was the first litigation targeted at increasing compliance with the international climate regime, other climate litigation cases have also been useful to strengthen the political will regarding international climate change policies. Transferring the violations at the international level, rather than the domestic level, using different institutions regarding climate impacts, gives the petitioners the possibility to be active and productive in climate negotiations creating additional mechanisms for the integration of the climate regime, for example, appealing to human rights tribunals.⁶⁷¹

There is another important case useful to dig deeper into the complexity of litigation cases that cover both climate change and human rights issues. Still linked to the EPA and the Clean Air Act mentioned before, there is a noteworthy emission-related case which gained global momentum five years ago: the "*Diesalgate*".⁶⁷² On September 2015, the EPA declared that the Volkswagen Group was violating the Clean Air Act, consequently, the US Department of Justice sued Volkswagen on behalf of the EPA. In short, during some road tests, Volkswagen's cars were discovered to be exceeding the level of nitric oxides (NOx) emissions allowed, precisely forty times higher than the established US threshold. Further research confirmed that the cars were in fact equipped with illegal software that could hide the real quantities of emissions released and for this, the products entered the market. In addition to cheating on emission tests, Volkswagen was also spending a huge quantity of money on advertising for its fake clean diesel technology. Thus, their offer of low emissions with

https://digitalcommons.wcl.american.edu/cgi/viewcontent.cgi?referer=&httpsredir=1&article=1005&context=fac_works_papers.

⁶⁶⁹See *Massachusetts v. EPA*, 549 U.S. 497 (2007).

⁶⁷⁰The Clean Air Act, established in 1970 and then amended for the first time in 1977 and the second time in 1990, is a US federal law designed to protect human health and the environment from the effects of air pollution. The Act established that the EPA was required to regulate the emission of pollutants that could endanger public health. See <https://www.ucsusa.org/resources/clean-air-act>.

⁶⁷¹Hunter, David B. (2008). *The Implications Of Climate Change Litigation For International Environmental Law-Making*. Washington College Of Law Research Paper No.14

⁶⁷²Boje, DM. (2019). *Storytelling In The Global Age: There Is No Planet B*. Singapore: World Scientific Publishing Company.

high performance and fuel economy was recognized as a fraud. The scandal erupted in the US and moved to Europe. France, the UK and Italy started their investigations with their markets full of these vehicles. Their high presence in the European market is due to the EU's emission regime that limits CO₂, while the US has focused more on NO_x. *Dieseldate* questioned the effectiveness of European laws and regulations but also of the voluntary instruments of social responsibility.⁶⁷³ These instruments are widespread among companies that used them to commit to environmental protection, respect of fundamental human rights and other public interests (such as transparency and responsible behaviors towards the market).⁶⁷⁴ Thus, the high emission into the atmosphere, causing global warming, can be considered a violation of human rights. Still, the famous *Dieseldate* has not dealt with human rights standards, which proves that international and domestic jurisprudence perceive environmental issues and human rights issues as two separate spheres. For example, in Italy, when *Dieseldate* blew-out, citizens could make a claim for damages since the emissions violated the right to a healthy environment. The latter, however, should have been proven with instant damages that occurred. Thus, the initiative of the individual, perfectly legitimate, was not suitable: the individual interested in the judicial initiative is forced to bear the entire costs of the process with the low possibility of the recognition of the violation. In Italy, the right to a healthy environment has been recognized in 1979 in a sentence of the Court of Appeal,⁶⁷⁵ which specified that each individual, as a holder of inviolable rights, but also as a social component has a fundamental right to health. However, human rights in this interpretation are differentiated between individualistic rights and collective rights. Environmental protection in Italy is still stuck in this frame, even after the establishment of the Ministry of the Environment, the commitment to environmental protection through adequate instruments and the recognition of collective rights is confirmed but a real reform to implement this new frame is still attended.⁶⁷⁶

4.3 Mitigation, adaptation and the right turn of climate litigation

Climate litigation are now at the center of the climate justice debate but have evolved along the road. Generally, these cases are divided into two categories: litigation regarding climate mitigation measures designed to reduce and prevent emissions of greenhouse gases and cases involving adaptation measures to strengthen resilience and reduce the negative effect in communities. Also,

⁶⁷³Robertson, JA. 2017. The danger of Dieseldate: how Volkswagen's diesel scandal critically damaged the wider market. *Annals in Social Responsibility*. Vol. 3 No. 1. pp. 68-69. <https://doi.org/10.1108/ASR-10-2017-0010>

⁶⁷⁴Rattalma, MG. (2017). *The Dieseldate A Legal Perspective*. Springer

⁶⁷⁵See Corte suprema di Cassazione, sezioni unite, 6 ottobre 1979, n. 5172.

⁶⁷⁶Silei, G. (2016). *Tutela, sicurezza e governo del territorio in Italia negli anni del centro-sinistra*, FrancoAngeli.

some cases were initiated directly against governments and private entities that have failed climate regulations.⁶⁷⁷

By looking at the data collected globally, most cases focus on climate mitigation while litigation on climate change adaptation is still growing and, in some cases, adaptation is not even the main approach, but outcomes may benefit climate resilience.⁶⁷⁸

Mitigation cases, such as *Urgenda* and *Milieudefensie*, are the most famous.⁶⁷⁹ These cases stress the mitigation approach and want to achieve the objectives of the Paris Agreement. An additional type of mitigation case focuses on civil lawsuits against private entities because responsible for emissions. These are mostly present in the United States where numerous high-profile litigations have been initiated against large companies. These cases are useful to underline climate liability on private entities.⁶⁸⁰

Mitigation cases encounter practical and normative complications.⁶⁸¹ First of all, from a practical perspective, global mitigation seems to lack specificity, for example, the temperature goals are clear but unreliable regarding the probability to happen. Then, this goal is not sided with precise burden-sharing formula.⁶⁸² Indeed, the mitigation regime is based on the assumption that a common mitigation obligation is an obligation for the states as they agreed on the Paris Agreement. Still, the temperature goal is now a legal standard through practice and yet, States are not in line with their targets or goals.⁶⁸³

As anticipated, litigation regarding adaptation measures are difficult to define due to their different forms and scales. Scholars are indeed divided on what should be included in this category and what are adaptation responsibilities. This derives from the fact that the populations have different capacities to adapt, and efforts should always be localized while involving local authorities, businesses, and communities affected. For this, the most common formula of adaptation litigation focuses on land use and urban planning at the city or local government level where people used environmental and

⁶⁷⁷Banda, ML. & Fulton, S. (2017). Litigating climate change in national courts: recent trends and developments in global climate law. *Environmental Law Reporter News & Analysis*, 47(2), 10121-10134.

⁶⁷⁸Eales, B. (2020). *Climate Change, Coming Soon to a Court Near You – Report One: Report Series Purpose and Introduction to Climate Science*. Sabin Center for Climate Change Law. Columbia Law School & Asian Development Bank. Available at: https://scholarship.law.columbia.edu/sabin_climate_change/50

⁶⁷⁹These two cases are analyzed in the next chapter.

⁶⁸⁰Setzer, J. (2022). The Impacts of High-Profile Litigation against Major Fossil Fuel Companies. In C. Rodríguez-Garavito (Ed.), *Litigating the Climate Emergency: How Human Rights, Courts, and Legal Mobilization Can Bolster Climate Action* (Globalization and Human Rights, pp. 206-220). Cambridge: Cambridge University Press. doi:10.1017/9781009106214.013

⁶⁸¹Mayer, B. (2019). Interpreting States' General Obligations on Climate Change Mitigation: A Methodological Review, 28 *RECIEL* 107.

⁶⁸²Mayer, B. (2023). Prompting Climate Change Mitigation Through Litigation. *International & Comparative Law Quarterly*, 72(1), 233-250. Doi:10.1017/S0020589322000458

⁶⁸³Witting, C. (2018). *Street on Torts* (15th edn, OUP 2018) 127.

administrative law to challenge the behaviors.⁶⁸⁴ Also, determining the legal liability of a public body for adaptation failures needs substantial work of interpretation and assessment. In this regard, the scenarios are mostly two: in the first one, there is the redress for failure to adapt, while in the second the impacts are the ones redressed.⁶⁸⁵ At the same time, the instruments used might require proving the local climate effects taking place and that future effects will require new measures for adaptation. Therefore, the role of climate science even in this case is predominant and can be used as integrated into the cases people bring in court and defend.⁶⁸⁶

Even though litigation can be divided into mitigation and adaptation cases, scholars have noticed a new phenomenon or tendency called “*rights turn*” in climate change litigation. The first characteristic visible is the link between human rights and the environment that now is more solid than before, this thanks to the turn to human rights law implemented by judges when litigating climate change. Then, even if the European Convention of Human Rights, as well as the American Conventions, explicitly mention and protect environmental rights, this did not stop Courts from ruling ingeniously creating the needed protection when needed. What happened, consequently, is that these rights enshrined in the cases brought in courts have undergone a process of “*greening*” meeting the environmental standards. These cases, in both international and regional and domestic bodies, symbolize the “*rights turn*” in climate change litigation.⁶⁸⁷ In this way, the use of human rights law becomes a gap filler able to deliver remedies if other law fields are incapable of doing so. This, however, is not new, especially if we analyze the environmental context. In fact, human rights law remedies are frequently implemented to protect environmental interests that are seen under human rights violations. Using human rights law to protect environmental interests is effective because it is recognized at the international and national levels by States. Therefore, this means human rights law creates an obligation for governments, while environmental law obligations have more limited enforcement. As a result, the obligations to address environmental damages that impede the full enjoyment of human rights encompasses the violations triggered by climate change impacts. International human rights bodies clarified the content of these obligations in the connection between the two fields: obligations related to substantive human rights, such as the right to life, adequate housing and food, and procedural human rights, for example, the right to be informed, gain a specific

⁶⁸⁴Donger, E. (2022). Lessons on “Adaptation Litigation” from the Global South, *Verfassungsblog*, available at <https://verfassungsblog.de/lessons-on-adaptation-litigation-from-the-global-south/>

⁶⁸⁵Marke, A., & Zolla, M. (2020). Establishing Legal Liability for Climate Change Adaptation Failures: An Assessment of the Litigation Trend. *Carbon & Climate Law Review*, 14(3), 187–198. <https://www.jstor.org/stable/27076688>

⁶⁸⁶Elkin, J. (2022). Climate Science in Adaptation Litigation in the U.S. Sabin Center for Climate Change Law.

⁶⁸⁷Fraser, J. & Henderson, L. (2022). The human rights turn in climate change litigation and responsibilities of legal professionals. *Netherlands Quarterly of Human Rights*, 40(1), 3–11.

character concerning climate change.⁶⁸⁸ Except for the strength of international human rights law, we can find several justifications for this right turn. For example, right claims build the possibility to use other international and domestic legal tools. Also, using human rights transform climate consequences into more concrete and relevant, reaching more people and developing their conscience regarding the real effect of climate.⁶⁸⁹ Furthermore, achieving great media coverage and public consideration in a case lifts the debate at the political level entering the political agenda. This allows the appellants to embrace the sensitivity of particular groups and minorities bringing them into the case, even if only hypothetically. Achieving public attention push forward the development of environmental rights, these have always been considered visible by everyone because not experienced by most people but only by the poorest.⁶⁹⁰ Although the scale of climate change impacts has changed, affecting everyone in the globe even if still differently, victims rely on media and journalists to make their voices heard by the authorities. Finally, the strongest and maybe obvious advantage from this turn in litigation is the development of informal effects that are able to transform the climate debate emphasizing the humanity of the phenomena. In some cases, this demonstrated to be more politically meaningful than scientific and technical arguments in litigation.⁶⁹¹

5. The role of the International Courts in climate jurisdiction

As illustrated climate litigation consented people, even children and indigenous groups, to access courts to call for governments and companies to fulfil their commitments on climate change. For example, Professor Hari Osofsky argued that courts “*have become a critical forum in which the future of greenhouse gas emissions regulation and responsibility are debated*”.⁶⁹² Besides, SDG goal 16 underling the necessity “*to provide access to justice for all and build effective, accountable and inclusive institutions at all levels.*”⁶⁹³ This is essential to increase the environmental rule of law, access to justice and resolve environmental disputes. Analyzing the situation with a political theory framework, it is more than legit wondering if courts are the right places to deal with climate change-

⁶⁸⁸Savaresi, A. (2021). Human rights and the impacts of climate change: Revisiting the assumptions. *Oñati Socio-Legal Series*, 11(1), 231–253.

⁶⁸⁹Okereke, C. & Coventry, P. (2016). Climate justice and the international regime: Before, during, and after Paris. *WIREs Climate Change*, 7(6), 834–851.

⁶⁹⁰Göçoğlu, V. (2022). Agenda-Setting for sustainable development on Twitter: actors, motivations, and issues in Turkey. *Journal of Asian Public Policy* 0:0,1-18.

⁶⁹¹Peel, J. & Osofsky, HM. (2018) A Rights Turn in Climate Change Litigation?. *Transnational Environmental Law*, 7(1), 37-67.

⁶⁹²Osofsky, HM. (2010). The Continuing Importance of Climate Change Litigation, *Climate Law*, vol. 1 no.1 3-29;

⁶⁹³See United Nations, Sustainable Development Goal (SDG) 16 on Peace, Justice and Inclusion at <https://www.undp.org/policy-centre/oslo/sdg-16-measurement-and-monitoring>

related issues.⁶⁹⁴ This raises several obstacles, such as the separation of powers issues, but also calls for the necessity to analyze the different types of courts that might deal with climate change issues.

However, Courts have shown the tendency to use international human rights standards or soft law obligations to expand environmental protection also under private and public law norms. In addition, Courts are now braver in doubting the efficacy of climate policies and more convinced to implement Paris Agreement targets to guarantee that governments respect their duties in fighting climate change. Consequently, as said, Climate litigation have increased in the last decade while courts have progressively acknowledged their responsibility in mitigating climate change with their powers.⁶⁹⁵

Nevertheless, it is important to note that while international courts can play a significant role, they are not the only forum for addressing climate change. The primary vehicle for international climate negotiations and agreements is still the UNFCCC and its associated mechanisms, such as the Paris Agreement. These agreements rely on voluntary commitments from member states to address climate change.

5.1 Environmental courts and tribunals

During the first decade of environmental disputes arising among states, Specialized Environmental Courts and Tribunals (ECTs) were developed and are now seen as a positive result of the law. This growth of ECTs since 2000 is astonishing as there are more than 1,200 ECTs in the total countries, both at national and provincial levels, while some other countries are planning to establish ECTs. This phenomenon is a consequence of many factors, from the current development of new international environmental laws principles to the relation between human rights and environmental protection and the general disappointment with the judicial arenas among populations⁶⁹⁶

By definition, ECTs are specialized courts and tribunals, this species already existed long before climate issues. Still, ECTs are considered one of the many solutions to balance fair and transparent treatments while protecting and promoting sustainable development. Indeed, environmental and climate justice supporters sustain that ECTs are efficient and effective in achieving environmental goals.⁶⁹⁷ Moreover, these types of courts can differ from place to place as they can be created

⁶⁹⁴LaTourette, SM. (2008). Note. Global Climate Change: A Political Question?, in 40 Rutgers L.J.p. 219;

⁶⁹⁵Kirby, M. & Ouwerkerk, D. (2021). Climate Change through the Courts: Trends in Environmental Litigation, Trainee Solicitors, Pogust Goodhead, available at <https://pogustgoodhead.com/climate-change-through-the-courts-trends-in-environmental-litigation/>

⁶⁹⁶United Nations Environment Programme. (2016). *Environmental Courts & Tribunals - A Guide for Policy Makers*. <https://wedocs.unep.org/20.500.11822/10001>.

⁶⁹⁷Pring G. & Pring, C. (2009). GREENING JUSTICE CREATING AND IMPROVING ENVIRONMENTAL COURTS AND TRIBUNALS. The Access Initiative. available at <https://www.law.du.edu/documents/ect-study/greening-justice-book.pdf>

differently, in various ways and can have multiple functions following the legal nature that defines what is the institution, why it was created and what are its limits.⁶⁹⁸

Australia and New Zealand have been at the frontlines of establishing the first environmental courts ever. Australia established the Land and Environment Court of New South Wales in 1979 while the New Zealand Environmental Court arrived about twenty years later, in 1996. Both courts are independent and specialized, composed of legal experts nominated by the government as technical experts. Specifically, the New Zealand court has more functions and powers, as it appeals and makes legal declarations and has the power to issue enforcement orders directing a person or organization causing a nuisance or environmental problem to abate it. The enforcement powers make the court very effective to the extent that the court has been indicated as a "judge of sustainability" in relation to these powers.⁶⁹⁹ Environmental courts now exist in Europe as well; for example, an environmental court was established in England and Wales in 2010. Its jurisdiction remains modest and is limited to hearing appeals related to the new civil penalty powers conferred on key national environmental regulators. Nonetheless, this new court may form the nucleus of a larger institution that will hear many types of environmental appeals. Paradoxically, the two main drivers of change that enabled the establishment of the environmental court were not environmental factors. Rather, the new court system was created because of a general recognition that the existing court system could be made more efficient and flexible. The new civil penalties and right of appeal to a court are the results of a review of penalties in all areas of business regulation.⁷⁰⁰

Among the ECTs created to date, the National Green Tribunal of India is of particular interest, as it was established in 2010 to respond to a specific request from the Supreme Court to create a judicial body to deal with the protection of the environment and the conservation of natural resources, as it is mentioned in its foundational Act.⁷⁰¹ Three interesting features are the wide scope of its jurisdiction, its composition, and its open access to individuals and the general public. This latter reference highlights how open the Indian system is to guarantee access to environmental justice, which is related to the evolution of public interest litigation that the Supreme Court has developed so far. The Tribunal also function as an appellate body, which will enhance its role and power. However, a serious limitation is Section 14, which restricts appeals to the Tribunal to a period of six months from

⁶⁹⁸Pain, N. (2021). Environmental Courts and Tribunals: Powers, Integrity and the Search for Legitimacy, written by Ceri WARNOCK, *Chinese Journal of Environmental Law*, 5(1), 109-116. doi: <https://doi.org/10.1163/24686042-12340066> p.27

⁶⁹⁹Birdsong, BC. (2002). Adjudicating Sustainability: New Zealand's Environment Court. *Ecology Law Quarterly*, 29(1), 1-69. <http://www.jstor.org/stable/24114338>

⁷⁰⁰Macrory, R. (2010). Environmental Courts And Tribunals In England And Wales – A Tentative New Dawn. *Journal Of Court Innovation*.

⁷⁰¹See The National Green Tribunal Act, No. 19 of 2010, INDIA CODE (2010), vol. 19 (2010).

the date on which the cause of the dispute first arose, with the possibility of extending this period for an additional 60 days if a valid justification is provided.⁷⁰² The most interesting feature of the new Green Court is probably its composition, which will vary between 21 and 41 members. There will be a balanced mix of judges and technical experts with rigorous qualifications.⁷⁰³ The final feature worth mentioning in this preliminary account is the rather open-ended standing introduced by Section 18, which achieved the goal of creating an accessible environmental judiciary. Indeed, the access rules appear to be as broad as those for public interest litigation before the Supreme Court, since it is not only those directly affected by the dispute who are admitted.⁷⁰⁴

However, ECTs have also been criticized because politically controversial since sometimes might be obstacles to economic development. Obviously, ECTs have been criticized due to the so-called judicial overreach and blamed for challenging the traditional notions of judiciary reviews. Indeed, some national authorities have debated a lot regarding their powers but scholars, generally, are in favour of the establishment of these specialized courts.⁷⁰⁵ Additionally, ECTs are described as ‘courts’ or ‘tribunals’ but this depends on the constitutional arrangements of the specific jurisdictions in which are established. Often, they take judicial or quasi-judicial forms and are chaired by judges or trained law figures who can have the competence to make or review substantive decisions regarding environmental matters.⁷⁰⁶ Undoubtedly, they are experts in fact-finding but also in contributing to the development of environmental law throughout interpreting and applying laws strengthening environmental law and advancing environmental law principles.⁷⁰⁷

5.2 The International Court of Justice

Currently, there is only one international court with international competencies accepted and recognized by the States, the International Court of Justice. Following its status, bringing a climate case before this body could be of great importance with significant benefits, however, there are limitations to accessing this court. For example, only countries can initiate legal proceedings and the suits are against other countries. Imagining which state could start a climate-related case is a difficult

⁷⁰²See The National Green Tribunal Act, Section 14(3)

⁷⁰³Amirante, D. (2019). Giustizia ambientale e green judges nel diritto comparato: il caso del National Green Tribunal of India. DPCE Online, [S.l.], v. 37, n. 4. ISSN 2037-6677. Available at <https://www.dpceonline.it/index.php/dpceonline/article/view/584>

⁷⁰⁴Amirante, D. (2012). Environmental Courts in Comparative Perspective: Preliminary Reflections on the National Green Tribunal of India. 29 Pace Envtl. L. Rev. 441. DOI: <https://doi.org/10.58948/0738-6206.1693> Available at <https://digitalcommons.pace.edu/pelr/vol29/iss2/3>

⁷⁰⁵Cripps et al. (2001). *Report of the Land and Environment Court Working Party*. Government of New South Wales.

⁷⁰⁶Fisher, E. (2008). Administrative Law, Pluralism and Legal Construction of Merits Review in Australian Courts and Tribunals’ in L Pearson, C Harlow and M Taggart (eds), *Administrative Law in a Changing State: Essays in Honour of Mark Aronson*. Hart Publishing.

⁷⁰⁷Scotford, E. (2017). *Environmental Principles and the Evolution of Environmental Law*. Hart Publishing.

exercise because all states contribute to the carbon economy. Therefore, all countries, even if with different capacities and responsibilities, are both producers and victims of anthropological global warming.⁷⁰⁸ Nevertheless, the question here is if the Court would have jurisdiction, the latter is currently based on explicit consent given by a state. Moreover, consent can be expressed in three ways: by agreements of the parties, by the optional clause and lastly, by the rule of reciprocity.⁷⁰⁹ Another limitation is that the ICJ will not interfere during the international negotiation process, except for cases in which it can be proven that parties are not negotiating in good faith. Some scholars believe that there might be a chance for small island states to approach the ICJ with this clause as these states are the most impacted by climate events without being actively part of the carbon market. Their approach could be direct, or indirect through the General Assembly for an advisory opinion on climate change, bringing the negative impacts of a slow negotiating process as the main argumentation.⁷¹⁰ The ICJ is the principal judicial organ of the United Nations, thus, it is a legal consequence to ask for an advisory opinion, also on climate change.⁷¹¹ At the same time, the lack of legal force of the advisory opinions is not an obstacle to its authoritative and judicial competence. In fact, scholars sustain that advisory opinions are a perfect fit for the court to clarify disputes concerning climate change because of its representation of an international community.⁷¹²

Regarding the possibility to ask for an advisory opinion, this should be about one of these four subjects: climate science, states obligation regarding mitigation, states responsibilities on climate effects and the repercussions of these obligations and responsibilities on international law.⁷¹³ Yet, some scholars sustain that an international court should not evaluate scientific findings and that maybe an advisory opinion could only clarify legal norms on reducing GHG emissions or enhance mitigating policies.⁷¹⁴

⁷⁰⁸Strauss, AL. (2009). Climate Change Litigation: Opening The Door To The International Court Of Justice. *School Of Law Faculty Publications*. 3 at https://ecommons.udayton.edu/law_fac_pub/3

⁷⁰⁹See Statute Of The International Court Of Justice, 1945, article 36.

⁷¹⁰Gupta, J. (2007). Legal Steps Outside The Climate Convention: Litigation As A Tool To Address Climate Change. *Review Of European Community & International Environmental Law*, 16: 76-86.

⁷¹¹Tomuschat, C. (2019). *International Courts and Tribunals* ¶ 11, in MAX PLANCK ENCYCLOPEDIA OF PUBLIC INTERNATIONAL LAW (Anne Peters & Rüdiger Wolfrum, <http://www.opil.ouplaw.com/view/10.1093/law:epil/9780199231690/law-9780199231690-e35>

⁷¹²Kaminski, I. (2003). International Court of Justice to advise states on climate duties: 'A turning point for climate justice'. *Climate Change News*. Available at <https://climatechangenews.com/2023/03/29/international-court-of-justice-to-advise-states-on-climate-duties-a-turning-point-for-climate-justice/>

⁷¹³Mayer, B. (2023). International Advisory Proceedings on Climate Change, 44 MICH. J. INT'L L. 41. Available at: <https://repository.law.umich.edu/mjil/vol44/iss1/3>

⁷¹⁴Bodansky, D. (2017). *The Role of the International Court of Justice in Addressing Climate Change: Some Preliminary Reflections*, 49 ARIZ. ST. L.J. 689, 694

Notably, on March 29, 2023, the UNGA adopted by consensus a resolution⁷¹⁵ requesting an advisory opinion on the state obligations of States regarding climate change.⁷¹⁶ This initiative was led by the Government of Vanuatu which in collaboration with other countries prepared also the draft resolution through internal negotiations and numerous rounds of informal consultations within the other states.⁷¹⁷ The request for an advisory opinion acknowledges that:

*“climate change is an unprecedented challenge of civilizational proportions and that the well-being of present and future generations of humankind depends on our immediate and urgent response to it”*⁷¹⁸

The resolution incorporates the scientific consensus stated in the documents of IPCC in which it is explained that global warming is caused by human activities and its effects associated with losses and damages to the environment nature and people.⁷¹⁹

As for climate change mitigation, President Johnson Toribiong of Palau already in 2011 declared that the ICJ supported the responsibilities of states in ensuring that activities under their jurisdiction and control must respect the environment of also other states.⁷²⁰ Therefore, the resolution adopted by the UNGA is in line with the competencies of the court. Even in this case, an advisory opinion from the ICJ would interpret existing international law instead of creating new legal obligations. The opinion would not be binding but still would be highly influential. Experts say it could encourage reviews of national climate plans, and push states to look hard at their domestic targets, aiming for stronger policies to cut emissions and adapt to the impacts of climate change.⁷²¹

At the same time, the voluntary nature of international adjudication impedes the idea of inter-state litigation at the ICJ, especially because most GHG emitters do not consent on the compulsory jurisdiction of the ICJ, therefore, they do not have any interest in raising a climate-related case to this court.⁷²² Overall, if the ICJ would ever decide on a climate case, this decision would be the most authoritative in international law to oblige the State to reduce greenhouse gas emissions. Given the international authority that surrounds the Court, this type of decision could be taken seriously by

⁷¹⁵A/RES/77/276

⁷¹⁶A/77/L.58

⁷¹⁷See The Vanuatu ICJ Initiative at <https://www.vanuatuicj.com/home>

⁷¹⁸Ibid.

⁷¹⁹Tigre, MA. & Carrillo, JA. (2023). The ICJ’s Advisory Opinion on Climate Change: What Happens Now?. Sabin Center for Climate Change Law at Columbia Law School, available at <https://blogs.law.columbia.edu/climatechange/2023/03/29/the-icjs-advisory-opinion-on-climate-change-what-happens-now/>

⁷²⁰See Address by Johnson Toribiong, President of Palau, in U.N. GAOR, 66th Sess., 16th plen. mtg. at 26, 27, U.N. Doc. A/66/PV.16 (Sept. 22, 2011)

⁷²¹Wewerinke-Singh, M., & Salili, D. H. (2020). Between negotiations and litigation: Vanuatu’s perspective on loss and damage from climate change. *Climate Policy*, 20(6), 681-692.

⁷²²Fitzmaurice, M., & Rydberg, A. V. (2023). Using International Law to Address the Effects of Climate Change, *Yearbook of International Disaster Law Online*, 4(1), 281-305. doi: https://doi.org/10.1163/26662531_00401_014

states. Additionally, since domestic courts are already citing international agreements and other decisions of other domestic courts, the hypothetical authoritative decision by the ICJ could be cited by domestic courts and this would enforce international environmental law commitments even more concretely.⁷²³ This will generate spillover effects in many other sectors, from human rights law to the economy and also to the private sector.

5.3 The Court of Justice of the European Union

The Court of Justice of the European Union (CJEU) is responsible for the judicial branch of the European Union and its mission is to check if the application of the law is uniform and if the law is interpreted correctly across member states. The origin of the court has to be traced back to the Individual Courts of Justice that were established in the 1950s for the European Coal and Steel Community, the European Economic Community and the European Atomic Energy Community.⁷²⁴ After the Treaty of Rome, the courts were unified in the CJEU and in 1988 the Court of First Instance was also established, then renamed as General Court in 2009, to ease the work of the CJEU.⁷²⁵

So, the powers of the CJEU can be summarized in the interpretation, enforcement, and annulment of the law. Regarding interpretation, to avoid the ununiformed by national courts, cooperation between national courts and the Court is allowed and communication with the CJEU permits the national court to refer the doubt and then rule after the decision of the Court which must be respected.⁷²⁶ Concerning the enforcement of the law, the EU Commission or a member state can initiate proceedings at the CJEU to force another member state to observe EU laws. If the Court confirm the violation, the member state must fix the issue.⁷²⁷ Lastly, for an annulment of the EU law, member states, the Commission, the Council of the European Union and the European Parliament can request it in case of conflicts with the EU Treaties. The agreement by the CJEU will make the law null and void. Private individuals and entities can also start the proceeding but if the Court denies it, costs are high.⁷²⁸

⁷²³Gerrard, MB. (2021). Taking Climate Change To The International Court Of Justice: Legal And Procedural Issues. *Climate Law Blog*. Sabin Center For Climate Change Law at <https://blogs.law.columbia.edu/climatechange/2021/09/29/taking-climate-change-to-the-international-court-of-justice-legal-and-procedural-issues/>

⁷²⁴Lock, T. (2015). *The European Court of Justice and International Courts*. Regno Unito: OUP Oxford, pp. 74-90

⁷²⁵Saurugger, S. & Terpan, F. (2017). *The Court of Justice of the European Union and the Politics of Law*. Regno Unito: Palgrave Macmillan.

⁷²⁶Beck, G. (2017). Judicial activism in the court of justice of the EU. *The University of Queensland Law Journal*, 36(2), [333]-353. <https://search.informit.org/doi/10.3316/informit.538038436087246>

⁷²⁷Storey, T. & Pimor, A. (2018). *Unlocking EU law / by Tony Storey and Alexandra Pimor*. (5th edition..). Milton Park, Abingdon, Oxon ; New York, NY: Routledge.

⁷²⁸Adam, C., Bauer, M.W., Hartlapp, M., & Mathieu, E. (2020). *The Legal Background*. In: *Taking the EU to Court*. Palgrave Studies in European Union Politics. Palgrave Macmillan, Cham. https://doi.org/10.1007/978-3-030-21629-0_3

Going back to environmental issues, principles of sustainable development and environmental protection can be found in the EU treaties. Indeed, environmental protection is often present and significant in EU law. Not surprisingly, the CJEU had a crucial role in the whole process that led to the recognition of the EU environmental law. In fact, the Court declared that environmental protection is one of the fundamental objectives of the EU and this was sustained without any reference to official documents or laws.⁷²⁹

However, its behavior regarding climate cases is controversial. First of all, the Court ruled regarding a few issues with EU climate change policies. Briefly, one case denied an amendment to an economic support scheme for farmers to address climate change in the agriculture sector.⁷³⁰ In another case, a producer of the metallic fuel additive challenged the EU regarding the labelling obligations and the Court denied sustaining the health arguments.⁷³¹ The last example is a challenge raised against one Italian national legislation that was forbidding the construction of wind turbines. In this case, the court declared that the Italian legislation would not block the EU's energy policies promoting renewable energy.⁷³² Overall, more than fourth cases were initiated since 2005. The cases decided by the Court covered several different types of cases, mostly non-strategic and led to favorable outcomes for climate action or completely neutral to climate action. Some cases were initiated by companies that tried to challenge EU policies, such as the "*Lipidos case*".⁷³³ The latter was brought by a vegetable oil company that challenged Regulation 2019/807⁷³⁴ because it excluded palm oil biofuels from the EU market. The Court denied the case, which has been considered an example of how companies are trying to push the boundaries of new climate-related EU regulations before the courts.⁷³⁵

The controversial situation can also be found in litigation matters. The CJEU has recently rejected two climate change cases. In both of these, the claimants sustained that some EU legislative acts were violating EU's treaties and their human rights, which are protected under the EU Charter of Fundamental Rights. Interestingly, both cases considered the EU as an independent climate actor but

⁷²⁹Jacobs, F. (2006). The role of the European court of justice in the protection on environment. *J. Environ. Law* 18(2), 185–205

⁷³⁰See *Afton Chem.*, 2010 E.C.R. I-07027.

⁷³¹See Case C-2/10, *Azienda Agro-Zootecnica Franchini sarl v. Regione Puglia*, 2011 E.C.R. I-06561.

⁷³²Wilensky, M. (2015). Climate Change in the Courts: An Assessment of Non-U.S. Climate Litigation. 26 *Duke Environmental Law & Policy Forum* 131-179. Available at: <https://scholarship.law.duke.edu/delpf/vol26/iss1/4>

⁷³³See *Lipidos Santiga v Commission Case T-561/19*

⁷³⁴See *OJL 133, 21.5.2019, p. 1–7*

⁷³⁵Setzer, J., Narulla, H., Higham, C. & Bradeen, E. (2022). *Climate Litigation in Europe: A summary report for the European Union Forum of Judges for the Environment*. London and Brussels: Grantham Research Institute on Climate Change and the Environment and Centre for Climate Change Economics and Policy, London School of Economics and Political Science and the European Union Forum of Judges for the Environment.

were rejected because the applicants did not satisfy the standing requirements.⁷³⁶ The standing issue is crucial in this analysis. To obtain standing before the CJEU, an individual must respect some characteristics that individualize them uniquely against the other members of society. This is a strict requirement that endangers the ability of natural or legal persons to access justice before the CJEU. Furthermore, standing for groups is more complicated which led scholars to comment that Article 263 TFEU⁷³⁷ is interpreted too stringently leaving all environmental organizations outside the mechanism.⁷³⁸

Still, as described above, the EU signed the Aarhus Convention and recognizes the importance of public participation, including NGOs. On their participation, the European Commission drafted a proposal to reform the Aarhus Regulation.⁷³⁹ The proposal aims at broadening the possibility of the internal review procedure including acts of more general scope. Also, the Commission clarified that the proposal includes the review of the “non-legislative” act adopted, by the EU institutions that have legal and external effects that might include provisions breaching environmental law.⁷⁴⁰

Following the obstacles before the CJEU, climate cases have been brought also before the ECtHR.

5.4 The European Court of Human Rights

The European Court of Human Rights (ECtHR) gained a new wave of popularity since its experience in climate cases was shown to the public. All four cases before this court are strategic climate litigation, in line with the trend of cases since 2020, and all argued that Member States violated the ECHR, when considered in light of the Paris Agreement.⁷⁴¹

The ECHR was created by the Council of Europe in 1950 for greater unity among members and for recognizing human rights and fundamental freedoms.⁷⁴² All of the members of the CoE are parties to the Convention establishing an obligation for them to guarantee that everyone enjoys the rights and freedoms enshrined in the charter. The latter lay down the minimum standard of protection, but the

⁷³⁶Hartmann, J., & Willers, M. (2021). Protecting Rights in Climate Change Litigation before European Courts. Available at SSRN 3832674.

⁷³⁷See Article 263 TFEU, *Official Journal* 115. 09/05/2008 P. 0162 - 0162

⁷³⁸Lenaerts, K., Maselis, I. & Gutman, K. (2014). *EU Procedural Law*. Oxford University Press. 324.

⁷³⁹See Proposal for a Regulation of The European Parliament and of the Council on amending Regulation (EC) No 1367/2006 of the European Parliament and of the Council (6 September 2006) on the application of the provisions of the Aarhus Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters to Community institutions and bodies (14 October 2020) COM (2020) 642 final.

⁷⁴⁰Savaresi, A., Perugini, L. & Chiriaco, MV. (2020). Making Sense of the LULUCF Regulation: Much Ado about Nothing?. *Review of European, Comparative & International Environmental Law* 212.

⁷⁴¹Eicke, T. (2022). Climate Change and the Convention: Beyond Admissibility, *European Convention on Human Rights Law Review*, 3(1), 8-16. doi: <https://doi.org/10.1163/26663236-bja10033>

⁷⁴²See Convention for the Protection of Human Rights and Fundamental Freedoms, 4 November 1950, 213 UNTS 221 (entered into force 3 September 1953) [ECHR].

states are allowed to perform a higher level of protection in their jurisdiction.⁷⁴³ To access the court, plaintiffs must first exhaust all domestic remedies.⁷⁴⁴ Despite this formal proceeding, there is another way to access the Court. There is the possibility for the highest domestic courts to request the ECtHR to give an advisory opinion on the interpretation or application of the rights matters. This mechanism increases the interaction between the ECtHR and the national authorities and strengthens the implementation of the ECHR. However, these advisory opinions are not binding and are restricted to the pending case, but surely, they can generate guidelines for different subjects, including climate change.⁷⁴⁵

In this regard, climate change is not expressly mentioned in the Convention, but the nature of the charter has guaranteed a level of evolution through the years that has allowed fundamental rights to easily include environmental and climate rights. The Court reported that states have a positive duty regarding environmental disasters, also in cases where the state might not be in control of the disaster episode. In fact, the Court has recognized that states have the obligation to take preventive operational measures to deal with these situations.⁷⁴⁶ At this point, if the Court recognizes this duty and can include global warming and its effects as disasters, the ECtHR have competencies in these cases. At the same time, the right to a clean environment is not included in the charter but this does not represent a limit. Scholars suggest two solutions: the first one is to adopt a new Protocol including a clean/healthy environment⁷⁴⁷ or the ECtHR could fill this legislative gap with a creative interpretation.⁷⁴⁸ Therefore, this lack of mention is not an issue, even because the ECtHR could contribute to enriching the body of cases law in this field by placing the right to a clean environment within Article 2 and Article 8.⁷⁴⁹ Consequently, the ECtHR with its competencies could confirm that environmental protection is a prerequisite for the enjoyment of other rights. Obviously, this creative power of the Court has been criticized by some.⁷⁵⁰

⁷⁴³Ibid., art 19.

⁷⁴⁴Ibid., art.35.1

⁷⁴⁵See Protocol No. 16 to the Convention for the Protection of Human Rights and Fundamental Freedoms, 2 October 2013, CETS No.214 (entered into force 1 August 2018)

⁷⁴⁶Niska, TK. (2020). Climate Change Litigation and the European Court of Human Rights - A Strategic Next Step?. *The Journal of World Energy Law & Business*, Volume 13, Issue 4. Pp.331–342.

⁷⁴⁷See, Parliamentary Assembly of the Council of Europe, ‘Anchoring the Right to a Healthy Environment: Need for Enhanced Action by the Council of Europe’ (29 September 2021) Resolution 2396 (2021). However, also see, the Committee of Minister’s reluctance in the past: Committee of Ministers, ‘Drafting an Additional Protocol to the European Convention on Human Rights Concerning the Right to a Healthy Environment: Reply to Recommendation 1885 (2009)’ Doc 12298 (19 June 2010): <<http://assembly.coe.int/nw/xml/XRef/Xref-XML2HTML-en.asp?fileid=24830&lang=en>> para 9.

⁷⁴⁸Balfour-Lynn, H. & Willman, S. (2022). The Right to a Healthy Environment: The Case for a New Protocol to the European Convention on Human Rights. Available at SSRN: <https://ssrn.com/abstract=4206563>

⁷⁴⁹Feria-Tinta, M. (2021). Climate Change Litigation in the European Court of Human Rights: Causation, Imminence and other Key Underlying Notions. *Europe of Rights & Liberties/Europe des Droits & Libertés*, pp. 52-71.

⁷⁵⁰Tzevelekos, VP. & Dzehtsiarou, K. (2022). Climate Change: The World and the ECtHR in Unchartered Waters, *European Convention on Human Rights Law Review*, 3(1), 1-7. doi: <https://doi.org/10.1163/26663236-bja10036>

The choice of recognizing environmental issues in Articles 2 and 8 is not random. These two articles, along with Article 14⁷⁵¹ of the ECHR are currently the preferred provisions appealed by applicants in climate litigation. However, it is improbable that the Court could award pecuniary damages in environmental cases. This is for a simple reason: the Court requires the causal link to the violations found. Consequently, pecuniary damages awards are seen as impossible to happen in the context of climate cases. Instead, the Court often suggests that applicants claim damages domestically.⁷⁵² Besides, “causality” is significant as the “extraterritoriality” and the “victim” admissibility criterion.⁷⁵³ These characteristics must be respected so that the Court can attribute a breach, individuates the responsibility of states and the standards of due diligence that states should respect to fight climate change. Following this rationale, the cases most likely to be successful are the ones where causality can be easily established.⁷⁵⁴ The three requirements’ issues relate only to admissibility and not to material law. In fact, it is unclear how the Court could overcome these limits, it raises a question of interpretation of admissibility.⁷⁵⁵

As mentioned already, the ECtHR is currently dealing with its four climate cases. The plaintiffs of these cases are calling for the protection of their present and future from disastrous effects of climate change.⁷⁵⁶ These claims underline the insufficient actions made by the states in reducing emissions by linking this lack of efficiency with numerous violations of the ECHR. Thus, the Court has the chance to change our societies with its rulings.⁷⁵⁷

Despite the positive news of having the Court dealing with this issue, the main challenge remains the question of standing which is allowed only if the requirements already described are fulfilled. If the Court should accept and give to the people standing, the Court will for sure deliver positively and guarantee protection to applicants. We have to underline that the ECtHR is an appealing legal avenue

⁷⁵¹See Article 14 of the European Convention on Human Rights, 1950. "*The enjoyment of the rights and freedoms set forth in [the] Convention shall be secured without discrimination on any ground such as sex, race, colour, language, religion, political or other opinion, national or social origin, association with a national minority, property, birth or other status*".

⁷⁵²Keller, H., Heri, C. & Piskóty, R. (2022). Something Ventured, Nothing Gained?—Remedies before the ECtHR and Their Potential for Climate Change Cases. *Human Rights Law Review*, Volume 22, Issue 1.

⁷⁵³Karakaş, I. & Bakırcı, H. (2018). Extraterritorial Application of the European Convention on Human Rights: Evolution of the Court’s Jurisprudence on the Notions of Extraterritorial Jurisdiction and State Responsibility’, in Anne van Aaken, and Iulia Motoc (eds), *The European Convention on Human Rights and General International Law* .

⁷⁵⁴Spano, R. (2014). Universality or Diversity of Human Rights? Strasbourg in the Age of Subsidiarity. 14(3) *Human Rights Law Review* 487.

⁷⁵⁵Pedersen, OW. (2020). The European Convention of Human Rights and Climate Change – Finally!. EJIL Talk, available at <https://www.ejiltalk.org/the-european-convention-of-human-rights-and-climate-change-finally/>

⁷⁵⁶Tubiana, L. (2023). Climate in court: The Paris Agreement’s role in safeguarding human rights, Climate Change News. Available at <https://www.climatechangenews.com/2023/03/28/climate-in-court-the-paris-agreements-role-in-safeguarding-human-rights%E2%80%AF/>

⁷⁵⁷Keller, H. & Heri, C. (2022). The Future is Now: Climate Cases Before the ECtHR. *Nordic Journal of Human Rights*, 40:1, 153-174. DOI: [10.1080/18918131.2022.2064074](https://doi.org/10.1080/18918131.2022.2064074)

for climate claims due to its singular competencies and powers that cannot be found anywhere else.⁷⁵⁸ Scholars believe that the ECtHR is preparing towards a more bending approach to standing. In the current pending climate cases, the plaintiffs emphasized their vulnerability which could justify the reinterpretation of the current ECHR rules on standing.⁷⁵⁹

However, probabilities are that the ECtHR cannot be a proper climate change court, this is for the same motivations that explicate why no court can holistically address migration or stop autocracy or war among states. Still, in the absence of alternative and effective, legal or political mechanisms, certain multi-dimensional and social phenomena, such as climate justice, can be read through human rights law and fall under the jurisdiction of the ECtHR.⁷⁶⁰

5.5 The International Tribunal on the Law of the Sea

The United Nations Convention on the Law of the Sea (UNCLOS)⁷⁶¹ was established in 1982 while the International Tribunal for the Law of the Sea (ITLOS) become operative almost 10 years later when the UNCLOS entered into force. This delay was a consequence of the difficulty to find an agreement on such an important and crucial matter as this universal legal regime that regulates the access to and use of the resources of the oceans which are two-thirds of the Earth.

The ITLOS has an organization similar to the ICJ, a few differences derive from the fact that it has a special focus. In fact, the ITLOS has a permanent and special chamber with compulsory jurisdiction over a specific category of dispute. Then, the Seabed Disputes Chamber (SBDC) deals with disputes about activities in the seabed, ocean floor and subsoil that go beyond the limits of any national jurisdiction.⁷⁶² Also, the Tribunal has an advisory function according to Article 16 of the Statute of the ITLOS which is defined as a judicial service to promote understanding and compliance with international obligations. Even in this case, the advisory jurisdiction is not legally binding.⁷⁶³

⁷⁵⁸Savaresi, A. (2020). The Use of Human Rights Arguments in Climate Change Litigation and its Limitations' in David Ismail, Karen van der Schaaf and Lars van Troost (eds). *Climate Change, Justice and Human Rights: Changing Perspectives on Human Rights* (Strategic Studies 2020).

⁷⁵⁹Murcott, M., Tigre, MA. & Zimmermann, N. (2022). Climate Change Litigation: What the ECtHR Could Learn from Courts in the Global South. *Völkerrechtsblog*. doi: [10.17176/20220322-121032-0](https://doi.org/10.17176/20220322-121032-0).

⁷⁶⁰Tubiana, L. (2023). Climate in court: The Paris Agreement's role in safeguarding human rights, *Climate Change News*. Available at <https://www.climatechangenews.com/2023/03/28/climate-in-court-the-paris-agreements-role-in-safeguarding-human-rights%E2%80%AF/>

⁷⁶¹See the Convention on the Law of the Sea, Dec. 10, 1982, 1833 U.N.T.S.397

⁷⁶²Kittichaisaree, K. (2021). *The International Tribunal for the Law of the Sea*. Germania: OUP Oxford.

⁷⁶³Carrillo, C. (2023). The Advisory Jurisdiction of the ITLOS: From Uncertainties to Opportunities for Ocean Governance. In F. Platjouw & A. Pozdnakova (Eds.), *The Environmental Rule of Law for Oceans: Designing Legal Solutions* (pp. 236-251). Cambridge: Cambridge University Press. doi:10.1017/9781009253741.023

Anxieties are raised on the fact that sometimes advisory opinions are used to get judicial statements on critical political issues which conflict with the judicial function.⁷⁶⁴

Regarding climate change and the environment, strategic questions that might be requested to ITLOS could focus on the interpretation and application of specific pollution prevention obligations under Part XII of the Statute⁷⁶⁵, also strictly linked to GHG emissions. This part includes the accepted international rules and standards that States must adopt to prevent, diminish, and control pollution as requested by UNCLOS.⁷⁶⁶

Moreover, ITLOS could enhance the correlation between climate change and the marine environments if questioned on the negative climate effects like sea-levels rising and acidification of the oceans. The Tribunal could stress the damage to the marine environment, the menace to the preservation and sustainable use of fish stock and if states are in with the UN climate framework and therefore should be held responsible for such damages.⁷⁶⁷ Indeed, ITLOS has a key role in clarifying the relations between the negative effects of climate change and the obligation of states. Delivering in any of the cases reported could increase the consensus of the scientific knowledge behind climate change showing the consequences of the ineffectiveness of the policies implemented so far by the states in the context of the Paris Agreement.⁷⁶⁸ However, an advisory opinion regarding the interpretation or application of the UNFCCC or Paris Agreement is outside the competence of the ITLOS.⁷⁶⁹

Still, an advisory opinion on the legal effects of climate change in the law of the sea could offer additional guidelines to states regarding their obligations to limit the impacts of climate change also in the oceans. Basically, the ITLOS has the opportunity to creatively interpret the UNCLOS by adapting it to new challenges. Consequently, States would use this instrument for the climate crisis by asking for advisory opinions and the findings will boost the application of UNCLOS in the light of climate change. The statement would definitely be authoritative and could contribute to cases, both

⁷⁶⁴Barnes, R. (2022). An Advisory Opinion on Climate Change Obligations Under International Law: A Realistic Prospect?. 53 *Ocean Development & International Law* 180

⁷⁶⁵See United Nations Convention on the Law of the Sea, Part XII. Protection And Preservation Of The Marine Environment

⁷⁶⁶Roland Holst, RJ. (2022). Taking the current when it serves: Prospects and challenges for an ITLOS advisory opinion on oceans and climate change. *RECIEL*. 1- 9. doi:[10.1111/reel.12481](https://doi.org/10.1111/reel.12481)

⁷⁶⁷Castilho Salgues, IA. (2018). Commitments and Legal Obligations in the Paris Agreement: Compliance and Adjudication-The supplementary role of the ICJ and ITLOS in tackling climate change

⁷⁶⁸Viñuales JE. (2023). Climate change and the advisory function of international courts and tribunals. Lauterpacht Centre for International Law. University of Cambridge. Available at <https://www.lcil.cam.ac.uk/blog/climate-change-and-advisory-function-international-courts-and-tribunals-professor-jorge-e>

⁷⁶⁹Tanaka, Y. (2022). The role of an advisory opinion of ITLOS in addressing climate change: Some preliminary considerations on jurisdiction and admissibility. *RECIEL*. 1- 11. doi:[10.1111/reel.12459](https://doi.org/10.1111/reel.12459)

at the international and domestic level, especially for those states in which the human right to a healthy environment is recognized constitutionally.⁷⁷⁰

6. Arbitrations vs litigations

Climate litigation are a great tool to challenge companies and governments regarding their climate responsibilities but there is also considerable space for arbitration to act as a forum for solving climate change and sustainability disputes. Arbitration could potentially become a crucial tool for the enforcement of environmental law and policy. Indeed, arbitration was used several times to resolve climate change-related disputes resulting in effective to enforce states' commitments and sanctions for non-compliance.⁷⁷¹ Certainly, the size and complexity of these cases will grow in the future following severe climate disasters. Therefore, the new arbitrations disputes will focus on the lack of responses to climate change.⁷⁷²

The rule is that climate change disputes can be solved through the arbitral structures of the Permanent Court of Arbitration (PCA)⁷⁷³ and arbitration is a suitable procedure to settle the environmental dispute, also in cross-border climate change cases. Generally, we can say that it has five interesting characteristics: it is a procedure in which all parties agree to start, it has a final and binding settlement, this final decision is made by a neutral part that follows the law and, lastly, the procedure applied is flexible so that is accepted by parties and their needs.⁷⁷⁴

Disputes related to the climate change law can also be solved through Article 14⁷⁷⁵ of UNFCCC which specifies the legal basis to solve such dispute. The article reports that if the dispute raises a question of interpretation and application of the Treaty, arbitration is an appropriate tool for the settlement. In addition, the Article leaves it to the Parties to solve the issue through the mechanism they prefer and suggest arbitration through which States Parties will agree on an annex that set out

⁷⁷⁰Carillo, CA. (2021). ITLOS Advisory Opinion on Climate Change and Oceans: Possibilities and Benefits, *OpinioJuris*. Available at <http://opiniojuris.org/2021/07/21/itlos-advisory-opinion-on-climate-change-and-oceans-possibilities-and-benefits/>

⁷⁷¹Latifah, E. & Imanullah, MN. (2018). The role of arbitration in promoting compliance to climate change law. *IOP Conf. Ser.: Earth Environ. Sci.* 200 012045

⁷⁷²De Paor, R. (2017). Climate Change and Arbitration: Annex Time before there won't be A Next Time. *Journal of International Dispute Settlement*. Volume 8, Issue 1. Pages 179–215, <https://doi.org/10.1093/jnlids/idw025>

⁷⁷³See the Permanent Court of Arbitration (PCA), 1899 at <https://pca-cpa.org/en/home/>

⁷⁷⁴See PCA-CPA 1907 Convention for The Pacific Settlement of International Disputes Report at <https://pca-cpa.org/wp-content/uploads/sites/175/2016/01/1907-Convention-for-the-Pacific-Settlement-of-International-Disputes.pdf>

⁷⁷⁵See *U.N. Framework Convention on Climate Change Chapter XXVII Environment 7*, U. N. Treaty Collection (May 9, 1992), art. 14. “In the event of a dispute between any two or more Parties concerning the interpretation or application of the Convention, the Parties concerned shall seek a settlement of the dispute through negotiation or any other peaceful means of their own choice.”

the rules of procedure.⁷⁷⁶ The same provisions are mirrored in Article 24 of the Paris Agreement.⁷⁷⁷ Numerous climate change cases were settled by the Permanent Court of Arbitration. For example, having in mind the importance of the mitigation of greenhouse gas emissions, some past arbitrations cases could be reviewed through elements. The Trail Smelter Arbitration⁷⁷⁸ is one of the most famous cases and it was related to damage caused to the US environment by the emissions of the Canadian smelter. The case was concluded with Canada held responsible and for this, the country had to pay an indemnity for the damage caused.⁷⁷⁹

There are also climate change disputes of commercial type, these include several instances mainly about energy issues under the International Centre for Settlement of Investment Disputes (ICSID)⁷⁸⁰. In fact, a third of all the ICSID claims concern oil, gas or mining disagreements. These have obviously an environmental facet, but commercial interests can also be found.⁷⁸¹ Though these cases are primarily economic disputes worrying about capital investments where the implicit argumentation follows the actions of the State designed to reduce GHG emissions. One still pending arbitration of this type is *Windstream Energy v Canada*.⁷⁸²

The recent growth of arbitration is partially a consequence of viewing arbitrators as more concentrated on their mandate instead of the social impact that might be generated by their decisions.⁷⁸³ Investors have been trusting the profits of their investments against the strengthening of the environmental protection measures of the State.⁷⁸⁴ Indeed, scholars multiple times have shown a certain degree of environmental sensibility is unknown in ISDS practices, still, national environmental measures were considered secondary in the face of the rights of the investors under international law.⁷⁸⁵ In this hostile context alternatives to ISDS were proposed, starting from the EU,

⁷⁷⁶LRI. (2017). Legal and procedural remedies in cases of non-compliance with Paris Agreement. Legal assistance paper. Available at <https://legalresponse.org/legaladvice/legal-and-procedural-remedies-in-cases-of-non-compliance-with-paris-agreement/>

⁷⁷⁷See *U.N. Framework Convention on Climate Change Chapter XXVII Environment 7*, U. N. Treaty Collection (May 9, 1992), art. 24.

⁷⁷⁸See Trail smelter case (United States, Canada), 1935

⁷⁷⁹Miller, RA. (2007). Trail Smelter Arbitration. Max Planck Encyclopedia of Public International Law. available at <http://opil.ouplaw.com/view/10.1093/law:epil/9780199231690/law-9780199231690-e1612>.

⁷⁸⁰See The Convention on the Settlement of Investment Disputes Between States and Nationals of Other States (International Centre for Settlement of Investment Disputes [ICSID]) 575 UNTS 159.

⁷⁸¹Rivkin, D. & Martella, R. (2015). COP21: Climate Change Related Disputes: A Role for International Arbitration and ADR. Opening Session: Introduction to the IBA Task Force on Climate Change Justice and Human Rights and the importance of accessible and enforceable dispute resolution mechanisms.7

⁷⁸²See *Windstream Energy LLC v. Government of Canada*, PCA Case No. 2013-22

⁷⁸³Reinisch, A. (2009). *Recent Developments in International Investment Law*. 40.

⁷⁸⁴Wisniewski, E. (2018). A Changing Climate: The Future of “Legitimate Expectations” in Energy Investment Disputes.

⁷⁸⁵ViÉuales, E. (2016). Foreign investment and the environment in international law: The current state of play. Cambridge Centre for Environment, Energy and Natural Resource Governance Working Paper 1.

even though the realization of an effective and concrete mechanism is still far from happening.⁷⁸⁶ By contrast with ISDS, commercial arbitration aims at resolving disputes with predominantly private interests, so, scholars sustain that the same can be done with climate change disputes.⁷⁸⁷

Arbitration, whether for investment protection or commercial disputes, was not thought of as a means of environmental protection or for any other common interests. The success of commercial arbitration to solve climate change disputes hangs on the acceptability of the people. Surely, arbitral institutions wish to improve their perception, this could be achieved through the involvement of a third party to provide information, by allowing more transparency of the proceedings or by opening the procedures to the public, also during the hearings and verdicts.⁷⁸⁸ Even because investment arbitration can easily include environmental and other common interests.

⁷⁸⁶Stothard, P. & McDougall, K. (2017). The EU's proposed reform of ISDS. Norton Rose Fullbright. Available at <https://www.nortonrosefulbright.com/en/knowledge/publications/e17ef991/the-eus-proposed-reform-of-isds>

⁷⁸⁷Thieffry, P. (2021). "Chapter 20 International Arbitration of Climate-Related Disputes: Prospects for Alternative Dispute Resolution". In *Climate Change Litigation: Global Perspectives*. Leiden, The Netherlands: Brill | Nijhoff. doi: https://doi.org/10.1163/9789004447615_021_p.470

⁷⁸⁸Hensler, DR., & Khatam, D. (2017). Re-inventing arbitration: how expanding the scope of arbitration is re-shaping its form and blurring the line between private and public adjudication. *Nev. LJ*, 18, 381.

PART V

CLIMATE LITIGATION. CASE STUDIES.

Having captured the theoretical and historical background that led to the development and use of climate litigation, an analysis of a few cases can contribute to grasping more concretely their functions and ability in achieving climate justice.

This chapter starts with an explanation regarding the importance of the reference and the use of scientific knowledge when dealing with climate cases. As will be demonstrated with the cases, science is crucial in demonstrating the causal link between emission and the violation of human rights. The cases reported in this work focus on human rights arguments, based mostly on the violation of articles 2 and 8 of the ECHR. This underlines the common trend of using human rights to change governmental and private companies' behaviors. Moreover, the cases are not divided between successful and unsuccessful cases. Instead, they are gathered in a first set of cases where an innovative approach is underlined. Thus, the first set of cases reports if violations were recognized as such but, most importantly, if courts were also able to extend and alter the scope of the law. The second set of cases, which closes the chapter, represents an example of a roadblock from courts due to mechanisms or doctrine that still act as limitations to the achievement of climate justice.

1. Legal ground for litigation and science in climate litigation

As demonstrated, national courts face international climate law when ruling to the point that they are now highly responsive to international climate treaties which are now used as standards.⁷⁸⁹ At the same time, some courts were able to develop obligations for governments to contribute to the common goal of international climate law. However, it is also true that, by relying mainly on national laws, constitutional law, and human rights documents, courts are not able to foster accountability and compliance like a national and regional rule of law. In fact, the jurisdiction of soft law and international human rights law is more in line with the objective promoted by the climate treaties negotiated so far, even though this regime is geographically shaped by Western Europe countries. Therefore, it can be argued that climate litigation cannot institute a rigid global rule of climate law.⁷⁹⁰ Nevertheless, even in the absence of a global climate change law, national courts in some cases have identified a legal duty based on existing legal tools which impose governments to cut emissions and

⁷⁸⁹Franzius, C & Kling, A. (2021). The Paris Climate Agreement and Liability Issues', in Kahl and Weller *Climate Change Litigation – A Handbook*.

⁷⁹⁰Buser, A. (2023). National climate litigation and the international rule of law. *Leiden Journal of International Law*, 1-23. doi:10.1017/S0922156522000772

to implement measures to mitigate climate change.⁷⁹¹ Once again, these climate cases underline the tendency and the ability of individuals and groups to invoke courts to challenge governments.

Before analyzing the cases, the role of science in litigation must be addressed, as science plays a crucial role in establishing climate effects. Scientifically, there is a general consensus on the certainty of anthropogenic global warming caused by the emissions of greenhouse gases, as also affirmed by the IPCC.⁷⁹² The global temperature is still increasing and, currently, the Earth is about 1.2°C hotter compared to the early years of the 20th century and temperature increases at a fast and worrying rate. The latest IPCC report confirms that anthropogenic climate change affects every corner of the world, even if in diverse ways and measures, and it is provoked by the high concentration of carbon dioxide and other greenhouse gases⁷⁹³ in the atmosphere. As previously stated in this work, warming is mostly caused by carbon dioxide from the combustion of fossil fuels, as well as methane from intensive human activities. Warming is changing many components of the climate system, affecting global circulation and precipitation patterns, increasing glacier melting, causing sea level rise, and intensifying the hydrologic cycle, resulting in an increase in extreme weather events.⁷⁹⁴ The causation link, between climate and law, is particularly crucial. There are, indeed, some criteria that the law applies to test causation to strengthen this relation that affects international and domestic law and science. For example, in some cases outside the climate change sphere, courts sometimes make the legal concept of causation less rigid, this in order to establish more fairness considerations when ruling the cause-and-effect relation.⁷⁹⁵

Attribution science is fundamental in recent climate litigation because it contributes to the discussion regarding responsibility for climate change. Also, climate science is important in policymaking and planning, particularly when it is necessary to address the allocation of costs related to the mitigation and adaptation to climate change. Researchers have recently started developing approaches to trace damaging effects, whether induced or aggravated by climate change to specific emitters, with the goal of holding emitters and other responsible parties accountable in court for their

⁷⁹¹IBA, 2020, Model Statute for Proceedings Challenging Government Failure to Act on Climate Change <https://www.ibanet.org/MediaHandler?id=47ae6064-9a61-42f6-ac9e-4f7e1b5b4e7b#:~:text=The%20Model%20Statute%20seeks%20to,governments%20to%20take%20appropriate%20action>

⁷⁹²See IPCC AR6 SYR https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_LongerReport.pdf

⁷⁹³See IPCC, CLIMATE CHANGE 2021: THE PHYSICAL SCIENCE BASIS, Summary for Policymakers at SPM-10 (2021) [Summary for Policymakers], <https://www.ipcc.ch/report/sixth-assessment-report-working-group-i/>

⁷⁹⁴BIICL. (2021). The Role of Science in Climate Change Litigation. Available at <https://www.biicl.org/blog/29/the-role-of-science-in-climate-change-litigation?DownloadPDF=1>

⁷⁹⁵Minnerop, P. and Otto, F. (2020). Climate Change and Causation. *Joining Law and Climate Science on the basis of Formal Logic*. *Buffalo Journal of Environmental Law* 27 (2020, Forthcoming), Available at SSRN: <https://ssrn.com/abstract=3522519> or <http://dx.doi.org/10.2139/ssrn.3522519>

contributions to environmental harms. As science advances, so will its role in court and in policymaking.⁷⁹⁶

Moreover, attribution science takes place in four categories: climate change attribution, impact attribution, extreme event attribution, and source attribution.⁷⁹⁷ The first, i.e. climate change attribution, refers to research that observes how the emissions have increased atmospheric concentrations of those pollutants, as well as changes in other parts of the global climate system, such as global and regional mean temperatures, sea level, and sea ice extent. These studies employ numerical models of the climate system to quantify both the human effect on a climate variable and the impact of natural climate variability to detect human-caused "fingerprint" patterns in distinct climate variables.⁷⁹⁸ Impact attribution reveals how climate provokes changes in the life of all living species. The third category, extreme event attribution, examines particular and recorded weather occurrences in order to discover and quantify the effect of climate change in such an event. Lastly, source attribution aims at connecting the emissions to precise actors, like States or private entities, this generates important information to trace that crucial and causal link between emissions and injuries to the well-being of individuals.⁷⁹⁹

However, courts do not use attribution science due to a missing link that could benefit from its use. For example, it could overcome those procedural impediments by granting the standing. The lack of the latest science available during litigation denied the determination of causation, and consequently compensations and other remedies. Scholars found that most cases did not define the amount to which asserted effects or damages are linked to climate change, and even fewer produced quantitative evidence proving the injuries of plaintiffs. Therefore, these studies are critical to understanding how attribution science might be utilized to successfully advance the climate litigation field.⁸⁰⁰

2. Human rights and GHG emissions in courts

As demonstrated, human rights have now been utilized a lot to safeguard environmental interests. Indeed, the evident factual and legal relationship between climate change and the violation of

⁷⁹⁶Burger, M., Wentz, J., & Horton, R. (2020). The Law and Science of Climate Change Attribution. *Columbia Journal of Environmental Law*, 45(1). <https://doi.org/10.7916/cjel.v45i1.4730>

⁷⁹⁷Stuart-Smith, R. et al. (2021). Attribution science and litigation: facilitating effective legal arguments and strategies to manage climate change damages. Project Report. Oxford Sustainable Law Programme, Environmental Change Institute, Smith School of Enterprise and the Environment, Oxford.

⁷⁹⁸Parker, Wendy S. "Comparative Process Tracing and Climate Change Fingerprints." *Philosophy of Science* 77, no. 5 (2010): 1083–95. <https://doi.org/10.1086/656814>

⁷⁹⁹Jacob Elkin, J. (2022). Climate Science in Adaptation Litigation in the U.S. Sabin Center for Climate Change Law Columbia University.

⁸⁰⁰Patton, L.E. (2021). Litigation needs the latest science. *Nat. Clim. Chang.* 11, 644–645 <https://doi.org/10.1038/s41558-021-01113-7>

fundamental human rights is no longer speculative; rather, it has been confirmed in several international fora and court decisions throughout the world.⁸⁰¹ In addition, after the positive result obtained by the Urgenda case, there has been a greater receptivity by domestic courts to outlining climate change litigation in human rights terms.⁸⁰² Thus, scholars have shaped their work on litigation by looking at different elements: the type of claims made, the role of rights and actors, the way in which rights were impacted, whether success occurred and remedies.⁸⁰³ Based on the confirmed assumption that climate change affects many rights, most recent decided litigation cases recently proved how the link between climate change and human rights is now accepted factually and is able to generate different legal consequences.⁸⁰⁴

2.1 Urgenda Foundation v. Government of the Netherlands

The *Urgenda Foundation v. Government of Netherlands*⁸⁰⁵ is a landmark legal case involving the Urgenda Foundation, a Dutch sustainability organization, and the Dutch government. The case is notable for being the first in which a court legally mandated a government to take more ambitious action to combat climate change.

The famous case was initiated by Urgenda, an NGO established in 2008 with the objective to contribute to the transition to a more sustainable society through litigation, among other ways. For this reason, the Urgenda lawsuit started and over 800 individual people joined the action. Urgenda filed the complaint on its own behalf, as well as on behalf of these individuals, since NGOs are permitted to initiate public interest actions under Dutch tort law.⁸⁰⁶

Briefly, in November 2012 Urgenda submitted a request to the Dutch government to improve its commitment to reduce emissions by 40% by 2020. The arguments brought by Urgenda touched several points.⁸⁰⁷ First of all, Urgenda argued that the Dutch government had a duty of care towards its citizens, which encompassed taking action to protect them from the harmful impacts of climate change. They contended that this duty had derived from international human rights law, including the right to life and the right to private and family life which are recognized under articles 2 and 8 of

⁸⁰¹Knox, J. (2009). Linking Human Rights and Climate Change at the United Nations. 33 *Harvard Environmental Law Review* 47

⁸⁰²Peel, J. & Osofosky, H. (2018). A Rights Turn in Climate Change Litigation?. 7 *TEL* 37

⁸⁰³Savaresi, A. & Auz, J. (2019). 'Climate Change Litigation and Human Rights: Pushing the Boundaries'. 9 *Climate Law* 244

⁸⁰⁴Warnock, C. & Brian J Preston, BJ. (2023). Climate Change, Fundamental Rights, and Statutory Interpretation, *Journal of Environmental Law*. Volume 35 Issue 1. Pages 47–64, <https://doi.org/10.1093/jel/eqad002>

⁸⁰⁵See *Urgenda Foundation v. Government of Netherlands*, 2015, (HAZA C/09/00456689) at <http://climatecasechart.com/non-us-case/urgenda-foundation-v-kingdom-of-the-netherlands/>

⁸⁰⁶Van den Broek, B. & Enneking, L. (2014). Public Interest Litigation in the Netherlands. A Multi-dimensional Take on the Promotion of Environmental Interests by Private Parties through the Courts. 10 *Utrecht Law Review* 77.

⁸⁰⁷Roy, S. (2019). Urgenda II and its Discontents. *Carbon & Climate Law Review*, 13(2), 130–141. <https://www.jstor.org/stable/26739660>

ECHR. Their second argument regarded the emission reduction target of the government, which consisted of reducing 17% of emissions by 2020, based on 1990 levels, as insufficient to prevent dangerous climate change. They argued that the scientific evidence presented a compelling case for the necessity of setting even more ambitious targets to effectively curb global warming, striving to keep it well below the 2-degree Celsius threshold established in international climate agreements. Moreover, the organization argued that a 25% emission reduction by 2020 was a feasible and realistic goal for the Netherlands.⁸⁰⁸ They presented evidence that demonstrated the availability of renewable energy technologies and the potential for energy efficiency improvements, which could enable the country to achieve deeper emissions cuts. Thirdly, the plaintiff framed the case from a human rights perspective, asserting that failure to adequately address climate change would have severe consequences for people's rights to life, health, and well-being. They argued that the government's inadequate action violated its duty to protect these rights. To claim so, they relied on legal precedents and international law to support their case. They cited various international agreements, including the UNFCCC, which recognizes the importance of preventing dangerous anthropogenic interference with the climate system.⁸⁰⁹

In 2015, the District Court of The Hague ruled in favor of Urgenda, stating that the Dutch government had a legal obligation to reduce greenhouse gas emissions by at least 25% by 2020 compared to 1990 levels.⁸¹⁰ The court found that the government's previous target of a 17% reduction was insufficient to prevent dangerous climate change. The decision was groundbreaking because it recognized that governments have a legal duty to act on climate change based on human rights obligations. It also marked the first time that a court had quantified the specific emissions reduction target that a government should meet.⁸¹¹ Based on the reasoning presented by the Court, the decision underlined that climate change poses a significant threat to the right to life and the right to private and family life, protected under the European Convention on Human Rights. Secondly, it determined that the Dutch government had a duty to take reasonable measures to prevent harm to its citizens. Thirdly, it concluded that the reduction target of 17% by 2020 was inadequate in fulfilling its duty

⁸⁰⁸Wewerinke-Singh, M. & McCoach, A. (2021). *The State of the Netherlands v Urgenda Foundation*: Distilling best practice and lessons learnt for future rights-based climate litigation. *RECIEL*. 30: 275– 283. <https://doi.org/10.1111/reel.12388>

⁸⁰⁹Cox, R. (2015). A climate change litigation precedent: Urgenda foundation v the state of the Netherlands. CIGI PAPERS NO. 79. Available at https://www.cigionline.org/sites/default/files/cigi_paper_79.pdf p.12

⁸¹⁰See *Urgenda Foundation v State of the Netherlands* (ECLI:NL:RBD-HA:2015:7196). English version available at <https://www.urgenda.nl/wp-content/uploads/ECLINLGHDA20182610.pdf>

⁸¹¹Verschuuren, J. (2019). *The State of the Netherlands v Urgenda Foundation*: The Hague Court of Appeal upholds judgment requiring the Netherlands to further reduce its greenhouse gas emissions. *RECIEL*. 28: 94– 98. <https://doi.org/10.1111/reel.12280>

of care.⁸¹² Even Michelle Bachelet, the United Nations High Commissioner for Human Rights, praised the ruling for giving “*a clear path forward for concerned individuals in Europe—and around the world—to undertake climate litigation in order to protect human rights*”.⁸¹³

After the District Court of The Hague ruled in favor of Urgenda in 2015, the government expressed disagreement with the court's decision and chose to challenge it in the Court of Appeal.⁸¹⁴ The appeal of the government was based on the argument that the court should not interfere with policymaking decisions. It contended that setting specific emission reduction targets should be the prerogative of the executive branch, rather than the judiciary. The government raised concerns about the potential implications of the court's ruling for the separation of powers and the role of courts in determining public policy.⁸¹⁵ However, it is important to acknowledge that the government wrote a letter to Urgenda in which it admitted that the national measures were insufficient. Therefore, Urgenda underlined that the State was conscious of harming its citizens and this, in legal terms, was a wrongful act of the State. This was a key concept as the Foundation sustained that addressing the imminent threat of climate change is not only a moral, political, and legal matter, but also a legal obligation that must be fulfilled.⁸¹⁶

In October 2018, the Court of Appeal upheld the original judgment and confirmed the obligation to reduce greenhouse gas emissions by at least 25% by 2020 compared to the levels recorded in 1990. The Court of Appeal found that the government had a legal duty to protect its citizens and that the emission reduction target was deemed pivotal to meet this duty.⁸¹⁷

At this point, the government had the option to further appeal the decision to the Supreme Court of the Netherlands. Thus, the case proceeded to the Supreme Court, and on December 20, 2019, the Supreme Court issued its judgment.⁸¹⁸ The Supreme Court upheld the previous rulings of the lower courts, affirming that the Dutch government has a legal obligation to reduce greenhouse gas emissions

⁸¹²Stein, E., & Castermans, A.G. (2017). Case comment-Urgenda v. The state of the Netherlands: The “Reflex Effect”-climate change, human rights, and the expanding definitions of the duty of care. *McGill International Journal of Sustainable Development Law and Policy*, 13(2), 303-324.

⁸¹³UNHCR, (2019). Bachelet Welcomes Top Court’s Landmark Decision to Protect Human Rights from Climate Change. Office of the United Nations High Commissioner for Human Rights. Available at www.ohchr.org/EN/NewsEvents/Pages/DisplayNews.aspx?NewsID=25450&LangID=E

⁸¹⁴See Government Appeal to the Supreme Court of the Netherlands (Jan. 8, 2019) (in Dutch), available at <https://www.rijksoverheid.nl/documenten/brieven/2019/01/08/procesinleiding-vorderingsprocedure-hoge-raad>

⁸¹⁵Leijten, I. (2018). *The Dutch Climate Case Judgment: Human Rights Potential and Constitutional Unease*, *VerfBlog* at <https://verfassungsblog.de/the-dutch-climate-case-judgment-human-rights-potential-and-constitutional-unease/>, DOI: [10.17176/20181026-150155-0](https://doi.org/10.17176/20181026-150155-0).

⁸¹⁶See Letter from M.E. Minnemans, Executive Director of Urgenda, to M. Rutte, Prime Minister of the Netherlands (Nov. 12, 2012) (English translation), available at https://www.urgenda.nl/wp-content/uploads/Letter_to_the_government.pdf.

⁸¹⁷See *State of the Netherlands vs Urgenda Foundation* (ECLI:NL:GHD- HA:2018:2591). English translation available at <https://www.urgenda.nl/wp-content/uploads/VerdictDistrictCourt-UrgendavStaat-24.06.2015.pdf>

⁸¹⁸See Supreme Court of the Netherlands, 20 December 2019 (ecli:NL:HR:2019:2006), English translation available at <https://uitspraken.rechtspraak.nl/#!/details?id=ECLI:NL:HR:2019:2007>

by at least 25% by 2020 compared to the levels recorded in 1990. The Supreme Court's ruling emphasized the government's duty of care towards its citizens and recognized the significance of climate change as a pressing global issue. It concluded that the government's responsibility to protect human rights extends to taking adequate measures to mitigate climate change.⁸¹⁹ As a result, the decision in favor of Urgenda was upheld, solidifying the legal obligation for the government to undertake more ambitious measures to combat climate change.⁸²⁰

As mentioned, the Urgenda case had significant implications beyond the borders of the Netherlands. It inspired similar climate litigation cases around the world, with citizens and organizations using the ruling to argue for more ambitious climate action in their respective countries. Overall, the Urgenda case demonstrated the potential for legal avenues to compel governments to take stronger action on climate change and highlighted the interplay between climate change and human rights.⁸²¹

The fact that the court underscored this interdependency is particularly significant. It recognized that climate change has the potential to cause harm on a massive scale, including extreme weather events, rising sea levels, food and water shortages, and other adverse impacts. These effects can undermine the enjoyment of fundamental human rights, such as the right to life, health, adequate housing, and a clean environment. In this context, the court held that the Dutch government's duty to protect human rights extended to taking reasonable measures to prevent the harmful effects of climate change. The judgment established a legal precedent by explicitly linking climate change action to human rights obligations, asserting that governments have a duty to protect their citizens from the impacts of climate change under existing human rights frameworks.⁸²² The recognition of the link between climate change and human rights in the Urgenda case has had significant implications, as it has inspired similar climate litigation cases worldwide. The ruling has provided a legal basis for citizens and organizations to demand more ambitious climate action from their governments and has highlighted the responsibility of states to protect human rights in the context of climate change.

⁸¹⁹Spier J. (2020). 'The "Strongest" Climate Ruling Yet': The Dutch Supreme Court's *Urgenda* Judgment. *Netherlands International Law Review*, 67(2), 319–391. <https://doi.org/10.1007/s40802-020-00172-5>

⁸²⁰Wewerinke-Singh, M. and McCoach, A. (2021). *The State of the Netherlands v Urgenda Foundation*: Distilling best practice and lessons learnt for future rights-based climate litigation. *RECIEL*. 30: 275–283. <https://doi.org/10.1111/reel.12388>

⁸²¹Fahner, J. (2018). Climate Change before the Courts: Urgenda Ruling Redraws the Boundary between Law and Politics. EJIL Talk, available at <https://www.ejiltalk.org/climate-change-before-the-courts-urgenda-ruling-redraws-the-boundary-between-law-and-politics/>

⁸²²Stein, E., & Castermans, A.G. (2017). Case comment-Urgenda v. The state of the Netherlands: The "Reflex Effect"-climate change, human rights, and the expanding definitions of the duty of care. *McGill International Journal of Sustainable Development Law and Policy*, 13(2), 303-324.

2.2 *VZW Klimaatzaak v. Kingdom of Belgium & Others*

The *VZW Klimaatzaak v. Kingdom of Belgium & Others*⁸²³ case was filed in Belgium in 2015, styled after the well-known Dutch Urgenda case.

In 2015, the NGO Klimaatzaak and hundreds of concerned people filed a lawsuit against the four Belgian governments (the federal government and the regional governments of Wallonia, Brussels, and Flanders) before the Brussels Tribunal of First Instance. The NGO sustained that the four governments jointly infringed the general duty to act as “prudent” and “diligent” authorities violating Articles 1382 and 1383 of the Belgian Civil Code, articles 2 and 8 of the ECHR and articles 6 and 24 of the Convention on the Rights of the Child by not implementing adequate mitigation and adaptation measures.⁸²⁴ Klimaatzaak requested the Tribunal to set specific and legally binding emission reduction targets of 48% in 2025 and 65% in 2030 compared to 1990 levels, with the goal of attaining net zero emissions by 2050.⁸²⁵

The Brussels Court ruled in favor of the claimants, concluding that the Belgian governments failed to use prudence and diligence in pursuing their climate change policies, so failing to fulfil their duty of care under Belgian tort law. Furthermore, the Court mentioned that Belgium did not respect the previous objectives as also confirmed by the several communications received by the European Union. Nevertheless, the state was conscious of the risks posed by climate change for its citizens. As a result, the Brussels Court found that the governments did not take all required measures to protect the claimants' private lives from the effects of climate change.⁸²⁶ The Brussel Court unambiguously recognized that an inadequate climate response might amount to a breach of human rights by proving a violation of the Belgian state's positive responsibilities under the ECHR. In that regard, the decision clearly sets a significant precedent. While the court did open the door to the recognition of human rights-based climate duties, it did not demonstrate the logical ramifications of this conclusion. The Court did indeed confine its specific assessment of the State's climate response to its already existing commitments. As a result, the Court has declined to enforce stricter GHG emission limits based on

⁸²³See *VZW Klimaatzaak v. Kingdom of Belgium & Others* <http://climatecasechart.com/non-us-case/vzw-klimaatzaak-v-kingdom-of-belgium-et-al/>

⁸²⁴Petel, M. & De Spiegeleir, A. (2021). Guest Commentary: Lessons from the Belgian Climate Case: the devil is in the details. Sabin Center for Climate Change Law Columbia University. Available at <https://blogs.law.columbia.edu/climatechange/2021/11/15/guest-commentary-lessons-from-the-belgium-climate-case-the-devil-is-in-the-details/>

⁸²⁵Renglet, C. & Smis, S. (2021). The Belgian Climate Case: A Step Forward in Invoking Human Rights Standards in Climate Litigation?. ASIL, Volume 25 issue 21. Available at <https://www.asil.org/insights/volume/25/issue/21>

⁸²⁶Ank Santens et al. (2021). Next up in Climate Litigation: Belgian Court condemns Climate Change Policies of Belgian Federal and Regional Governments. WHITE & CASE. Available at <https://www.whitecase.com/insight-alert/next-climate-litigation-belgium-court-condemns-climate-change-policies-belgian>

human rights, which is unfortunate.⁸²⁷ Still, the court concluded that all the authorities did not operate in a "prudent and diligent" manner. According to the NGO, the decision means that various levels of government will be jointly accountable for failing climate commitments. However, justices rejected the NGO's request that the courts impose strict new carbon-cutting objectives on the state, citing a violation of the separation of powers. Activists have promised to challenge the judgement on this issue, fearing that they may run out of time to increase Belgium's contribution to halting severe global warming.⁸²⁸

Once again, it is necessary to acknowledge that some aspects of the decision delivered by the court are noteworthy, not just for Belgium but also for the general advancement of the climate litigation field. The first element is the twofold finding on standing that must be considered ground-breaking because it may pave the way for future strategic climate litigation not just in Belgium, but also in other Aarhus Convention nations. Indeed, the court granted standing also to all of the 58,000 co-claimants, recognizing that each of them had a personal and direct interest affected by climate change, which creates risks to current and future Belgium generations as well.⁸²⁹ The Tribunal determined that it had jurisdiction to hear the matter and that Klimaatszaak had "standing" under Belgian Judicial Code Articles 17 and 18 read in light of Aarhus Convention Article 9(3). The application of Aarhus by the Tribunal to liberally construe standing is an encouraging development for climate litigation in other States signatories to the Convention. The decision is important especially because of the procedural limitations in the Belgian judicial system to *actio popularis*. Following the latter, a case initiated by individuals to defend a matter of general interest necessitates evidence of a personal, direct, and real interest. Given the widespread consequences of climate change, the Tribunal judged all people to be directly affected.⁸³⁰

The second noteworthy element is the discovery of a breach of the state's positive human rights responsibilities, relevant also to the entire human rights-based litigation debate. Moreover, the Klimaatszaak judgment established a stimulating precedent that might be used by plaintiffs in other countries, contributing to the burgeoning international judicial discussion on climate change and

⁸²⁷Renglet, C. (2022). Climate Change and Human Rights: A Comparative Analysis of the German and Belgian Climate Cases. *OpinioJuris*. Available at <http://opiniojuris.org/2022/02/21/climate-change-and-human-rights-a-comparative-analysis-of-the-german-and-belgian-climate-cases/>

⁸²⁸Rankin, J. (2021). Belgium's climate failures violate human rights, court rules. *The Guardian*. Available at <https://www.theguardian.com/world/2021/jun/18/belgium-climate-policy-violates-human-rights-court-rules>

⁸²⁹Dolmans, M. et al. (2021). Climate Claims against Governments in Europe. *Cleary Gottlieb*. Available at <https://www.clearygottlieb.com/-/media/files/alert-memos-2021/climate-change-litigation-in-europe-increasing-judicial-scrutiny-over-state-climate-policies.pdf>

⁸³⁰Petel, M. & De Spiegeleir, A. (2021). Guest Commentary: Lessons from the Belgian Climate Case: the devil is in the details. *Sabin Center for Climate Change Law Columbia University*. Available at <https://blogs.law.columbia.edu/climatechange/2021/11/15/guest-commentary-lessons-from-the-belgium-climate-case-the-devil-is-in-the-details/>

human rights. However, the court's unwillingness to set precise GHG emission reduction objectives based on separation of powers limitations resulted in no reparation at all which is a warning signal for future climate lawsuits. A further step might come from the newly released Climate Target Plan of the EU⁸³¹ which will boost the GHG emissions reduction target of the EU area from 40% to 55% by 2030 compared to 1990 levels. This, once included in EU climate legislation, could establish a new binding criterion that would limit European governments' discretionary authority and assist plaintiffs in overcoming the separation of powers hurdle in future climate disputes.⁸³²

2.3 A Sud et al. v. Italy

On June 5, 2021, an Italian environmental justice NGO with more than 200 plaintiffs filed a lawsuit claiming that the Italian government is violating fundamental rights by failing to take actions required to meet Paris Agreement temperature targets, including the right to a stable and safe climate. The lawsuit is part of the campaign called *Giudizio Universale* (The Last Judgment)⁸³³ which wants a declaration that the government's inactivity is contributing to the climate emergency, as well as a court order requiring a 92% reduction in emissions by 2030 compared to 1990 levels. According to the plaintiffs' executive summary of the claim, the government's climate duties originate from the Paris Agreement, EU rules, and IPCC reports. The human right to a stable and safe climate is founded on provisions in, among other places, Article 6 of the Treaty of the European Union (protection of basic rights) and Articles 2 (right to life) and 8 (right to privacy) of the ECHR. These abuses of human rights subject the Italian government to non-contractual responsibility under Article 2043 of the Italian Civil Code.⁸³⁴

Moreover, the case is based on human rights, international climate obligations and state responsibility under civil law. First of all, the plaintiffs sustain that Italy has infringed its civil responsibility under Articles 2043 and 2051 of the Italian Civil Code.⁸³⁵ Specifically, article 2043 entails that whoever causes unjustified harm, whether intentional or with negligence, must recompensate the injured party. In other cases, courts have expanded this provision to the state,

⁸³¹See COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS Stepping up Europe's 2030 climate ambition Investing in a climate-neutral future for the benefit of our people. COM/2020/562

⁸³²Renglet, C., & Smis, S. (2021). The Belgian Climate Case: A Step Forward in Invoking Human Rights Standards in Climate Litigation? *ASIL Insights*, 25(21). <https://www.asil.org/insights/volume/25/issue/21>

⁸³³See the official campaign *Giudizio Universale* at <https://giudiziouniversale.eu>

⁸³⁴See *A Sud et al. v Italy*, Civil Court of Rome [2021] <http://climatecasechart.com/non-us-case/a-sud-et-al-v-italy/>

⁸³⁵See Article 2043 of the Italian Civil Code “*Compensation for unlawful acts: Any intentional or negligent act that causes an unjustified injury to another obliges the person who has committed the act to pay damages.*” and article 2050 “*Liability arising from exercise of dangerous activities: Whoever causes injury to another in the performance of an activity dangerous by its nature or by reason of the instrumentalities employed, is liable for damages, unless he proves that he has taken all suitable measures to avoid the injury.*”

claiming that civil liability involves averting the adverse consequences of inactivity and regression.⁸³⁶ Instead, according to the Article 205 everyone is liable for any harm done to the items under their care. The plaintiffs challenge that the state is liable for the harm done to natural resources (including parts of the climate system), which, according to Article 117 of the Constitution⁸³⁷, fall under its jurisdiction within Italian territory. Obviously, the role of Italy in safeguarding natural resources is based on international law (which include the Universal Declaration of Human Rights, the International Covenant on Civil and Political Rights, the International Covenant on Economic, Social, and Cultural Rights and so on).⁸³⁸

Furthermore, the case will not seek to overturn a specific legislative or administrative measure, nor will it seek monetary compensation for damages. Instead, the petitioners intend to ask the Court to force the Italian government to cut GHG emissions, and to fully inform all citizens within Italy's jurisdiction about the dangers associated with climate change and the actions implemented to prevent and respond to risks. While the applicants are all Italian citizens, comprising minors represented by their parents, and NGOs, the complaint will be heard by a regular civil judge and directed to the Italian Presidency of the Council of Ministers.⁸³⁹ Also, according to the plaintiffs, Italy is well aware of the urgent need to decrease emissions as well as its international commitment to do so. However, they believe that Italy's efforts and policies in this regard are insufficient. Notably, the plaintiffs argue that Italy's emission reductions from 2008 to 2014 were mostly the result of the country's economic crisis and the movement of some productive activity overseas, rather than the adoption of effective climate legislation. Similarly, they argue that the target presented by the government emission is inconsistent with the Paris Agreement goal and that Italy will not be able to fulfil the very modest emissions target of 29% by 2030 unless additional measures are implemented.⁸⁴⁰

In the meantime, on February 8, 2022, the Chamber of Deputies of Italy approved a constitutional law which established environmental protection amendments to Articles 9 and 41 of the Italian Constitution.⁸⁴¹ Before the reform, the right to a healthy environment in the constitution was interpreted by Article 32 under the right to health. With the reform, the constitution now expressly

⁸³⁶See ECLI:IT:COST:1987:641 (Italian version at <https://www.cortecostituzionale.it/actionSchedaPronuncia.do?anno=1987&numero=641>)

⁸³⁷See Article 117 of the Italian Constitution. (English version available at https://www.senato.it/documenti/repository/istituzione/costituzione_inglese.pdf)

⁸³⁸C2LI, (2021). Cases Against the State Challenging National Climate Policy. C2LI. Available at <https://www.c2li.org/case/cases-challenging-the-state-for-ineffective-climate-action-7/>

⁸³⁹Luporini, R. (2021). The 'Last Judgment': Early reflections on upcoming climate litigation in Italy. QIL. Available at http://www.qil-qdi.org/the-last-judgment-early-reflections-on-upcoming-climate-litigation-in-italy/#_ftn7

⁸⁴⁰Dolmans, M. et al. (2021). Climate Claims against Governments in Europe. Cleary Gottlieb. Available at <https://www.clearygottlieb.com/-/media/files/alert-memos-2021/climate-change-litigation-in-europe-increasing-judicial-scrutiny-over-state-climate-policies.pdf> pp.11-12

⁸⁴¹See A.C.3156-B (Italian version available at <https://documenti.camera.it/leg18/pdl/pdf/leg.18.pdl.camera.3156-B.18PDL0163210.pdf>)

mentions environmental and animal protection. The revision amends the essential principles recognized by the Constitution for the first time. By revising Article 9, the law, in particular, incorporates environmental, biodiversity, and ecosystem conservation, as well as animal protection, into the fundamental values of the Italian Constitution. There is also a significant reference to future generations as the wording “*protection of the environment, biodiversity and ecosystems, even in the interest of future generations*”⁸⁴² is now present in Article 9 becoming a fundamental principle in the Republic. Regarding, Article 41, this is modified by adding the notions of security, freedom, and human dignity.⁸⁴³ Furthermore, the legislation must establish program and proper restrictions to manage and coordinate public and private economic activities for environmental reasons. The amended Article 41 is notably novel in the domain of European Constitutions, and it expressly links economic activity to environmental preservation and, one might argue, the battle against climate change.

The constitutional reform has two implications. For starters, it offers a solid legal foundation for Italian public organizations to direct economic activity towards environmental and climatic goals. Secondly, it may have an impact on administrative and judicial decisions, such as the approval of specific projects such as oil and gas infrastructure and activities that are not following the Paris Agreement.⁸⁴⁴ Therefore, implications might come also for litigation procedures.

However, returning to the climate litigation case in Italy, on December 14, 2021, there was the first hearing before the Civil Court of Rome but under the form of written notes. The defendant, which is the Presidency of the Council of Ministers represented by the state lawyers⁸⁴⁵, asked the Court to reject the applicants' claims on the merits and to declare the complaint inadmissible. The official response presents great detail on the climate change policies and efforts of Italy. Legally, the response addresses three points: first, the lack of jurisdiction by the civil judge over matters that address the legislative and executive powers of the States; second, the applicants' lack of standing rights; and lastly, the impossibility of imposing individual responsibility on the Italian State for climate change and its consequences.⁸⁴⁶ Consequently, on January 14, 2022, the NGOs submitted their response notes and the second hearing, which was the official first oral hearing took place on June 21, 2022.

⁸⁴²See Article 9 of the Italian Constitution. (Italian version of the reform <https://www.gazzettaufficiale.it/eli/id/2022/02/22/22G00019/sg>)

⁸⁴³See Article 41 of the Italian Constitution (Italian version of the reform <https://www.gazzettaufficiale.it/eli/id/2022/02/22/22G00019/sg>)

⁸⁴⁴Luporini, R. Fermiglia, M. & Tigre M.A. (2022). Guest Commentary: New Italian Constitutional Reform: What it Means for Environmental Protection, Future Generations & Climate Litigation. Sabin Center for Climate Change Law Columbia University. Available at <https://blogs.law.columbia.edu/climatechange/2022/04/08/guest-commentary-new-italian-constitutional-reform-what-it-means-for-environmental-protection-future-generations-climate-litigation/>

⁸⁴⁵In Italian “Avvocatura Generale dello Stato”

⁸⁴⁶Giudizio Unverslae, (2021). Summons "A SUD et al. vs Italy Civil Court of Rome 2021. Available at http://climatecasechart.com/wp-content/uploads/sites/16/non-us-case-documents/2021/20210605_14016_petition.pdf

On that occasion, before the judge, the parties submitted their legal arguments and the judge set the next hearing date for September 13, 2023.⁸⁴⁷

2.4 Soubeste and Others v. Austria and 11 Other States

Similarly, to the cases reported above, this lawsuit was initiated by five young European citizens who declared that their right to life, right to be free from degrading treatment, right to respect for their private and family life and right not to be subjected to discrimination were violated by dangerous climate change events on which they were directly affected.⁸⁴⁸ The innovative aspect compared to the previous cases is that they clearly sustain that the climate consequences that were affecting them were caused by the fossil energy industry boosted by the 1994 Energy Charter Treaty (ECT).⁸⁴⁹ The treaty was ratified by all the twelve states that are the defendants in the case. Basically, it safeguards investors in the energy sector limiting regulatory changes in the states and giving the investors easy access to the investor-State dispute settlement procedure. As a result, this hinders the signatories from adopting urgent climate change mitigation measures and making it impossible for them to meet the goals enshrined in Article 2 of the 2015 Paris Agreement.⁸⁵⁰

The states involved are Austria, Belgium, Cyprus, Denmark, France, Germany, Greece, Luxembourg, Netherlands, Sweden, Switzerland and Britain. Through the treaty, companies in the sector can sue their respective governments for financial losses caused by energy-related policies, boosting the price of the green energy transition or rendering it illusory. As a result, the petitioners claim that their human rights have been breached.⁸⁵¹ Furthermore, the plaintiffs went even deeper by claiming that the membership to the ECT directly breaches the right to life, article 2 ECHR, and the right to respect for private and family life, article 8 ECHR. Indeed, the treaty represents a significant impediment to meeting the Paris Agreement targets since it permits firms to sue governments for an estimated €1.3tn in compensation for early closure of coal, oil and gas facilities until 2050.⁸⁵²

⁸⁴⁷See the official note for the next hearing here <https://jimdo-storage.global.ssl.fastly.net/file/870d8544-837e-47c3-b204-121c00bfe04/1.Giudice%20Roma%20per%20conclusioni.jpg>

⁸⁴⁸See European Court of Human Rights, *Soubeste and 4 other applications v. Austria and 11 other States* (nos. 31925/22, 31932/22, 31938/22, 31943/22, and 31947/22), application filed on 21 June 2022.

⁸⁴⁹See the Energy Charter Treaty, EU, 1994. Available at https://energy.ec.europa.eu/topics/international-cooperation/international-organisations-and-initiatives/energy-charter_en#:~:text=The%20treaty%20provides%20a%20multilateral.and%20sovereignty%20over%20energy%20resources.

⁸⁵⁰See *Soubeste and Others v. Austria and 11 Other States*. Available at <http://climatecasechart.com/non-us-case/soubeste-and-others-v-austria-and-11-other-states/>

⁸⁵¹Setzer, J., Narulla, H., Higham, C. & Bradeen, E. (2022). Climate litigation in Europe. A summary report for the European Union Forum of Judges for the Environment. The Grantham Research Institute on Climate Change and the Environment. LSE.

⁸⁵²Rankin, J. & Neslen, A. (2022). Young people go to European court to stop treaty that aids fossil fuel investors. The Guardian. Available at <https://www.theguardian.com/environment/2022/jun/21/young-people-go-to-european-court-to-stop-treaty-that-aids-fossil-fuel-investors>

In contrast to the other climate claims still pending, this lawsuit explicitly focuses on membership in an international treaty, attempting to draw a link between the legal protection of fossil fuel investors and the harms caused by extreme climate events. This type of litigation is new for a Court, however, rights-based claims calling for legislative reform to protect human rights in the context of climate change consequences are not. This case is actively contributing to expanding this human rights-based environmental litigation strategies in a new way. Still, establishing a relationship between the apparent effects and state participation in the ECT will be difficult.⁸⁵³

Nonetheless, on June 24, 2022, the members of the ECT negotiated a preliminary agreement on a Treaty revision. The agreement incorporates a package of adjustments and changes intended to update the Treaty's investment rules and put them in line with the Paris Agreement, even if these provisions are still protected by secrecy. Yet, this new ECT will provide current fossil fuel assets in the European Union and the United Kingdom with an additional ten years of investment protection, as well as indefinite protection in other Parties for the time being. So, it remains unclear and doubtful that the treaty will be reformed with climate measures based on the science knowledge and with the International Energy Agency. Also, as arbitration under a reformed ECT is still a probability, this surely impedes the achievement of the goals established with the European Green Deal or the EU's international emission reduction commitments.⁸⁵⁴

2.5 Neubauer, et al. v. Germany

This German climate case, Neubauer et al. vs Germany, is part of the wave of "ground-breaking" climate change litigation that changing the field and for this, it has already gotten a lot of attention. In this case, the complainants claimed that the German government had failed to implement a legal framework sufficient to rapidly reduce greenhouse gases and limit the increase in global temperature to well below 2°C, preferably 1.5°C, as stipulated in the 2015 Paris Climate Agreement. Scientists agree, and states have agreed in principle, that any temperature increase over these thresholds might result in severe tipping points with unpredictable climatic repercussions. The plaintiffs also claimed that the CO₂ emission reductions goals stated in the Federal Climate Protection Act of Germany, of a 55% reduction from 1990 levels by 2030, would be insufficient to meet the obligation of the country under the Paris Climate Agreement and stay within the remaining CO₂ budget, and that the Act does

⁸⁵³Nordlander, L. & Monti, A. (2022). A new variety of rights-based climate litigation: a challenge against the Energy Charter Treaty before the European Court of Human Rights. EJIL Talk. Available at <https://www.ejiltalk.org/a-new-variety-of-rights-based-climate-litigation-a-challenge-against-the-energy-charter-treaty-before-the-european-court-of-human-rights/>

⁸⁵⁴Mundi, J. (2022). The New Energy Charter Treaty in Light of The Climate Emergency. Available at <https://blog.jusmundi.com/the-new-energy-charter-treaty-in-light-of-the-climate-emergency%E2%80%AF/>

not provide for CO₂ reduction measures beyond 2030. They also tried to call into doubt the Act's efforts to attain international carbon-reduction objectives through emission trading programs.⁸⁵⁵

The Constitutional Court delivered its judgment on April 29, 2021¹ and unanimously confirmed that the Federal Climate Protection Act is partly unconstitutional due to its inadequacy in protecting citizens from future infringements and limitations on freedom rights that will result from intensifying climate change. The Court relied heavily on scientific assessments and projections from the IPCC and framed climate protection in constitutional terms while sustaining that the State has an obligation to reform the temporal terms and effects of German climate laws to evenly distribute emissions over time and generations.⁸⁵⁶

Obviously, the German government judged the complaints as inadmissible and unfounded.⁸⁵⁷ But, the court issued a unanimous decision accepting the three complaints: sections 3(1) second sentence and 4(1) third sentence of the climate pact, in combination with Annex 2, were discordant with fundamental rights because they did not contain a provision for updating the targets for reducing emissions. The court dismissed the remaining objections, stating that the legislative power was required to implement legislation for these aims by December 31, 2022.⁸⁵⁸ Also, the Court used Article 20 of the German Basic Law⁸⁵⁹ which obliges the state to be responsible regarding future generations. The court considered the CO₂ emission budget of Germany warning the state that if they spend too much of the remaining money, future generations will have little to no room to manoeuvre. The Court contends that even if more is not done today, severe actions may be deemed reasonable given the immense risks posed by climate change. While the explanation was primarily oriented on the post-2020 phase, it has consequences throughout the time until 2030.⁸⁶⁰

This case is particularly significant because of the use of science by the German Constitutional Court. Its argument demonstrates a broader understanding of the importance played by climate

⁸⁵⁵Nollkaemper, A. (2021). Shell's Responsibility for Climate Change: An International Law Perspective on a Groundbreaking Judgment, VERFASSUNGSBLOG: ON MATTERS CONSTITUTIONAL. Available at <https://verfassungsblog.de/shells-responsibility-for-climate-change/>

⁸⁵⁶Buser, A. (2021). Of Carbon Budgets, Factual Uncertainties and Intergenerational Equity – The German Constitutional Court's Climate Decision. SOCIAL SCIENCE RESEARCH NETWORK (SSRN). <https://ssrn.com/abstract=3919497>.

⁸⁵⁷See *Neubauer, et al. v Germany* (2021) Federal Court of Germany. para 89

⁸⁵⁸*Bortolussi, A. (2022). Neubauer, et al. v. Germany. Climatedialog. Available at https://climatedialog.org/2022/05/27/neubauer-v-germany/*

⁸⁵⁹See Article 20(a) of Basic Law for the Federal Republic of Germany in the revised version published in the Federal Law Gazette Part III, classification number 100-1, as last amended by the Act of 28 June 2022 (Federal Law Gazette I p. 968): “Mindful also of its responsibility towards future generations, the state shall protect the natural foundations of life and animals by legislation and, in accordance with law and justice, by executive and judicial action, all within the framework of the constitutional order.”

⁸⁶⁰Bäumler, J. (2021). Sustainable Development made justiciable: The German Constitutional Court's climate ruling on intra- and inter-generational equity. EJIL Talk. Available at <https://www.ejiltalk.org/sustainable-development-made-justiciable-the-german-constitutional-courts-climate-ruling-on-intra-and-inter-generational-equity/>

science. After all, climate science is essential and relevant when drafting national climate laws or resolving disputes that might occur. The Court, indeed, reported a complete explanation of anthropogenic climate change and its consequences with related risks when delivering the final decision.⁸⁶¹ Consequently, the government applied the decision by strengthening German climate policies and boosting its GHG emission reduction objectives. Now, the Federal Climate Act has been revised to incorporate a 64% decrease in GHG emissions by 2030, an 88% reduction by 2040, and climate neutrality by 2045.⁸⁶²

2.6 Milieudéfensie v Shell

In this case, the environmental organization Milieudéfensie (Friends of the Earth Netherlands) issued the Shell company with a court summons on April 5th, 2019, alleging that Shell was contributing to climate change breaching the duty of care under Dutch law and human rights duties. The lawsuit was brought to the Hague District Court and other NGOs (ActionAid NL, Both ENDS, Fossielvrij NL, Greenpeace NL, Young Friends of the Earth NL, Waddenvereniging) together with more than 17000 persons acted as co-plaintiffs. They aimed to make Shell cut its CO2 emissions by 45% by 2030 compared to 2010 levels, and to zero by 2050, following the Paris Climate Agreement.⁸⁶³ Moreover, the plaintiffs were required to demonstrate that the lawsuit against Shell was aimed at defending the interests of other people. The court agreed on the goal of preventing unsafe climate change by requesting to cut emissions in a class action, but, the interests of other people, including future generations all over the world could not be accepted under Dutch law. The court did, however, find that the interests of present and future generations of Dutch citizens were sufficiently comparable to warrant a class action since climate change will affect all Dutch inhabitants in the same way.⁸⁶⁴ In addition, the claimants asserted that Shell had an unwritten duty to contribute to the prevention of serious climate change under Book 6 Section 162 of the Dutch Civil Code⁸⁶⁵. Based on this, they requested that the Court oblige the company to cut its emissions by 45% by 2030, which included the emissions caused by its own business activities as well as those resulting from sales.⁸⁶⁶ Surprisingly,

⁸⁶¹Kotzé, L. (2021). Neubauer et al. versus Germany: Planetary Climate Litigation for the Anthropocene? *German Law Journal*, 22(8), 1423-1444. doi:10.1017/glj.2021.87

⁸⁶²Neubauer, et. al. v Germany (2021) Federal Court of Germany

⁸⁶³See Milieudéfensie et al. v. Royal Dutch Shell plc. (2021). The Hague District Court. C/09/571932 / HA ZA 19-379. (Available in English at <https://uitspraken.rechtspraak.nl/#!/details?id=ECLI:NL:RBDHA:2021:5339>)

⁸⁶⁴Connellan, C. et al. (2021). Milieudéfensie et al v. Shell: Climate change claimants prevail again in Dutch court – this time, against corporations. WHITE & CASE. Available at <https://www.whitecase.com/insight-alert/milieudéfensie-et-al-v-shell-climate-change-claimants-prevail-again-dutch-court-time>

⁸⁶⁵See Article 6:162(2) of the Dutch Civil Code: “a person who commits a tort towards another which can be imputed to him, must repair the damage which the other person suffers as a consequence thereof.”

⁸⁶⁶Bevan, A. et al. (2021). *Milieudéfensie V. Shell* – A Landmark Court Decision For Energy And Energy-Intensive Companies. Shearman & Sterling. Perspectives. Available at

the Court determined the behavior of Shell as unlawful, but it did not argue with violated national or international law provisions. In fact, for the Court, the responsibility of the company did originate from this unwritten norm of care included in the Dutch Civil Code, as the plaintiffs suggested. This norm indicates that acting in disagreement with what is commonly acknowledged according to unwritten law is unlawful.⁸⁶⁷ Also, the Court underlined that business policy implemented in the Netherlands, in case of an event that causes injuries, is subject to Dutch tort law. It also accepted that, following the nature of responsibility for environmental harm, there could be the possibility to generate damage in multiple nations. This indicates that more than one legislation may be relevant, which has consequences for other situations involving multinational firms.⁸⁶⁸ Therefore, Shell is required to decrease the CO2 emissions generated by the corporation, but it should be noted that this does not indicate that the emissions of the fossil fuel group are now illegal but are considered incompatible with the new obligation of Shell.⁸⁶⁹

Also, even though the court recognized that international human rights agreements were not binding on Shell, it declared that human rights were still a significant point on the lawsuit for the interpretation of the unwritten norm of care. The court, with the use of Urgenda, confirmed that Articles 2 and 8 of ECHR protect against harmful climate change and included the UN Human Rights Committee decision that sustains the same conclusion but under Articles 6 and 17 of the International Covenant on Civil and Political Rights.⁸⁷⁰

Finally, the court further emphasized that the UNGP holds corporations accountable for the human rights consequences of their own activities as well as for the activities resulting from business contacts of their value chain. Thus, the court determined that Shell was liable for the Shell group companies, for the entities from which Shell acquired raw materials, and for the final users of its goods.⁸⁷¹ Besides, in its decision, the court dismissed the objection presented by Shell because the reduction duty would have no impact and counterproductive even, as other company rivals could take the

<https://www.shearman.com/perspectives/2021/06/milieudefensie-v-shell--landmark-court-decision-for-energy-companies>

⁸⁶⁷Lavrysen, L. (2021). Climate change litigation in Europe. *World Judicial Conference on Environment, Abstracts*. Presented at the World Judicial Conference on Environment, Online (Yunnan, China).

⁸⁶⁸See Regulation (EC) No 864/2007 of the European Parliament and of the Council of 11 July 2007 on the law applicable to non-contractual obligations (Rome II) [2007] OJ L199/40.

⁸⁶⁹Macchi, C, & Van Zeben, J. (2021). Business and human rights implications of climate change litigation: *Milieudefensie et al. v Royal Dutch Shell*. *RECIEL*. 30(3): 409- 415. doi:[10.1111/reel.12416](https://doi.org/10.1111/reel.12416)

⁸⁷⁰Aurer, I.L. (2021). *Guest Commentary: An Assessment of the Hague District Court's Decision in Milieudefensie et al. v. Royal Dutch Shell plc*. *Sabin Center for Climate Change Law, Columbia University*. Available at <https://blogs.law.columbia.edu/climatechange/2021/05/28/guest-commentary-an-assessment-of-the-hague-district-courts-decision-in-milieudefensie-et-al-v-royal-dutch-shell-plc/>

⁸⁷¹Macchi, C, & Van Zeben, J. (2021). Business and human rights implications of climate change litigation: *Milieudefensie et al. v Royal Dutch Shell*. *RECIEL*. 30(3): 409- 415. doi:[10.1111/reel.12416](https://doi.org/10.1111/reel.12416)

position of Shell. The court, in this, wants to stress the clear message that each firm bear individual responsibility.⁸⁷²

The final judgement was given by a District Court, as mentioned above, but Shell has already filed an appeal. Simultaneously, Shell has indicated its willingness to address the Dutch Court's order. Therefore, the case will very certainly be heard also by the Supreme Court. While the situation will evolve over the years, examining the District Court judgement was useful to see the innovative approach and application of the law to the increasing fight against climate change.⁸⁷³ In addition, on 25 April 2022, Milieudefensie sent a letter to the Board of Directors of the Shell company to remind the compliance with the judgment of the Dutch court as there is the possibility that the directors could be held personally accountable if the company fail to apply the final decision.⁸⁷⁴

2.7 R (Friends of the Earth Ltd) v Heathrow Airport Ltd

The legitimacy of the Airport National Policy Statement and the policy framework created under the Planning Act 2008 which offers support for Heathrow Airport development, was the issue in the case, R (Friends of the Earth Ltd) v Heathrow Airport Ltd.⁸⁷⁵ Moreover, the Planning Act mentioned includes several types of policy statements. First of all, it clarifies how the infrastructure project has taken into consideration the UK Government's climate change policy⁸⁷⁶, then, it determines if it is consistent with sustainable development goals, including mitigation and adaption.⁸⁷⁷ Based on this, multiple environmental groups, such as Friends of the Earth Ltd and Plan B Earth, contested the Secretary of the State's designation on several climate-related matters, including that of the Planning Act, on having failed to consider the state responsibilities under the Paris Agreement. Interestingly, the Divisional Court rejected these claims in 2019, however, the Court of Appeal confirmed in February 2020 that the Secretary of the State had acted illegally by neglecting the Paris Agreement when designating the Act. As a consequence, the Court of Appeal ruled that the ANPS had no legal effects.⁸⁷⁸ Hence, the fundamental challenge was how climate change, and the international commitments coming from the Paris Agreement, would be handled within the framework. The

⁸⁷²Milieudefensie et al. v. Royal Dutch Shell plc. (2021). The Hague District Court. C/09/571932 / HA ZA 19-379. 4.4.49.

⁸⁷³Spijkers, O. (2021). Friends of the Earth Netherlands (Milieudefensie) v Royal Dutch Shell, *Chinese Journal of Environmental Law*, 5(2), 237-256. doi: <https://doi.org/10.1163/24686042-12340073>

⁸⁷⁴Elisa de Wit, E. & Stebbing, H. (2022). Climate change litigation update. Norton Rose Fullbright. Available at <https://www.nortonrosefulbright.com/en/knowledge/publications/8cab0b55/climate-change-litigation-update>

⁸⁷⁵See R (Friends of the Earth Ltd and others) v Heathrow Airport Ltd [2020] UKSC 52 at <http://climatecasechart.com/non-us-case/plan-b-earth-v-secretary-of-state-for-transport/>

⁸⁷⁶Ibid.

⁸⁷⁷Ibid.

⁸⁷⁸Wackwitz, G. (2021). Supreme Court overturns block on Heathrow's expansion. WHITE & CASE. Available at <https://www.whitecase.com/insight-alert/supreme-court-overturns-block-heathrows-expansion>

fundamental point of disagreement between the Supreme Court and the Court of Appeal is if the Secretary of State ignored consciously the Paris Agreement: the Court of Appeal said yes, while the Supreme Court said no, agreeing with the Divisional Court.⁸⁷⁹

The NGOs made a roughly human rights argument in the Divisional Court proceedings. They sustained that the designation breached the right to private life and the quiet enjoyment of property. This was innovative and particularly noteworthy because in considering the implications they included noise and air pollution for the people in that zone. As mentioned, the Divisional Court rejected the argument, holding that even if the rights were engaged, the large local, regional, and national interests were included for the airport, so it was a fair justification.⁸⁸⁰

As anticipated, the Supreme Court granted an appeal to the developer of the project, and its argument is centered on law and climate change legislation more specifically. In fact, by drawing on administrative law theories and doctrines, the Court addressed the legal issues before it. So, the Supreme Court also rejected the argument made by the plaintiffs and accentuated that the consequences on people affected by climate change would be caused by the order of the scheme and not by designation. The serious issue with this decision is the lack of engagement of the Court with the essential integration in climate change policy which was not completely ignored but the Supreme Court noted that one benefit of this policy was indeed that would promote some coherence in the development of infrastructure and climate change policy. Still, the interpretation does not explain integration.⁸⁸¹ Furthermore, the Supreme Court states that Government took into consideration the sustainable development section and the Paris Agreement. Consequently, there was no error of law in that discretion, as it was also reviewed by the Independent Climate Change Committee.⁸⁸²

Thus, the Supreme Court ruling confirms the antipathy of the judiciary to being seen as interfering with the political powers regarding economic issues related to the climate crisis. While the Court of Appeal was apprehensive about avoiding the third runway at Heathrow confirming that the project would be incompatible with the environmental obligation of the country, the Supreme Court opinion

⁸⁷⁹Westaway, N. (2021). *Friends of the Earth: Implications for Planning Law*, *Journal of Environmental Law*, Volume 33, Issue 2. Pages 455–459. <https://doi.org/10.1093/jel/eqab014>

⁸⁸⁰Martin, S. (2021). *Friends of the Earth: 'Government Policy'*, Relevant Considerations and Human Rights, *Journal of Environmental Law*, Volume 33, Issue 2. Pages 449–454

⁸⁸¹Bell, J. & Fisher, E. (2023). The Heathrow Case in the Supreme Court: Climate Change Legislation and Administrative Adjudication. *Mod Law Rev.*, 86: 226-237. <https://doi.org/10.1111/1468-2230.12736>

⁸⁸²Hawkins, J. (2021). A lesson in un-creativity: (R (on the application of Friends of the Earth Ltd and others) v Heathrow Airport Ltd [2020] UKSC 52. *Environmental Law Review*, 23(4), 344–349. <https://doi.org/10.1177/14614529211052929>

removes any remaining chance that the Heathrow decision may become a cause of discontent for those who support the non-intervention of judges in political concerns.⁸⁸³

2.8 ClientEarth v. Polska Grupa Energetyczna case

In September 2019, the environmental law organization ClientEarth initiate a civil action against the Polska Grupa Energetyczna Górnictwo i Energetyka Konwencjonalna S.A. The NGO requested to Regional Court of Łódź to order PGE GiEK S.A. to stop the use of lignite as a fuel for the production of energy at the Bełchatów Power Plant. They also launched a petition in which it was reported the request to close 12 active units at the Power Plant, 11 should be closed by 2030, with one being closed no later than by 2035.⁸⁸⁴

We must clarify that PGE is a firm owned by Poland by 57%, the country is historically pro-coal as in fact coal and lignite are a societal concern in the state which employs thousands of citizens. As a result, for Poland making the transition to renewable energies will surely result in a cash loss, but EU funds have been granted to Poland to avoid it.⁸⁸⁵

However, ClientEarth's argument relies on Article 323 of the Polish Environmental Protection Act, which allows NGOs standing to initiate civil claims against entities whose illegal acts harm or threaten the environment as a public benefit.⁸⁸⁶ Also, ClientEarth used that known argument of climate and environment as common good under Polish civil law, to invoke their legal protection. Therefore, the lawyers of the plaintiff asked for the closure of the power plants. Positively surprisingly, the judge agreed on the urgency of the climate crisis and this statement arrived for the first time in a Polish, advancing the climate litigation field in this country.⁸⁸⁷ The decision was a great success for the activists, even because Poland was the Country that still had not signed the EU's net-zero emissions target for 2050.⁸⁸⁸ Furthermore, the firm stated that it recognizes the need to reduce

⁸⁸³Heyvart, V. (2020). 'Beware of populist narrative: the importance of getting the Heathrow ruling right. British Policy and Politics at LSE'. *LSE blogs*. Available at <https://blogs.lse.ac.uk/politicsandpolicy/getting-the-heathrow-judgment-right/>

⁸⁸⁴See ClientEarth v. Polska Grupa Energetyczna <http://climatecasechart.com/non-us-case/clientearth-v-polska-grupa-energetyczna/>

⁸⁸⁵Gerard, W. & Coghe, P. (2019). To embrace a profitable energy future, Poland's PGE must abandon plans for a new lignite mine. Institute For Energy Economics and Financial Analysis. Available at <https://ieefa.org/resources/embrace-profitable-energy-future-polands-pge-must-abandon-plans-new-lignite-mine>

⁸⁸⁶Barry, M. & Aidun, H. (2019). November 2019 Updates to the Climate Case Charts. Sabin Center for Climate Change Law Columbia University. Available at <https://blogs.law.columbia.edu/climatechange/2019/11/06/november-2019-updates-to-the-climate-case-charts/>

⁸⁸⁷ClientEarth. (2020). Breaking: EU's biggest coal plant must negotiate closure with environmental lawyers, court decides. Available at <https://www.clientearth.org/latest/press-office/press/breaking-eu-s-biggest-coal-plant-must-negotiate-closure-with-environmental-lawyers-court-decides/>

⁸⁸⁸Mathiesen, K. (2019). EU agrees 'climate neutral' target for 2050, but Poland stands alone. Climate Home News. Available at <https://www.climatechangenews.com/2019/12/13/eu-sets-climate-neutral-target-2050-poland-stands-alone/>

emissions and cited initiatives to install renewable energy at the site, along with some efficiency measures that reduced emissions at the facility. The corporation also expects to unveil a strategy for 100% green energy for its clients by 2050.⁸⁸⁹

As reported here, this case is important because it was the first in the country to be filed by an NGO with the aim to protect the environment that in this case was considered a public good, especially in the climate change debate, but it was also the first case of the use of article 323 to order the end of the activities to a company by a court. The innovative aspects of the climate litigation field are mainly two. The first one is that it contributed to a definition of “illegal activity” thanks to the interpretation of article 323 of the Polish Environmental Protection Act. Second, the court was able to push a little the separation of powers as under the article 323 the court had this ability without the need of a legislative process.⁸⁹⁰ At the moment of speaking, the Polish Court has invited the company to take part in the negotiations with the parties in order to reduce the emissions.⁸⁹¹

2.9 PSB et al. v. Brazil (on National Climate Fund)

This litigation was initiated by four Brazilian parties and submitted on June 5, 2020, to the Federal Supreme Court. The lawsuit is in the form of a direct action of unconstitutionality for omission, to contest the failure of the administrative measures implemented for the Climate Fund in the state. The National Climate Change Fund was generated by Law 12.114/2009⁸⁹² and was intended as a tool of the National Policy on Climate Change to give support and resources to mitigation and adaptation projects.⁸⁹³ The four political parties sustained that the failure of the state to efficiently use the Climate Fund breached Article 225 of the Federal Constitution which guarantees the right to an ecologically balanced environment and imposes the obligation on the Public Power to guard, conserve, and restore the environment. As a result, the claimants requested a declaratory judgment acknowledging the unconstitutional omission and an obligation to the government to reform the climate fund following this declaration.⁸⁹⁴

⁸⁸⁹Rack, Y. (2020). Europe's biggest coal plant needs to negotiate with climate group, court rules. S&P Global Market Intelligence. Available at <https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/europe-s-biggest-coal-plant-needs-to-negotiate-with-climate-group-court-rules-60473102>

⁸⁹⁰See ClientEarth v. Polska Grupa Energetyczna <http://climatecasechart.com/non-us-case/clientearth-v-polska-grupa-energetyczna/>

⁸⁹¹Kern, M. (2022). Climate Litigation's Pathways to Corporate Accountability, 54 Case W. Res. J. Int'l L. 477. Available at: <https://scholarlycommons.law.case.edu/jil/vol54/iss1/22>

⁸⁹²See Law No. 12.114 creating the National Fund for Climate Change (FNMC) and amending Law No. 9.478 (original version <https://faolex.fao.org/docs/pdf/bra136581.pdf>)

⁸⁹³See “Partido Socialista Brasileiro (PSB), Partido Socialismo e Liberdade (PSOL), Partido dos Trabalhadores (PT) e Rede Sustentabilidade v. União Federal” at <http://climatecasechart.com/non-us-case/psb-et-al-v-federal-union/>

⁸⁹⁴See PSB et al v. Brazil (on Climate Fund) (ADPF 708) at <https://www.escri-net.org/caselaw/2023/psb-et-al-v-brazil-climate-fund-adpf-708>

The final decision, particularly interesting, starts by framing climate change as a known threat to humankind but then it poses climate change at the international level by underling that this problem could be fixed only if every country commits to find a solution. Then the ruling underlines that the recent efforts of Brazil to combat climate change are unsatisfactory. Therefore, the judge uses the Paris Agreement to remember to the government that the Constitution acknowledges the supra legal character of the treaty, as the other human rights treaties signed by the country. Thus, the Paris Agreement is interpreted by the judge as a binding international human rights treaty. In addition, the decision declares the measures of the government unconstitutional, and this is based on respect for the constitutional rights to a healthy environment and the separation of powers.⁸⁹⁵

The innovative approach is the formal recognition of the Paris Agreement as a human rights treaty and the Brazilian Supreme Court was the first one in applying such an interpretation. As already explained, Court treated environmental law treaties like human rights treaties giving them a supranational position. This can have two main results: on one side, it acts as a tool for the affirmation and realization of climate change as human rights, but, on the other side it may be seen as a political manipulation to conceal circumstances in which climate rights are neglected combined with normative-judicial ineffectiveness.⁸⁹⁶ Nevertheless, the decision made it possible for climate change to arrive at the constitutional domain. Consequently, this indicates that climate treaties are higher in the legal order with the treaties able to prevail over any Brazilian legal and policy instruments that violate the Paris Agreement, this includes national measures. So, the recognition pushes the treaty to a higher level in the legal hierarchy, which means that the Paris Agreement is now protected from being overwhelmed by national legislation. This could alleviate instances of environmental rights rejection and internalize the standard and goals of the Paris Agreement into national action.⁸⁹⁷

3. Roadblocks from courts

The challenges for rights-based climate change are multiple, as it was reported in this work, one obstacle is represented by the causal link between the government to action or inaction in climate policies and the related consequence on human rights. Other limitations are the justiciability issue, which questions if a court should deal with cases regarding executive decisions, and the issue of standing, the eligibility to submit a case in a court. Among these, we can add the limitation created

⁸⁹⁵Morrish, P.H. (2022). The Paris Agreement as a Human Rights Treaty: PSB et al. v Brazil. Oxford Human Rights Hub. Available at <https://ohrh.law.ox.ac.uk/the-paris-agreement-as-a-human-rights-treaty-psb-et-al-v-brazil/>

⁸⁹⁶Rutherforda, A., Fernanda, F. & Nóbregab, B. (2023). The Paris Agreement as a Human Rights Treaty: The Ruling in PSB et al v Brazil (on Climate Fund). Jus Corpus Law Journal, Vol. 3, Issue 2. Available at <https://www.juscorpus.com/wp-content/uploads/2023/01/99.-Angelica-Rutherford.pdf>

⁸⁹⁷Wegener, L. (2020). Can the Paris Agreement Help Climate Change Litigation and Vice Versa?. 9(1) Transnational Environmental Law 17

by the fact that judges must manage scientific evidence which can result complicated for them.⁸⁹⁸ Still, litigation remains a pricey and time-consuming process that in some cases can cause power asymmetries.

The objective of this last section is to analyze a few cases where these challenges were enormous obstacles for courts that resulted in a dead end of the advancement of the cases and of the litigation field itself.

3.1 *The People Climate Case and the Plaumann criteria*

The Carvalho case was filed by 10 main families with others additional ones represented by an NGO. All of the families worked in the agriculture and tourism section with direct contact with climate change effects. Expressed in terms of water availability, their main worries were focused on the dangerous consequence of both lack of water (for example droughts) and abundance of water (for example flooding). The lawsuit was against the European Parliament and the Council of Ministers and was filed at the EU General Court in May 2018, within the two-month period following the publication of the challenged legislative acts.⁸⁹⁹ More specifically, the contested EU acts set a general goal that annual emissions during this time must be reduced by 40% in comparison to 1990 emission levels. These acts control GHG emissions from different sources from 2021 to 2030. The general goal is the reduction of three major sources of emissions, each of which is regulated by a different and specific act.⁹⁰⁰ Therefore, the Carvalho case sought to invalidate the specific provisions of the three GHG acts in accordance with Articles 263 (1-4) of TFEU, as they are said to enable emissions that are greater than those allowed by higher-ranking law, such as international and human rights law. At the same time, the annulment would leave a legislative gap while Article 265(3) TFEU⁹⁰¹ which states that a legislature aimed at adopting more ambitious targets would be unacceptable. Thus, the plaintiffs used Article 264(2) TFEU⁹⁰² that states that invalid provisions can be still effective till they are in compliance with higher-ranking law. The applicants also asked for a declaration for unlawful harm

⁸⁹⁸Guruparan, K. & Moynihan, H. (2021). Climate change and human rights-based strategic litigation. Briefing Paper. Chathamhouse. Available at <https://www.chathamhouse.org/sites/default/files/2021-11/2021-11-11-climate-change-and-human-rights-litigation-guruparan-et-al.pdf>

⁸⁹⁹See T-330/18 [2018] OJ C 285/34.

⁹⁰⁰See Directive (EU) 2018/410 amending Directive 2003/87/EC to Enhance Cost-effective Emission Reductions and Low-carbon Investments, and Decision (EU) 2015/1814 [2018] OJ L 76/3 (ETS Directive). Regulation (EU) 2018/842 on Binding Annual Greenhouse Gas Emission Reductions by Member States from 2021 to 2030 Contributing to Climate Action to Meet Commitments under the Paris Agreement and amending Regulation (EU) No 525/2013 [2018] OJ L 156/26 (Climate Action Regulation). Regulation (EU) 2018/841 on the Inclusion of Greenhouse Gas Emissions and Removals from Land Use, Land Use Change and Forestry in the 2030 Climate and Energy Framework, and amending Regulation (EU) No 525/2013 and Decision No 529/2013/EU [2018] OJ L 156/1 (LULUCF Regulation).

⁹⁰¹See Article 265 (3) of Treaty on the Functioning of the European Union. *OJ C 202*, 7.6.2016

⁹⁰²See Article 264 (2) of Treaty on the Functioning of the European Union. *OJ C 202*, 7.6.2016

caused by the EU under Article 340(2)⁹⁰³ TFEU and for stricter emissions reduction measures because they claimed to be not interested in monetary compensation but in stopping further damage instead.⁹⁰⁴

When they submitted the lawsuit, the applicants proposed to the court to alter its understanding of "individual concern" so that they could have "standing" because they were aware of how strict the Plaumann criteria were, and still is. According to the applicants, the present interpretation of the Court is unreasonably restrictive and renders the EU legislative package resistant to judicial review. They emphasized that this sort of immunity violated their fundamental right to judicial protection guaranteed by Article 47 of the Charter of Fundamental Rights. They argued that even though other people might also be impacted, the Court should consider them individually concerned and affected.⁹⁰⁵ Predictably, on May 8, 2019, the General Court declared that the applicants, and the association as well, did not have standing and could not present their arguments. The Court affirmed the first and third scenarios for direct concern under Article 263(4) TFEU were not applicable because the package was legislative rather than regulatory. The second scenario, the only possible one, required the applicant to demonstrate that the act is of direct and individual concern to them. Then, the Court stated that the applicants had not complied with the conditions outlined for their case.⁹⁰⁶ Basically, following the Plaumann test, the judge reported that the families and NGO were neither individually nor directly concerned, yet the proof of such direct effects was presented by the applicants. However, based on Plaumann, the Court reasoned that the applicants could not have particular concerns because everyone is impacted by climate change in some way.⁹⁰⁷

In addition, The ECJ also rejected to broaden its application of Plaumann and concluded that the appellants were individually affected out of concern that, if the individual or direct concern criteria were not strictly enforced, everyone would be given standing, which would invite a deluge of annulment cases into the courts. Even if its reading had the effect of reducing the scope of effective judicial protection, the ECJ felt it was outside of its powers to reinterpret Plaumann.⁹⁰⁸ In the case known as *Commission v Poland (Régime disciplinaire des juges)*⁹⁰⁹, the CJEU established that the

⁹⁰³See Article 340 of the Treaty on the Functioning of the European Union *Official Journal* 115 , 09/05/2008 P. 0193 - 0193

⁹⁰⁴Winter, G. (2020). Armando Carvalho and Others v. EU: Invoking Human Rights and the Paris Agreement for Better Climate Protection Legislation. *Transnational Environmental Law*, 9(1), 137-164. doi:10.1017/S2047102520000072

⁹⁰⁵See OJ C 326/301, Charter of Fundamental Rights of the European Union (Dec. 18, 2000) https://www.europarl.europa.eu/charter/pdf/text_en.pdf.

⁹⁰⁶See Reply Brief for Applicants, *Carvalho*, ECLI:EU:T:2019:324

⁹⁰⁷Pagano, M. (2020). Overcoming Plaumann In Eu Environmental Litigation An Analysis Of Engos Legal Arguments In Actions For Annulment. *Diritto e Processo*, 2019, 311-360., Available at SSRN: <https://ssrn.com/abstract=3678755>

⁹⁰⁸Brown, C. (2022). The plaumann problem: how the people's climate case widened the gap to judicial review of the eu's inadequate climate policy. *Denver Journal of International Law and Policy*, 50(2), 197-208.

⁹⁰⁹See *Commission v Poland (Régime disciplinaire des juges)*. ECLI:EU:C:2021:596 available at <https://curia.europa.eu/juris/liste.jsf?lgrec=fr&td=%3BALL&language=en&num=C-791/19&jur=C>

disciplinary chamber of the Polish Supreme Court had the power to penalise judges who made a preliminary reference to the article 267 TFEU by sustaining that it was against EU law as it would deter national judges from making preliminary referrals, which would have a negative impact on how the different judicial levels of EU. In fact, according to the Plaumann test, those who request a review of such acts must demonstrate that these directly and personally affect them. This will only be satisfied in unusual circumstances, effectively preventing people from getting a direct review by European courts as people are expected to use the national courts to obtain indirect review instead. The significance of the preliminary reference mechanism as a tool for the review of individuals was also stressed by the CJEU in the *UPA case*⁹¹⁰ when it rejected to make less rigid the standing requirements of the less privileged claimants for direct actions under Article 263 TFEU.⁹¹¹

3.2 Union of Swiss Senior Women for Climate Protection v. Swiss Federal Council

This case was initiated in 2016 by a group of elder women against the Federal Council, the Federal Department of the Environment Transport, Energy and Communications, the Federal Office for the Environment, and the Federal Office for Energy claiming that these institutions of the Swiss Government breached their obligations of reducing the emission in Switzerland, as also stressed by the Swiss Constitution and the ECHR.⁹¹² The women used the human rights argument of the violation of some articles contained in the Swiss constitution: Article 10 which refers to the right to life, Article 73 about the sustainability principle and Article 74 which promotes environmental protection. With these, Articles 2 and 8 of the ECHR were included in the lawsuit. Also, the plaintiffs used their demographic age to indicate their particular vulnerability to the extreme heat waves caused by climate change.⁹¹³

These women demanded that a regulation strategy should have been developed for the industries to cut emissions by at least 25% below 1990 levels by 2020 and at least 50% below 1990 levels by 2050. Thus, the lawsuit highly criticized the policy proposed by the government which was a reduction of 20% by 2020 and 30% by 2030.⁹¹⁴

⁹¹⁰See ECLI:EU:C:2002:462 <https://curia.europa.eu/juris/document/document.jsf?docid=47107&doclang=EN>

⁹¹¹Boekestein, T. (2021). *Plaumann and the Rule of Law: The importance of judicial independence for the system of preliminary references*, *VerfBlog*. Available: <https://verfassungsblog.de/plaumann-and-the-rule-of-law/> DOI: [10.17176/20211112-182550-0](https://doi.org/10.17176/20211112-182550-0).

⁹¹²Bähr, C. C., Brunner, U., Casper, K., & Lustig, S. H. (2018). KlimaSeniorinnen: lessons from the Swiss senior women's case for future climate litigation. *Journal of Human Rights and the Environment*, 9(2), 194-221.

⁹¹³D'Ippoliti, D., et al. (2010). The Impact of Heat Waves on Mortality in 9 European Cities: Results from the EuroHEAT Project. *Environmental health* <https://ehjournal.biomedcentral.com/articles/10.1186/1476-069X-9-37>

⁹¹⁴See *Association of Swiss Senior Women for Climate Protection v. Federal Department of the Environment Transport, Energy and Communications (DETEC) and Others* at <http://climatecasechart.com/non-us-case/union-of-swiss-senior-women-for-climate-protection-v-swiss-federal-parliament/>

However, the Swiss courts overruled the case because the admissibility was lacking and neither did not take into consideration art. 6(1) ECHR, the rights to effective access to a court and article 13 ECHR, the right to an effective remedy, of the plaintiffs.⁹¹⁵ In addition, the Swiss Federal Supreme Court concluded in May 2020 that the applicants could not invoke the safeguards for people employed against the alleged failures of Swiss public organs. Additionally, it refuted ECHR rights infringement based on the possibility to demonstrate the harm.⁹¹⁶

At the moment of writing, the group of women has submitted the case to the Strasbourg, France-based tribunal as the case has used all the domestic legal options in the hopes of obtaining a decision that will be binding on all signatories of the ECHR.⁹¹⁷

3.3 People v Arctic Oil

The People vs. Arctic Oil case is particularly important because for the first-time environmental rights under Article 112 of the Norwegian Constitution were used in court and was also the first lawsuit in the world to oppose new oil and gas drilling based on the Paris Agreement.⁹¹⁸ The case was submitted by Greenpeace and Nature & Youth, together with Grandparents' Climate Movement and the Friends of the Earth Norway, to cancel the licenses issued by Norway for petroleum exploration in the Barents Sea. The lawsuit was initially presented to the Oslo District Court with a publicity campaign. It is easily imaginable that the petitioners framed the case as a human and climate rights case with the classic argument of the violation of ECHR and Norwegian constitutional rights.

As mentioned, the case was then raised in the Bogarting Court of Appeal and finally before the Supreme Court. Sadly, the three judgments were in favor of the government.⁹¹⁹

So, the first stage was decided by the Oslo District Court which rejected the case due to the irrelevance of extraterritoriality declaring that the emissions exported from Norway are not linked to

⁹¹⁵Ibid.

⁹¹⁶Arling, H. & Taghavi, H. (2023). KlimaSeniorinnen v. Switzerland – A New Era for Climate Change Protection or Proceeding with the Status Quo?. EJIL Talk. Available at <https://www.ejiltalk.org/klimaseniorinnen-v-switzerland-a-new-era-for-climate-change-protection-or-proceeding-with-the-status-quo/>

⁹¹⁷See *KlimaSeniorinnen v Switzerland (ECtHR)* at <http://climatecasechart.com/non-us-case/union-of-swiss-senior-women-for-climate-protection-v-swiss-federal-council-and-others/>

⁹¹⁸MacGillivray, A. (2022). The People vs. Arctic Oil: The Court Battle Between Activists & Norway. Impakter. Available at <https://impakter.com/the-people-vs-arctic-oil-the-court-battle-between-activists-norway/#:~:text=of%20Greenpeace%20Norway-,The%20People%20vs.,have%20been%20invoked%20in%20Court.>

⁹¹⁹Suryapratim, R. & Gociu, A. (2022). Taking People v Arctic Oil Seriously: The Potential of Strategic Environmental Assessments and the Principle of Non-Regression in Guiding Energy Policy Forthcoming in Matteo Fermeglia, Ivano Alogna, Carole Biliet and Alina Holzhausen (eds) *Climate Change Litigation in Europe: Comparative and Sectoral Perspectives and the Way Forward*, Intersentia, 2023, Available at SSRN: <https://ssrn.com/abstract=4311984> or <http://dx.doi.org/10.2139/ssrn.4311984>

a violation of Article 112.⁹²⁰ It also added that Article 112 is a provision that contains rights that allows individuals and organizations to challenge the state if they are able to prove that its policies are damaging the environment. But Article 112 can be applied in the national context, therefore, only to environmental damages and emissions produced in Norway.⁹²¹ Finally, the Court stated that it could not deal with politics due to the separation of powers.⁹²²

As mentioned, the Borgarting Court of Appeals too ruled against the claimants and sustained the same view on Article 112 but changed the scope. In fact, the scope of the Article, for the Court of Appeals, was to be interpreted upon the state having to fulfil the duty of care regarding all environmental issues highlighted by the complainants. This was an unusual interpretation of the Constitution that included that the State had the duty to care for something it could not directly manage or regulate.⁹²³ Hence, Article 112 imposes a very high burden on persons to establish that the state breached its duty of care but tightens the standard by which the state has to show the violation of its constitutional obligation to protect its citizens.⁹²⁴ Nevertheless, Norway has always been a “front-runner”⁹²⁵ in international climate negotiations: it has signed the Paris Agreement and updated its climate targets which are in line with its NDCs, it joins the ETS by the EU and demands additional carbon taxes for oil production.⁹²⁶ Scholars, as a result, sustain that the country has learned how to balance the interests of the oil industry with robust climate change commitments. But there is one major flaw as Norway is the seventh greatest exporter of emissions in the world, this has been called the “Norwegian Paradox”.⁹²⁷

The Supreme Court heard the case on 20 April 2020 in a plenary session.⁹²⁸ The decision was reached by a majority of eleven judges, while the dissenting one was supported by three. The final and most voted decision was developed on three issues: the first one was if the Licensing Decision

⁹²⁰Minnerop, P. & Røstgaard, I. (2021). In Search of a Fair Share: Article 112 Norwegian Constitution, International Law, and an Emerging Inter-Jurisdictional Judicial Discourse in Climate Litigation. 44 *Fordham International Law Journal* 847, 890.

⁹²¹May, J. (2020). The Norwegian Constitutional Right to a Healthy Environment in Global Context

⁹²²Voigt, C. (2021). The First Climate Judgment before the Norwegian Supreme Court: Aligning Law with Politics, *Journal of Environmental Law*, Volume 33, Issue 3. Pages 697–710, <https://doi.org/10.1093/jel/eqab019>

⁹²³Ibid.

⁹²⁴Gociu, A. & Suryapratim, R. (2021). Extraterritoriality of Oil Constitutionalism in *People v Arctic Oil*. EJIL Talk. Available at <https://www.ejiltalk.org/extraterritoriality-of-oil-constitutionalism-in-people-v-arctic-oil/>

⁹²⁵Lahn, B. & Wilson Rowe, E. (2014). How to be a ‘front-runner’: Norway and international climate politics in B de Carvalho, I B Neumann (eds) *Small States and Status Seeking: Norway’s quest for international standing* (Routledge 2014)

⁹²⁶Holsmark, K. (2019). ‘Supply-side Climate Policy in Norway’ in *Nordic Economic Policy Review 2019: Climate Policies in the Nordics*. Denmark: Nordic Council of Ministers, 207.

⁹²⁷Minnerop, P. & Røstgaard, I. (2021). In Search of a Fair Share: Article 112 Norwegian Constitution, International Law, and an Emerging Inter-Jurisdictional Judicial Discourse in Climate Litigation. 44 *Fordham International Law Journal* 847, 890.

⁹²⁸Greenpeace Norway. (2021). History of the *People vs Arctic Oil* case. Greenpeace. Available at <https://www.greenpeace.org/norway/historier/klimaendringer/history-of-the-people-vs-arctic-oil-case/>

breached Article 112, the second was if it was violating Articles 2 and 8 ECHR and lastly, if there were procedural errors in the decision about the oil exploration in the Barents Sea. The judges engaged in scientific debate regarding anthropogenic climate change, and its role in international and Norwegian climate law to frame a law to conduct petroleum exploration and exploitation.⁹²⁹ Nevertheless, the case was decided against the human rights arguments. Given the worldwide threat of climate change, this case had the rare opportunity for the Supreme Court to determine the substantive content of this clause, an opportunity that go wasted. It determined that the constitutional clause applies only in extremely restricted instances as a substantive restraint on governmental action (or inaction). Moreover, the decision was delivered after 40 days from the plenary and the Court seemed more eager to align its doctrine with the laws and positions of the Norwegian government. Consequently, it was criticized for this, because the question raised was of legal matters, but the Court ruled following the politics. In this way, however, it ruled on a political decision.⁹³⁰

3.4 The major question doctrine: West Virginia v. EPA

This climate litigation concerned the Clean Power Plan⁹³¹ proposed by the EPA during the Obama administration, a plan that was supposed to use power generators to create clear forms of electricity. The Clean Air Act, part of the plan, was also included in the lawsuit. The Clean Act allowed EPA to set a standard of performance for power plants and their emissions. Historically, EPA has applied this authority with performance standards centered on anti-pollution measures which caused plants to work more cleanly. In 2015, the agency decided to implement a new rule sustaining that in order to decrease the emission, industries had to diminish their own production of electricity or promote the production with renewable energy. Consequently, several States and companies challenged the Agency. In those cases, the court declared that EPA misinterpreted its authority under the Clean Air Act. However, following a change in presidency, the EPA requested a partial suspension of the decision, as the motion was not challenged by other actors, the court suspended the judgement, but the other lawsuits were filed.⁹³² Thus, the case dealt with the constitutional principle in which agencies have regulatory authority if it is given to them by the Congress. The Clean Air Act authorized

⁹²⁹Suryapratim, R. & Gociu, A. (2023). People v Arctic Oil: Context, Judgement, and Takeaways for Future Climate Litigation. 10.2139/ssrn.4214588.

⁹³⁰Voigt, C. (2021). The First Climate Judgment before the Norwegian Supreme Court: Aligning Law with Politics, *Journal of Environmental Law*, Volume 33, Issue 3. Pages 697–710, <https://doi.org/10.1093/jel/eqab019>

⁹³¹See EPA FACT SHEET: Overview of the Clean Power Plan. CUTTING CARBON POLLUTION FROM POWER PLANTS at <https://archive.epa.gov/epa/cleanpowerplan/fact-sheet-overview-clean-power-plan.html>

⁹³²Dvoretzky, S., Kennedy, EJ. & Malone, EA. (2022). West Virginia v. EPA: Implications for Climate Change and Beyond. Skadden Insights. Available at <https://www.skadden.com/insights/publications/2022/09/quarterly-insights/insights-september-2022>

emission restrictions that were instrumental in decarbonizing the electricity network. However, it still needed delegation from Congress.⁹³³

As a matter of fact, as one of the judges wrote, EPA was looking for a new authority under the Clean Air Act but without explicit consent from the Congress.⁹³⁴ Subsequently, The Clean Power Plan was substituted with the Affordable Clean Energy Rule. The Court freed the annul of EPA and gave the agency the power to manage the new rule. After a year, in the *West Virginia v EPA* case, the Court had to answer whether Section 111 of the Clean Air Act established authority for EPA to use the new approach.⁹³⁵ Therefore, at this point, the court followed the major questions doctrine and declared that the Congress must explicitly grant EPA the wanted authority under Section 111. With the major questions doctrine, a court should not apply the general rule to leave to an agency the interpretation of a statutory provision, specifically if under some extraordinary cases that require more power than the Congress could possibly grant.⁹³⁶ This can only occur if the issue is related to economic or political importance and if the Congress did not clearly give authority on a specific issue. Based on this, the court did not find these two situations and the effect of the decision is to limit the authority of EPA authority.⁹³⁷ Nevertheless, as climate change should be now seen as a political and economic matter and since the US Congress repeatedly failed to implement effective climate legislation for years, the EPA should have had explicit authorization from the Congress as required by the court.⁹³⁸

For the facts illustrated, this case is known for the “*major questions doctrine*”⁹³⁹, a case in which the court adopted a strict approach to the interpretation of the law without considering the opinions of those federal agencies that should implement complex and dynamic regulatory programs aimed at protecting the health of the citizens. This perfectly describes the balance needed when dealing with

⁹³³Adler, J. H. (2021-2022). *West Virginia v. EPA: Some Answers about Major Questions*. *Cato Supreme Court Review*, 2021, 37-68.

⁹³⁴Parenteau, P. (2022). The Inflation Reduction Act doesn't get around the Supreme Court's climate ruling in *West Virginia v. EPA*, but it does strengthen EPA's future abilities.

⁹³⁵Ramanujan, S., Larsen, A., Parek, K., & Psaila, K. (2022). Raising the temperature: analyzing the implications of the major questions doctrine in *west virginia epa*. *Columbia Undergraduate Law Review*, 18(4), 6-55.

⁹³⁶Adler, J. H. (2021-2022). *West Virginia v. EPA: Some Answers about Major Questions*. *Cato Supreme Court Review*, 2021, 37-68.

⁹³⁷Winters, K., McWilliams, D. & Satterfield, J. (2022). US Supreme Court Limits EPA's Authority to Regulate Carbon Emissions from Existing Power Plants Under Major Questions Doctrine with Implications for Agency Rulemaking Generally. *The National Law Review* Volume XII, Number 193. Available at <https://www.natlawreview.com/article/us-supreme-court-limits-epa-s-authority-to-regulate-carbon-emissions-existing-power>

⁹³⁸Hill, A. (2022). What Does the Supreme Court's Decision in *West Virginia v. EPA* Mean for U.S. Action on Climate?. *Renewing America*. Council on Foreign Affairs. Available at <https://www.cfr.org/blog/what-does-supreme-courts-decision-west-virginia-v-epa-mean-us-action-climate>

⁹³⁹Sebring, M. (2018). The Major Rules Doctrine. *Georgetown Journal of Law and Public Policy*, vol. 17. Available at <https://www.law.georgetown.edu/public-policy-journal/blog/the-major-rules-doctrine/>

carbon pollution and its effects on the planet Earth.⁹⁴⁰ Nonetheless, the Court underlined that the Major Question Doctrine should be used only in extraordinary cases. For this reason, many scholars suggested that the doctrine should be left to the Supreme Court rather than the lower courts. Furthermore, scholars suggest that to fix this obstacle concerning the asymmetry of power in the system they should overcome its deregulatory nature by shaping a more asymmetrical administrative framework.⁹⁴¹

⁹⁴⁰Jenks, C., Dobie, H.O. & Dewey, S. (2022). Supreme Court Embraces the Major Questions Doctrine as Limiting but Leaving the Door Open for Power Sector GHG Regulations. HLS Environmental and Energy Law Program. Available at <https://eelp.law.harvard.edu/2022/07/supreme-court-embraces-the-major-questions-doctrine-as-limiting-but-leaving-the-door-open-for-power-sector-ghg-regulations/>

⁹⁴¹Reed, R. (2023). What critics get wrong — and right — about the Supreme Court’s new ‘major questions doctrine’. Harvard Law Today. Available at <https://hls.harvard.edu/today/what-critics-get-wrong-and-right-about-the-supreme-courts-new-major-questions-doctrine/>

PART VI

STRENGTHENING THE ENVIRONMENTAL RULE OF LAW. THE ONGOING TRENDS

1. Transnational law and climate litigation

The discussion developed so far, with the use of case studies, aimed at demonstrating that climate law follows the disruptive character of climate events. Climate policies and litigation can easily be developed in one place and then inspire similar procedures in other countries. Obviously, laws cannot travel but are delivered by several actors and instruments. As described in the second chapter of this work, climate laws are codified in international treaties but sometimes those circulate with informal processes that include bureaucratic networks of public officials, transnational networks of private actors, and activists or professionals. For this reason, transnational legal orders emerge and enforce norms governing specific law areas. However, transnational legal norms are generally accepted while transnational legal order can be viewed as more problematic and fragile. Still, the effects of transnational legal norms are not always homogeneous across states because they depend on several factors: how norms are carried and conveyed, at what level norms arrive, national or local, and how they adapt and translate.⁹⁴² Regarding transnational climate laws, those use models, arguments, and judicial reasoning across borders. These are the main characteristics of climate law, which explain how they become central and urgent in the jurisdictions, especially because environmental principles can be seen as essential and legal tools to fill the gaps that surround rights and obligations, as underlined by legislation and litigation processes.⁹⁴³ Following this rationale, climate law creates new development to already known transnational law concepts but also exposes that is highly influenced by Western legal theories that are mostly exploitative to the planet.

Nevertheless, climate litigations have a high degree of transnationality, and these procedures are particularly useful to achieve transnational governance. First, climate change is defined as a localized globalism, consequently, the analysis of climate change litigation grasps the transnational character of the local climate manifestations, which obligated legal scholars to overcome the frames of the nation-state.⁹⁴⁴ Once again, transnational law can be seen as an instrument to reveal specific legal subjects, for example, to visualize gaps created by existing doctrinal theories, relationships between

⁹⁴²Shaffer, G. (2016). Transnational Legal Process and State Change: Opportunities And Constraints. IILJ Working Paper 2010/4. IILJ.

⁹⁴³Scotford, E. (2017). *Environmental Principles and the Evolution of Environmental Law*. Hart.

⁹⁴⁴Teubner, G. (2002). Breaking Frames: Economic Globalization and the Emergence of Lex Mercatoria. 5 *European Journal of Social Theory* 199.

national laws and their outside environment or to analyze the role of private actors in law.⁹⁴⁵ Thus, the transnational dimension of the law is useful to understand the normative sphere of each domestic apparatus, yet climate change destroys the classic notion of national borders which also define the scope of national laws. At the same time, climate law provides an interesting point of view for scholars to analyze the misalignments between theory and practice, existing legal ideas, and realities. Furthermore, climate law questions the notion that sees only non-state actors linked to transnational law as globalized economic interests.⁹⁴⁶

Returning to climate litigation, as explained there are lawsuits filed before international human rights agencies such as the European Union's Court of Justice. While these campaigns seek regulatory change through supranational agencies, at the same time, the innovative aspect is the coordination of the numerous petitioners from many different national jurisdictions which is the key to the transnational narrative. Then, related to this, scholars noted an increasing centrality played by transnational communities in supporting and developing campaigns to foster litigation activities. Also, climate litigation boosts regulatory dialogues in a way that can only be described as “diagonally” across the multiple scales of governance. This led to a growing body of trans-judicial debates in climate jurisprudence, but this is not surprising if we think of the “*multiscalar*” character of climate change. Unfortunately, the literature mainly analyzes the transnational character of specific cases instead of investigating the transnational dimension of litigation that is common to all the cases.⁹⁴⁷

Furthermore, climate litigation can be found at the intersection of legal institutions and the disruptive character of climate change and extends outside constitutional norms to include tort law, administrative law, and environmental law issues. Climate litigation is developed along these multiple fields because it is an area of ‘hot’ law.⁹⁴⁸ There are several factors to consider while attempting to comprehend international climate litigation. For example, climate change issues are sometimes not the centrality of the cases; there is also a growing preference for implementing and enforcing existing laws rather than using litigation to force regulatory change; and strategic decisions made by applicants

⁹⁴⁵Affolder, N. (2019). Transnational Environmental Law’s Missing People. *Transnational Environmental Law*

⁹⁴⁶Affolder, N. (2019). Transnational Climate Law. Oxford Handbook of Transnational Law (Peer Zumbansen ed., Oxford University Press, 2019, Forthcoming), Available at SSRN: <https://ssrn.com/abstract=3463486> or <http://dx.doi.org/10.2139/ssrn.3463486>

⁹⁴⁷Paiement, P. (2020). Urgent agenda: how climate litigation builds transnational narratives, *Transnational Legal Theory*, 11:1-2, 121-143.

⁹⁴⁸Fisher, E., Scotford, E. & Barritt, E. (2017). The Legally Disruptive Nature of Climate Change. 80 *The Modern Law Review* 173.

in numerous circumstances choose a more indirect route in litigation that focuses on less politically charged or more policy-salient issues rather than climate change per se to force regulatory change.⁹⁴⁹ We cannot ignore that transnational environmental law incorporates international law and expands the request to include environmental norms linked to transboundary activities or that have effects in more than one domestic apparatus.⁹⁵⁰ Indeed, the division between national and international should not be overstated due to the capacity of international law to influence and infiltrate national systems while national laws and practices shape international law. So, if Professor Philip Jessup proposed the definition of transnational law as “to include all law which regulates actions or events that transcend national frontiers”⁹⁵¹, transnational environmental law can be defined as law that goes beyond the state and defines a theoretical framework to evaluate environmental law and governance. Therefore, the institution of the state is seen as one of the many actors involved in governing human actions concerning the environment while giving space to non-state actors and their contributions.⁹⁵² This specific interpretation allows us to have a helpful mechanism to achieve effective responses to the environmental issues that threaten human well-being and even the survival of future generations.⁹⁵³ Moreover, transnational climate law as a legal notion is not commonly used to indicate a field of law, even if it has all the characteristics to be interpreted as one. In addition, it has many sources upon which to draw; these sources represent a selection of tools and approaches to legal and climate problems.⁹⁵⁴ Also, this transnational lens applied to climate change can show inequalities and asymmetries that characterize international approaches to climate change.⁹⁵⁵ In fact, transnational environmental law goes under the perceptibility of public international law with rules that belong to international and national law and beyond the public inter-state relations.⁹⁵⁶ Additionally, some scholars, like Kotzé, sustain that transnational environmental law is

⁹⁴⁹Peel, J., & Lin, J. (2019). Transnational Climate Litigation: The Contribution of the Global South. *American Journal of International Law*, 113(4), 679-726. doi:10.1017/ajil.2019.48

⁹⁵⁰Lin, J. (2017). The Emergence of Transnational Environmental Law. In Louis Kotzé (ed) *Environmental Law and Governance for the Anthropocene*. Hart.331.

⁹⁵¹Berkley University. (n.d.). A Basic Introduction to Transnational Law. Berkley University. Available at [https://www.law.berkeley.edu/php-programs/courses/fileDL.php?fid=7587#:~:text=Philip%20Jessup%20\(later%20a%20judge,national%20frontiers](https://www.law.berkeley.edu/php-programs/courses/fileDL.php?fid=7587#:~:text=Philip%20Jessup%20(later%20a%20judge,national%20frontiers) (accessed 17 August 2023).

⁹⁵²Lin, J. (2017). The Emergence of Transnational Environmental Law. In Louis Kotzé (ed) *Environmental Law and Governance for the Anthropocene*. Hart.331.

⁹⁵³Webster, E. & Mai, L. (2020) Transnational environmental law in the Anthropocene. *Transnational Legal Theory*, 11:1-2, 1-15, DOI: [10.1080/20414005.2020.1778888](https://doi.org/10.1080/20414005.2020.1778888)

⁹⁵⁴Affolder, N. (2019). Transnational Climate Law. Oxford Handbook of Transnational Law (Peer Zumbansen ed., Oxford University Press, 2019, Forthcoming). Available at SSRN: <https://ssrn.com/abstract=3463486> or <http://dx.doi.org/10.2139/ssrn.3463486>

⁹⁵⁵Lyster, R. (2019). The Idea of (Climate) Justice, neoliberalism, and the Talanoa Dialogue. *Journal of Human Rights and the Environment* 10. no.1: 36.

⁹⁵⁶Sand, P.H. (2012). The evolution of transnational environmental law: four cases in historical perspective. *Transnational Environmental Law*, 1(1), 183-198.

"simultaneously national, inter-national (between and across domestic jurisdictions), regional, and international (supranational), and it emanates from multiple state and non-state actors variously situated at all of these levels."⁹⁵⁷ From this, we can denote the wide scope and the fact that transnational law exists and operates within, in between, and beyond borders. Its flexibility, reactivity, and sensibility to changes in the systems also derive from this and allow us to use it to respond to current global environmental such as climate change.⁹⁵⁸ In fact, transnational law is generally known as being able to resolve those issues that cross national borders and cannot be solved by a single state.⁹⁵⁹ As already explained, transnational law finds its place between domestic and international law and sometimes also overlaps them. Overall, we can say that transnational law is not produced by one state and does not belong to any state. Scholars defined it as “*anational*” but reflective of the global context in which the law is being “*transnationalised*”.⁹⁶⁰

To conclude this section, it can be argued that, without any doubt, transnational environmental and climate law are no longer theoretical concepts, but they are now a fast-developing body of laws that progressively calls for attention. The recognition of the right to a healthy environment is the most striking example of how transnationalism in law is currently taking place. Before its recognition, non-state actors advocated for its inclusion in constitutions. In fact, the *greening* of rights and constitutions is a process that is fast evolving thanks to transnational juridical proceedings that transplant, integrate, and harmonize laws into networking and judicial comparative systems.⁹⁶¹ Consequently, these transnational processes led to the rapid development of transnational climate law paired with governance initiatives, which have been reported in this work.

However, we cannot conclude this analysis without mentioning globalization as it plays a crucial role in the transnational climate law doctrine. In some ways, globalization led the international community to rethink how the states hold their power as they are leaving a little portion of power to other actors. This does not mean that the state as an institution is dying but simply it allows more space for thinking about the laws in different ways.⁹⁶² Thus, if globalization is a fragment of the inevitable social change, and law is a societal construct that evolves and adapts to its surroundings,

⁹⁵⁷Kotzé, L. (2014). The Anthropocene's Global Environmental Constitutional Moment. *Yearbook of International Environmental Law*, 25, 24-60. 10.1093/yiel/yvv065.

⁹⁵⁸Heyvaert, V., & Eddy, T. (2012). Introducing Transnational Environmental Law. *Transnational Environmental Law*, 1(1), 1-11. doi:10.1017/S2047102512000027

⁹⁵⁹Karton J. (2012). Global Law: The Spontaneous, Gradual Emergence of a New Legal Order. *Tilburg L Rev* 276-284

⁹⁶⁰Gopalan, S. (2003). Transitional Commercial Law: The Way Forward. *American University International Law Review* 18, no. 4. Pp.803-849.

⁹⁶¹Kotzé, L. & Soyapi, C. (2016). Transnational environmental law: the birth of a contemporary analytical perspective. 10.4337/9781784714659.00010.

⁹⁶²Shams, H. (2001). Law in the Context of Globalisation: A Framework of Analysis, 35 INT'L L. 1589 <https://scholar.smu.edu/til/vol35/iss4/14>

then we can sustain that globalization gives us the chance to assess law in the transnational realm. This is due to transnational law being a great example in the law field of how globalization represents a means of change and with transnational law, it has become obvious that state-centric theory on law does not fit properly as it used to.⁹⁶³

So, this “*transnational*” nature allows climate litigation to go beyond state borders employing several actors at different levels and also favoring the dialogue between courts and policymakers. For this reason, climate litigation can be found at the intersection of legal institutions and the disruptive character of climate change and extends outside constitutional norms to include tort law, administrative law, and environmental law issues. At the same time, however, it helps the understanding of the normative sphere of each domestic apparatus, even if climate change destroys the notion of national borders. Still, one main key point is the interesting coordination of the different petitioners from many national jurisdictions which most of the time resulted in greater positive achievements.

2. Recent and innovative interpretation of the law through litigation

One of the many achievements of climate litigation is to make states enforce climate commitments. Along with this, there has been noticed how these judicial proceedings are able to codify new practices or modify inefficient ones. Through the decade, this led to new norms and to recognize new rights. Indeed, the latest UNEP report underlined the crucial role played by litigation as courts and litigants will still be called to address the climate law as it happened so far with the cases reported in this work. Also, science will keep its centrality in climate law and will help to seek responsibility also for the action of private companies that contribute to climate change and cases that argue for greater government action to mitigate advance and proliferate. Surely, courts will continue to be asked to determine whether States can be held responsible for the extraterritorial dimensions of climate change.⁹⁶⁴

The large use of rights-based claims, as shown before, is the most innovative and characterizing element of climate litigation. Those cases are based on the correct idea that states are failing fail to address climate change adequately violating consequently several constitutional and fundamental rights of their citizens. In fact, the argument used offers a concrete non-political statutory basis to challenge policies and decisions. The analysis here proposed and underlined two main results: first

⁹⁶³Soyapi, CB. (2020). A Case for Transnational Law in Contemporary Times. *Potchefstroom Electronic Law Journal (PELJ)*, 23(1), 1-30. <https://dx.doi.org/10.17159/1727-3781/2020/v23i0a8197>

⁹⁶⁴United Nations Environment Programme (2023). *Global Climate Litigation Report: 2023 Status Review*. <https://wedocs.unep.org/20.500.11822/43008>.

of all, a growing number of national constitutions now include right-based provisions to directly or indirectly protect environmental rights. Then, these are based on international human rights law in different forms that can go from rights to a healthy environment, life, and dignity to procedural rights such as the right of public participation in decision-making.⁹⁶⁵

An additional new and successful argument is the public or state negligence which indicates that states have written and unwritten duties to fulfil, obviously protecting the citizens from harmful climate change is one of them, and if a state fails to do so it is held liable for negligence under tort law.⁹⁶⁶ This field is a new area of tort law, and for example, Courts have often demanded additional tests to determine negligence avoiding the possibility of holding States liable for political choices.⁹⁶⁷ The negligence claim must be proven with four elements which are the presence of duty, a breach, causation and an injury. In climate litigation, the most difficult element is the duty that must be proven since most of the legal systems do not comprehend statutory provisions that explicitly mention the to combat climate change.⁹⁶⁸ The innovative approach to this was brought by the Urgenda case as previously explained.

The purpose of this section is to analyze the most common elements to all of the cases that were mentioned in the previous chapter in order to underline the innovative and interesting elements brought by climate litigation in the last decade that are making the road to climate justice less bumpy and abstract.

2.1 The recognition of the right to a healthy environment

The right to a healthy environment has previously been mentioned in this work. The analysis reported that the formal recognition took place in October 2021 with the adoption of Resolution 48/13⁹⁶⁹ by the Human Rights Council filling the gap in the international human rights law.⁹⁷⁰ Then, after the adoption of the mentioned resolution, in July 2022, the United Nations General Assembly adopted an official resolution⁹⁷¹ confirming that everyone has a right to a healthy environment pushing for the

⁹⁶⁵Corsi, G. (2017). A bottom-up approach to climate governance: the new wave of climate change litigation ICCG Reflection No.57 <https://www.sipotra.it/wp-content/uploads/2017/11/A-bottom-up-approach-to-climate-governance-the-new-wave-of-climate-change-litigation.pdf>

⁹⁶⁶Fairgrieve, D. & Squires, D. (2019). Arguments of Public Policy. *The Negligence Liability of Public Authorities, Second Edition*. Oxford Academic

⁹⁶⁷Bailey, S. (2006). Public Authority Liability in Negligence: The Continued Search for Coherence. *The Journal of the Society of Legal Scholars*. volume 26, Issue 2. Pp.155–184

⁹⁶⁸Hunter, D., Salzman, J. & Zaelke, D. (2016). *International Environmental Law and Policy*. Foundation Press.

⁹⁶⁹A/HRC/RES/48/13

⁹⁷⁰UNGA ‘Report of the Special Rapporteur on the Issue of Human Rights Obligations Relating to the Enjoyment of a Safe, Clean, Healthy and Sustainable Environment’ UN Doc A/73/188 (19 July 2018) (Special Rapporteur 2018 Report) para 53

⁹⁷¹A/76/L.75

universal protection of such right. Moreover, as already explained, the resolution is not legally binding but sustained that the right to a clean, healthy, and sustainable environment is “*related to other rights and existing international law*”⁹⁷² which promoted the full implementation through multilateral environmental agreements under the principles of international environmental law.⁹⁷³ This means that now, when used by judiciary bodies, the right contributes to creating alternatives to fill the gaps in laws giving opportunities to achieve justice. To concretely grasp the innovative side of the recognition, we can cite two litigation cases that are particularly interesting. However, we firstly have to mention that most of the cases raising the right to a healthy environment are situated in the global South of the world. This confirms the theory that indicates the South of the world is more open and willing to use this right, as both applicants and courts heavily rely on it during the proceedings.⁹⁷⁴

The first case analyzed in this context is “*Earthlife Africa v Minister of Environmental Affairs*”. It was initiated by the South African NGO that requested a judicial review to challenge the decision of the government that permitted to build a new coal power station. The NGO claimed that the power station would create additional emissions causing climate change and affecting human rights. In this case, they precisely invoked the right to a healthy environment under Article 24⁹⁷⁵ of the constitution of South Africa. The article explicitly mentions that the state must protect the environment for the advantage of the citizens and future generations. While the case is important to study the current energy policies of the country⁹⁷⁶, it is equally important to analyze how the court addressed the right to a healthy environment in the country, extending it to the future.

The first appeal was submitted to the Minister of Environmental Affairs to modify the project hoping that they would include environmental concerns. But the NGO sustained that the review was useless as the government consciously ignored climate change. The second appeal was presented to the High Court in Pretoria as a response to the declaration of the Minister that sustained that the project was to be considered legally valid even and that a climate assessment more in dept would have been undertaken by the institution. However, the court cited several sources, such as the Constitution and the Paris Agreement, using them to conclude that climate change must be considered

⁹⁷²Ibid., p.3

⁹⁷³ILO. (2022). *UN General Assembly recognizes human right to a clean, healthy, and sustainable environment*. ILO. available at https://www.ilo.org/global/about-the-ilo/newsroom/news/WCMS_857164/lang--en/index.htm (accessed 17 August 2023).

⁹⁷⁴Boyd, D R. (2012). The Constitutional Right to a Healthy Environment. 54 *Environment: Science & Policy for Sustainable Development* 3;

⁹⁷⁵See Constitution of the Republic of South Africa, 1996, section 24 at <https://www.gov.za/documents/constitution-republic-south-africa-1996>

⁹⁷⁶Ottinger, R.L & Jayne, M. (2000). *Global Climate Change Kyoto Protocol Implementation: Legal Frameworks for Implementing Clean Energy Solutions*, 18 *PaceEnvtl. L. Rev.* 19
DOI: <https://doi.org/10.58948/0738-6206.1552>.

always relevant in an environmental review of certain projects. Also, the approved project by the government totally ignored climate change, therefore the court declared it invalid.⁹⁷⁷ Moreover, the High Court sustained that there is an obligation on all authorities, including all the sectors of the government, to think of relevant factors also pollution, environmental impacts, or environmental degradation when evaluating the authorization for these types of projects. This factor has indeed the power to weigh towards the result, whether to approve or refuse it.⁹⁷⁸ As mentioned, the argument of the court was a direct reference to the right to a healthy environment.⁹⁷⁹ The final decision underlined the right as a fundamental justiciable environmental right and added that it is a duty to promote it as it is enshrined in the Constitution and since there are concrete risks posed by climate change also to the sustainable development of the country and future generations.⁹⁸⁰ This ruling is crucial also because other countries could now start to consider the climate change impact assessment before consenting to new coal-fired power stations.⁹⁸¹ Also, in the absence of specific norms, the case is considered significant to climate law and could consequently transform the planning in the energy sector and introduce cleaner systems to use coal. Surely, the decision clearly indicates the view of the court and its priorities towards the development of the country as strongly linked to sustainability and equality.⁹⁸² Scholars, indeed, sustain that the case is a watershed in the environmental law of the nation because it has filled an important legal gap in the regulatory framework of South Africa. Now, the case is used as a benchmark when evaluating equality, the rule of law, democracy, and climate law.⁹⁸³

The second case is the “*Salamanca Mancera v Presidencia de la República de Colombia*”⁹⁸⁴. The initiative belongs to a group of twenty-five young applicants who used the *accion de tutela* for the protection of fundamental rights in Colombia. They complained that deforestation activities in the

⁹⁷⁷See EarthLife Africa Johannesburg v. Minister of Environmental Affairs and Others at <http://climatecasechart.com/non-us-case/4463/> (accessed 17 August 2023).

⁹⁷⁸*Earthlife Africa v Minister of Environmental Affairs et al*, High Court of South Africa Gauteng Division, Pretoria, Judgment (6 March 2017).

⁹⁷⁹*Ibid.* para 80

⁹⁸⁰*Ibid.* para 82

⁹⁸¹Ashukem, Jean-Claude N., (2017). ‘Setting the Scene for Climate Change Litigation in South Africa: Earthlife Africa Johannesburg v Minister of Environmental Affairs and Others [2017] ZAGPPHC 58 (2017) 65662/16’ 13/1 Law, Environment and Development Journal (2017), p. 35, available at <http://www.lead-journal.org/content/17035.pdf>

⁹⁸²Papacostantis, H. (2021). South Africa’s Journey to Climate Change Regulation: Earthlife Africa Johannesburg v Minister of Environmental Affairs 2017 2 All SA 519 (GP). *Potchefstroom Electronic Law Journal*, 24, 1–25. <https://doi.org/10.17159/1727-3781/2021/v24i0a8007>

⁹⁸³Humby, TL. (2018). The Thabametsi Case: Case No 65662/16 Earthlife Africa Johannesburg v Minister of Environmental Affairs. *Journal of Environmental Law*. Volume 30. Issue 1. Pp. 145–155.

⁹⁸⁴See *Salamanca Mancera et al v Presidencia de la República de Colombia et al*, Tribunal Superior de Bogotá, Acción de Tutela (29 January 2018)

Amazon violated their rights to a healthy environment, to life, health, food, and water, all protected by the Colombian Constitution. Indeed, the Constitution expresses the right to a healthy environment:

“Every individual has the right to enjoy a healthy environment. The law will guarantee the community’s participation in the decisions that may affect it. It is the duty of the State to protect the diversity and integrity of the environment, to conserve the areas of special ecological importance, and to foster education for the achievement of these ends.”⁹⁸⁵

The Supreme Court agreed with the applicants and ordered the Government to stop the deforestation of the Colombian Amazon by 2020. The court, additionally, launched a public process to plan how to cease deforestation. In the final decision, the Court stressed that the judiciary has the right to intervene to guarantee and protect the effectiveness of the rights included in the Constitution, even more intensely now in the context of the current climate crisis. It also underlined those fundamental rights, like the right to life, health, freedom, and dignity, must be considered contingent on a healthy ecosystem.⁹⁸⁶ Surprisingly, the high court made it quite clear that the government has been unproductive in this area, especially since the country was confronting serious climate effects due to deforestation causing a high concentration of carbon dioxide into the atmosphere altering and shattering ecosystems and water resources. Therefore, the Supreme Court ordered the Presidency and the Ministries of Environment and Agriculture to draft and implement an intergenerational pact for the life of the Colombian Amazon, to be written with the participation of the plaintiffs, the communities affected, and with scientific bodies. The plan is to reduce or even stop deforestation to mitigate greenhouse gas emissions.⁹⁸⁷

To conclude, the court noted that the right to a healthy environment was incorporated in the Colombian Constitution already in the 1990s, similarly to the right of future generations⁴ and to the rights of nature. Along with the use of this right in a judicial proceeding, one of the innovative aspects was that the court acknowledged the Colombian Amazon as a “rights bearer”, thus, the state must protect it.⁵⁰ Even if this is not the subject of the present analysis, this result contributes to underlining the power held by courts and judges during climate litigation since the court used the right to a healthy environment to change the behavior of the government but had the chance to enunciate distinct rights of nature in the context of climate litigation.⁹⁸⁸

⁹⁸⁵Colombian Constitution, 1991, art 79.

⁹⁸⁶De Vilchez Moragues, P. & Savaresi, A. (2021). The Right to a Healthy Environment and Climate Litigation: A Mutually Supportive Relation?. Available at SSRN: <https://ssrn.com/abstract=3829114>

⁹⁸⁷Dejusticia. (2018). Climate Change and Future Generations Lawsuit in Colombia: Key Excerpts from the Supreme Court’s Decision. Dejusticia. Available at <https://www.dejusticia.org/en/climate-change-and-future-generations-lawsuit-in-colombia-key-excerpts-from-the-supreme-courts-decision/>

⁹⁸⁸De Vilchez, P. & Savaresi, A. (2021). The Right to a Healthy Environment and Climate Litigation: A Game Changer?. *Yearbook of International Environmental Law*. Volume 32. Issue 1. Pp. 3–19.

The right to a healthy environment stands as a cornerstone of modern environmental jurisprudence, reflecting the growing recognition that a balanced and thriving ecosystem is vital for the well-being of present and future generations. This right encapsulates the belief that every individual has an inherent entitlement to live in an environment that is clean, safe, and conducive to a high quality of life. As societies grapple with escalating environmental challenges, the right to a healthy environment has gained prominence as a legal and ethical imperative. The right to a healthy environment should serve as a rallying point for individuals, organizations, and governments to champion ecological sustainability, social equity, and a future marked by harmonious coexistence with nature. It is evolving legal recognition signals a collective commitment to fostering a world where environmental well-being is not a luxury but an indispensable right for all.

2.2 The right to a stable climate

In an era marked by unprecedented environmental challenges, the concept of the right to a stable climate has emerged as a crucial focal point within the realm of climate litigation. As communities, nations, and individuals deal with the dreadful consequences of climate change, legal avenues are being explored to hold governments and corporations accountable for their role in exacerbating the crisis. The right to a stable climate represents an evolving paradigm in environmental law, seeking to secure a livable and sustainable future for current and future generations.

At its core, the right to a stable climate underscores the belief that all individuals possess an inherent entitlement to a climate system that sustains the delicate balance of our planet's ecosystems, safeguards vital resources, and ensures the well-being of human societies.⁹⁸⁹ This emerging legal principle builds upon established human rights frameworks, weaving together elements of the right to life, health, and an adequate standard of living. It recognizes that the impacts of climate change, ranging from extreme weather events to rising sea levels, can profoundly infringe upon these fundamental rights, particularly among vulnerable populations.

As climate litigation continues to shape legal precedents and influence policy agendas, it highlights the pivotal role of the judiciary in safeguarding the right to a stable climate. The journey toward securing this right is an evolving one, marked by legal challenges, landmark rulings, and an unwavering commitment to the principles of justice and sustainability. In the courtroom, the battle for a stable climate unfolds, offering hope that the rule of law can be a beacon guiding humanity toward a future where the fundamental right to a stable and habitable planet is recognized and upheld.

⁹⁸⁹Magalhães, P. (2021). Why we need a legal framework that recognizes a stable climate. OneEarth. Available at <https://www.oneearth.org/why-we-need-a-legal-framework-that-recognizes-a-stable-climate/> (accessed 17 August 2023).

Thus, the right to a stable climate is still a novelty and probably a bit controversial for judicial proceedings. Generally speaking, a stable climate system could satisfy the constitutional right and the political aspect of climate change. In fact, environmental degradation is very difficult to stop for governments, it requires planning ahead, and the inclusion of the minority and future generations.⁹⁹⁰ The official recognition of the right to a stable climate would solve these practical aspects. Nevertheless, it is not explicitly recognized as a standalone legal right in most international human rights treaties or national legal systems. While various human rights, such as the right to life, health, and an adequate standard of living, are often invoked in the context of climate change, a distinct and universally accepted right to a stable climate has not been widely established in legal frameworks. Also, this fundamental new right would represent an innovative implicit constitutional category that would result from the interaction between classic fundamental rights and a new generation of global environmental problems, specific of climate change. Indeed, the severity of the climate crisis and its aftermaths on fundamental rights need a new and autonomous right that through a stable climate could sustain human life. Since the emissions destabilize the climate system, as already explained, this can violate isolated fundamental rights, both collectively and individually. Therefore, a stable climate requires a constitutional status to protect it and enforce it.⁹⁹¹

For this reason, there have been significant efforts to link existing human rights to climate change and advocate for the recognition of the right to a stable climate. Multiple Scholars have explored the idea of a right to a safe climate as a new human right. For example, Ademola Jegede is a supporter of the recognition, and he sustains that the new right gathers all the criteria of a new human right: starting from the effects of climate change that violate human dignity, the impacts are universal and lastly, the right to a stable climate could be interpreted easily with the obligation of the United Nations Charter, customary law or any other principles of law. In addition, even if there is a concrete association with other human rights, this new right does not imitate an already present right. Consequently, the right to a stable climate, or a safe climate, is adequately detailed to identify specific rights and duties for the states.⁹⁹²

While the explicit recognition of the right to a stable climate is limited, there have been notable developments that show a growing acknowledgement of the interconnectedness between human

⁹⁹⁰May, J.R., & Daly, E. (2021). Can the U.S. Constitution Encompass a Right to a Stable Climate? (Yes, it Can.). *UCLA Journal of Environmental Law and Policy*, 39(1). <http://dx.doi.org/10.5070/L5391052535> Retrieved from <https://escholarship.org/uc/item/184274ww>

⁹⁹¹Setzer, J. & Carvalho, D. (2021). "IEA v Brazil: rights-based climate litigation to protect the Brazilian Amazon." *OxHRH Blog*. Available at <https://ohrh.law.ox.ac.uk/iea-v-brazil-rights-based-climate-litigation-to-protect-the-brazilian-amazon/>

⁹⁹²Jegede, AO. (2020). Arguing the Right to a Safe Climate under the UN Human Rights System. 9 *International Human Rights Law Review* 184. 204.

rights and climate change. For example, in the climate litigation field, this right has already been mentioned a couple of times. In the famous *Juliana Case*⁹⁹³, the Court used the definition already proposed in this work, as a right capable of sustaining human life. Moreover, the Court cited another case, not climate-related, the *Obergefell v. Hodges*⁹⁹⁴ case, through which the stable climate system was declared as fundamental:

“Exercising my reasoned judgment, I have no doubt that the right to a climate system capable of sustaining human life is fundamental to a free and ordered society. Just as marriage is the foundation of the family, a stable climate system is quite literally the foundation of society, without which there would be neither civilization nor progress.”

Another related case is the lawsuit filed by the Institute of Amazonian Studies (IEA) against the Brazilian state in October 2020, known as *IAE v Brazil*.⁹⁹⁵ The lawsuit pursues an order to the government to observe the national climate law but also the recognition of a fundamental right to a stable climate under the constitution, including the future generations notion. This case is also another perfect example of transnational law as it derives from the experience of other existing rights-based climate cases. By requesting the recognition of the right to a stable climate, this case contributes to establishing that a stable climate is indeed crucial and for this in need of constitutional protection.⁹⁹⁶

After preparing their argument for two years, the institute submitted the class action before the Federal Circuit Court of Curitiba. They claimed that the government did not comply with the Brazilian plans regarding deforestation, mitigation, and adaptation to climate change, breaching national laws and fundamental rights. The IEA included the unsuccessful emission target plan of the country integrated into the National Climate Change Policy Act, which is a binding law adopted by the Brazilian legislature. Then, in July 2021, the Federal District Court of Curitiba rejected jurisdiction and transferred the case to the 7th Federal Environmental and Agrarian Court of the Judiciary Section of Amazonas, linking this case with another case in that court. The IEA appealed the transfer decision to the federal appellate court and on August 20, 2021, the case returned to the Federal District Court of Curitiba. However, the case is still pending, and the question raised is

⁹⁹³See *Juliana v. U.S.*, (2016) No. 6:15-cv-1517-TC. <https://static1.squarespace.com/static/571d109b04426270152febe0/t/5824e85e6a49638292ddd1c9/1478813795912/Order+MTD.Aiken.pdf>

⁹⁹⁴See *Obergefell v. Hodges*, (2015) https://www.supremecourt.gov/opinions/14pdf/14-556_3204.pdf; United States Reports: 576: 644-742 United States Supreme Court

⁹⁹⁵See *Institute of Amazonian Studies v Brazil*, 11th Lower Federal Court of Curitiba (5048951-39.2020.4.04.7000), filed 8 October 2020 (https://climate-laws.org/geographies/brazil/litigation_cases/institute-of-amazonian-studies-v-brazil).

⁹⁹⁶Setzer, J. & de Carvalho, D.W. (2021). Climate litigation to protect the Brazilian Amazon: Establishing a constitutional right to a stable climate. *RECIEL*. 30(2): 197-206. <https://doi.org/10.1111/reel.12409>

whether the Brazilian Constitution guarantees a fundamental right to a stable climate and if the government could be obliged to meet both emission and deforestation reduction goals.⁹⁹⁷

So, as reported, the fundamental right to a stable climate is a recent debate. The evolving jurisprudence of the right to a stable climate also offers opportunities for collaborative governance and policy innovation. Climate litigation can galvanize public discourse, urging governments and corporations to reevaluate their environmental commitments and practices. It can stimulate dialogue between branches of government, spark international cooperation, and bolster the enforcement of existing environmental agreements.

2.3 The duty of care in climate terms

The duty of care is a fundamental concept in civil law, particularly in the field of negligence. It establishes a legal obligation that individuals or entities owe to others to exercise a certain level of care and caution to avoid causing harm or injury.⁹⁹⁸ The duty of care is an essential element in establishing liability for negligence and plays a crucial role in determining whether a person or entity should be held legally responsible for their actions or omissions. The concept of duty of care can play a significant role in climate litigation cases, particularly those that involve allegations of negligence or failure to take appropriate actions to address climate-related risks.

As anticipated, the duty of care is a foundational concept in civil law that serves several crucial purposes and plays a significant role in various legal contexts. The common law doctrine indicates a legal obligation that reinforces the practitioner and patient interactions; therefore, it is placed within the law of negligence. It is an old concept of the legal system, existing for many centuries. It falls under the tort of negligence, which is an aspect of civil law, and states that if a duty of care existed, was breached, and that breach caused harm, the person who owed the duty of care is liable for the harm.⁹⁹⁹ Moreover, a pivotal moment in the development of the modern duty of care occurred with the landmark case of *Donoghue v. Stevenson*¹⁰⁰⁰. In this case, a woman consumed a bottle of ginger beer that contained a decomposed snail. She fell ill, and the issue before the court was whether the manufacturer owed her a duty of care. An additional development arrived with the *Anns v. Merton London Borough Council*¹⁰⁰¹ case. The latter marked a significant step in the expansion of the duty of care in negligence law as the House of Lords established a two-stage test for determining the

⁹⁹⁷See *Institute of Amazonian Studies v. Brazil* at <http://climatecasechart.com/non-us-case/institute-of-amazonian-studies-v-brazil/> (accessed 20 August 2023).

⁹⁹⁸Vanderpool D. (2021). The Standard of Care. *Innovations in clinical neuroscience*, 18(7-9), 50–51.

⁹⁹⁹Witting, C. (2005). Duty of Care: An Analytical Approach. *Oxford Journal of Legal Studies*, 25(1), 33–63. <http://www.jstor.org/stable/3600600>

¹⁰⁰⁰See *Donoghue v Stevenson* (1932) AC 562, 563

¹⁰⁰¹See *Anns v Merton London Borough Council* [1977] UKHL 4, [1978] AC 728

existence of a duty of care: foreseeability of harm and proximity of relationship between the parties. While the Anns test was later modified and replaced, it played a role in shaping the duty of care principle.¹⁰⁰²

Overall, the duty of care is a concept employed for sever reasons.¹⁰⁰³ The primary purpose is for sure to prevent harm or injury to individuals or even property. By imposing a legal obligation on individuals, entities, or even governments to exercise reasonable care and caution, the duty of care helps mitigate risks and minimize the potential for negligence-related harm. Then, it establishes a framework of accountability and responsibility since it ensures that individuals and entities are held responsible for their actions, or omissions that could reasonably foreseeably cause harm. This accountability encourages prudent behavior and discourages reckless conduct. When a breach of the duty of care leads to harm or injury, it allows the injured party to seek compensation for their losses. This helps provide a means of restoring the injured party to their pre-harm condition by awarding damages for financial, physical, or emotional losses suffered due to the breach.¹⁰⁰⁴ Some scholars, in addition, sustain that the duty of care incentivizes individuals and entities to act with diligence and caution. Knowing that they could be held liable for negligence, people are more likely to take reasonable precautions, exercise due diligence, and make informed decisions to avoid causing harm.¹⁰⁰⁵

In fact, in professional and industry contexts, the duty of care promotes safe practices and ethical conduct. Professionals, such as doctors, lawyers, and engineers, are expected to uphold a higher standard of care due to their specialized knowledge, expertise, and potential impact on public well-being.¹⁰⁰⁶ Furthermore, the duty of care serves as a mechanism for consumer protection. Manufacturers, suppliers, and sellers have a duty to ensure that their products are safe and fit for their intended purpose. If a product causes harm due to a defect or lack of proper warnings, the duty of care may be invoked in product liability cases.¹⁰⁰⁷ However, Given the current environmental degradation framework, the duty of care has been expanded to environmental protection and climate

¹⁰⁰²Kyriakakis, J. et al. (2019). *Contemporary Australian Tort Law*. Cambridge: Cambridge University Press. doi:10.1017/9781108626224

¹⁰⁰³Hunter, D., & Salzman, J. (2007). Negligence in the Air: The Duty of Care in Climate Change Litigation. *University of Pennsylvania Law Review*, 155(6), 1741–1794. <http://www.jstor.org/stable/40041378>

¹⁰⁰⁴Geistfeld, M A. (2014). Compensation as a Tort Norm. in John Oberdiek (ed.), *Philosophical Foundations of the Law of Torts*, Philosophical Foundations of Law. Oxford Academic.

¹⁰⁰⁵See the European Commission, Directorate-General for Justice and Consumers, Torres-Cortés, F., Salinier, C., Deringer, H. (2020). *Study on due diligence requirements through the supply chain: final report*, Publications Office. <https://data.europa.eu/doi/10.2838/39830>

¹⁰⁰⁶Dimond, B. (2016). *Legal Aspects of Health and Safety*. Regno Unito: Mark Allen Group.

¹⁰⁰⁷Olson, S.L. & Kimball, A.G. (2000). The Limits on the Use of Tort Law to Encourage Consumer Safety. 12 *Loy. Consumer L. Rev.* 178. Available at: <http://lawecommons.luc.edu/lclr/vol12/iss3/2>

change.¹⁰⁰⁸ In climate litigation, the duty of care can be used to hold individuals, corporations, or governments accountable for actions that harm the environment. It reinforces the idea that parties have a responsibility to minimize negative impacts on ecosystems and natural resources. Strictly related to this, the duty of care can establish and refine through legal precedent over time. Past cases and court decisions provide guidance on how the duty of care is applied in various situations, contributing to a consistent and predictable legal framework. Consequently, this principle can also serve public policy goals by influencing behavior that contributes to public safety, health, and well-being. Courts, indeed, may take broader societal implications into account when determining the existence and scope of a duty of care.

In summary, the duty of care is important because it promotes responsible behavior, ensures accountability, provides a means of compensation for harm, and contributes to a just and equitable legal system. It is a cornerstone of civil law that helps strike a balance between individual freedoms and the need to prevent harm to others. Also, with the analysis of any constitution, we can find implicit mention of the duty of care as a constitution expresses individual rights, it imposes on the government the duty to protect these rights and to care for its citizens and their freedom and dignity.¹⁰⁰⁹

As anticipated, society and technology have evolved, so has the duty of care concept. It has been applied to new and complex situations, such as environmental protection and climate change. Cases like *Urgenda Foundation v. The Netherlands* have expanded the duty of care to encompass governmental obligations to protect citizens from harm caused by inadequate actions to address pressing issues like climate change. To demonstrate the claimed negligence, the plaintiff must show that the company or the government operated unreasonably. The latter is demonstrated, in climate concerns, and is measured based on the knowledge of the defendant whether the actions pursued would have contributed to climate change. So, the plaintiff needs to verify the intentional activity that led to the harm.¹⁰¹⁰ For already explained reasons in this work, this is not always easy to demonstrate in courts due to climate causality.

Still, the *Urgenda* case marked a significant milestone in climate litigation by explicitly establishing the duty of care as a legal basis for holding a government accountable for its actions (or lack thereof) in addressing climate change. The ruling emphasized that governments have a responsibility to protect their citizens from the foreseeable and preventable impacts of climate change. The case had international reverberations and inspired similar legal actions in other countries, where

¹⁰⁰⁸Reisberg, A. & Havercroft, I. (2010). Directors' Duties Under Companies Act 2006 and the Impact of the Company's Operations on the Environment. UCL Centre for Commercial Law.

¹⁰⁰⁹Crowell, J. (2003). Duties of Care and the Constitution: A Negligence Model of Individual Rights. *Yale Law & Policy Review*, 21(2), 473–499. <http://www.jstor.org/stable/40239595>

¹⁰¹⁰Wong, C. (2016). Director Duty of Care in China and the United States: What Liability for Climate Change? *Vermont Journal of Environmental Law*, 18(2), 287–307. <http://www.jstor.org/stable/24896075>

plaintiffs sought to use the duty of care principle to compel governments to take more aggressive action on climate change. The case, indeed, serves as an example of how the duty of care can be applied in the realm of climate litigation to hold governments responsible for taking adequate and effective measures to address climate change and protect the rights of their citizens.

The facts have already been reported but what is important to repeat here is that the ruling, along with the decision, had an incredible logic in it. In fact, it merits close attention for the tort law doctrine but also because it is highly probable that it will contribute to the climate change liability debate in the future.¹⁰¹¹ First of all, there is a connection between the discretionary power and the principle, in fact, the first one ends where the duty of care begins. The court considered several factors such as the protection of the climate system, the reasonableness, the precaution principle, and the principle of sustainability, along with the aims of the European climate policy. Furthermore, the Court stressed that based on the GHG emission and the reduction goals, the State had the obligation to take adequate measures in its own territory and this was formulated in urgent terms since the climate crisis. The crucial issue, however, was the discretionary power of the government in its responsibility to take guarantee a clean and healthy environment for its citizens. But the discretionary power is limited by the duty to protect the citizens and to care. Therefore, the state had to act against dangerous climate change by implementing effective measures.¹⁰¹²

Similarly, the *Juliana v. United States*¹⁰¹³ contains claims that can be associated with the duty of care, even if the principle is expressed implicitly. The case gained significant attention and sparked a nationwide conversation about the legal and ethical obligations of governments to address climate change. While the case faced multiple legal challenges, including attempts by the government to have it dismissed, it also led to important legal developments.

The plaintiffs made legal claims based on the U.S. Constitution's Fifth Amendment, which protects individual rights, including the right to due process and equal protection under the law. They argued that the government's support for fossil fuel development and its inadequate regulation of greenhouse gas emissions amounted to a violation of their constitutional rights by endangering the planet and their future.¹⁰¹⁴ Although the case did not ultimately proceed to trial, it had a profound impact on the discussion of the duty of care in climate terms. It highlighted the notion that governments hold a duty

¹⁰¹¹Stein, E., & Castermans, A. (2017). Urgenda v. the state of the netherlands: the reflex effect climate change, human rights, and the expanding definitions of the duty of care. *McGill Journal of Sustainable Development Law*, 13(2), 303-324.

¹⁰¹²Loth, M. (2016). Climate change liability after all: dutch landmark case. *Tilburg Law Review (Gaunt)*, 21(1)

¹⁰¹³See *Juliana v. United States*, 339 F. Supp. 3d 1062, 1105 (D. Or. 2018).

¹⁰¹⁴Burger, M. & Wentz, J. (2019). The Trial of the Century: A Preview of How Climate Science Could Play Out in the Courtroom, Courtesy of *Juliana v. United States*. Sabin Center Columbia University. Available at <https://blogs.law.columbia.edu/climatechange/2019/01/07/the-trial-of-the-century-a-preview-of-how-climate-science-could-play-out-in-the-courtroom-courtesy-of-juliana-v-united-states/>

to protect current and future generations from the adverse effects of climate change. The court, indeed, sustained that the American Constitution guides the government to give protection to the citizens against activities that could poison the air or water.¹⁰¹⁵ This declaration could give space to frame the duty of care principle owed to citizens.

The development of the duty of care has been influenced by changing societal norms, advances in legal reasoning, and the need to address emerging challenges. As a result, the concept has evolved and adapted to address a wide range of situations and contexts, from traditional negligence cases to complex issues like environmental protection and climate change.

2.4 The “Separation of Powers” doctrine

Climate change poses threats not only to societies but increases tension also between law and politics. Since 2015, following the adoption of the Paris Agreement and the start of the climate litigation wave, now more than a thousand lawsuits have been initiated accusing States of lacking efficiency in their climate governance. As already explained, successful climate litigation establishes important legal precedents. The main characteristic, indeed, is that even if this procedure takes place in a specific domestic court, the implications can be traced globally as climate rulings are able to influence courts across national borders. For this reason, since the beginning of this trend in transnational climate litigation, scholars have been worried regarding the separation of powers as it might seem to be endangered by judges while ruling political matters of climate governance.

It is known that judges are influenced by factors external to the law, such as ideological preferences, known as “*judicial attitudes*”, essential when there is more room for interpretation, as well as in more contentious matters, such as climate policy.¹⁰¹⁶ It is necessary to highlight that the separation of powers is interpreted differently across jurisdictions. For example, the US has a more rigid interpretation of the separation of powers, consequently, US courts may be more inclined to let the political question doctrine stop them from being more progressive.¹⁰¹⁷

The term “*separation of powers*” appeared for the first time in France during the 18th century. Under his model, the state's political authority is divided into legislative, executive, and judicial

¹⁰¹⁵Brister, D. (2019). *Juliana v. United States*, " Public Land & Resources Law Review: Vol. 0 , Article 27. Available at: <https://scholarship.law.umt.edu/plrlr/vol0/iss9/27>

¹⁰¹⁶Colby, H., Ebbersmeyer, A. S., Heim, L. M., & Røssaak, M. K. (2020). Judging climate change: The role of the judiciary in the fight against climate change. *Oslo Law Review*, 7(3), 168-185.

¹⁰¹⁷Boudon, J. (2012). The Separation of Powers in the United States. *Pouvoirs*, 143, 113-122. <https://doi.org/10.3917/pouv.143.0113>

powers, these must be separate and act independently to promote liberty.¹⁰¹⁸ The intent is to prevent the concentration of power and provide for checks and balances:

- The legislative branch is responsible for proclaiming the laws and appropriating the money necessary to operate the government.
- The executive branch is responsible for implementing and administering the public policy enacted and funded by the legislative branch.
- The judicial branch is responsible for interpreting the Constitution and laws and applying their interpretations to controversies brought before it.

Moreover, the separation of powers, as well as the rule of law, is based on the assumption that judges interpret and apply legal norms made in other legitimized fora. The role of the judge is limited but also benefits from the formality of the entire legal order. The legislative power is bound by substantive and procedural (constitutional) law, which takes shape through interpretation by the judiciary. It is thus also compelled to engage in applying the law as part of the process of creating it. Law-applying is always also a form of developing the law that cannot be sharply distinguished from law-making.

Additionally, human rights play a complex role in constitutional democracies and their role is linked to *their very origin in a right to justification*. As human rights protect citizens from unjustified societal and political circumstances of oppression, the authorities exercising public powers in a way that restricts rights have to offer their citizens legitimate reasons.¹⁰¹⁹ This is where the separation of powers and the function of the judiciary comes in. Judges should, following the formal rules, oblige the policymaker to justify her choices in light of their impact on human rights. This establishes a process of reason-giving. The separation of powers is needed to ensure the sincerity of the reason-giving process. It reconciles law and politics in a way that one never fully dominates the other and must therefore still answer to the other. Still, the separation of power has different implications in different settings, for example, it can depend on the constitutional system. Overall, judges may refer to the separation of powers in many cases: when a claim is rejected because there is no relevant right to apply (such as the right to a clean environment) and little room for the judiciary to “invent” new rights, with reference to the political question doctrine or when the separation of powers is also reflected in the doctrine of standing.¹⁰²⁰ Therefore, the separation of powers is also linked with

¹⁰¹⁸Landau, D., & Bilchitz, D. (2018). "Chapter 1: The evolution of the separation of powers in the global south and global north". In *The Evolution of the Separation of Powers*. Cheltenham, UK: Edward Elgar Publishing. Retrieved Aug 13, 2023, from <https://doi.org/10.4337/9781785369773.00006> pp.2-4

¹⁰¹⁹Benhabib, S., Flynn, J., & Fritsch, M. (2015). Review of *The Right to Justification*, by R. Forst & R. Forst. *Political Theory*, 43(6), 777–837. <http://www.jstor.org/stable/24571697>

¹⁰²⁰Nedevska, J. (2021). An Attack on the Separation of Powers? Strategic Climate Litigation in the Eyes of U.S. Judges. *Sustainability*, 13(15), 8335. MDPI AG. Retrieved from <http://dx.doi.org/10.3390/su13158335>

“judicial activism”: judges pushing the boundaries of existing law for political purposes. This definition speaks to the concerns of the separation of powers and, more specifically, the fear of the judiciary becoming the legislators.¹⁰²¹

So, the role of judges in climate litigation has been studied for the last few years, especially in those cases where the separation of powers creates a limit to their activity. What is worth analyzing, for the sake of this work, is how the judiciary has been able to navigate through the doctrine while still realizing justice, for this reason, three interesting cases are here reported: the already discussed Urgenda (with a different lens at this point), the BVerfG case and lastly, the Friends of the Irish Environment case.

The Urgenda case has already been discussed in this work but its repetitions under different notions reflect the innovative aspect of this case, it wouldn't be this famous if it was otherwise. Skipping the background facts of the case, in its final decision the court declared that the state was breaching its obligation under international human rights law and the victory obtained underlines the role played by the courts in protecting the environment and human rights. The government was asked to justify its actions, something that is formally and legally obliged to do, especially since it is a constitutional democracy. The State failed to give such justification and for this reason, it was ordered to develop a different policy, one that met to prevent dangerous climate change. By doing so, the court respected its judicial powers as the function of the judiciary is to demand justification for policies that interfere with human rights. The separation of the powers not only was respected but give the judiciary a tool to boost climate justice.¹⁰²² Some scholars view the emission target imposed by the Court as a breach of the separation of power but the Supreme Court clarified that the decision did not interfere with the legislative power since the state is obliged to reduce emissions, consequently, the judiciary has the duty to check if the government is following the law while making political decisions.¹⁰²³ The case became a benchmark due to the influence played by the domestic courts in guaranteeing that the state was enforcing an international norm. The legal argument, here, is based on the fact that climate change is a global threat demanding global action and shared global responsibility. Also, since the Netherlands produces large amounts of greenhouse gases, the government adopted an emissions reduction policy that was not correct, therefore, the intervention by the judiciary was justified. Also,

¹⁰²¹Kmiec, K D. (2004). The Origin and Current Meanings of “Judicial Activism”. 92(5) *California Law Review* 1441, 1443 <<https://doi.org/10.15779/Z38X71D>>.

¹⁰²²Eckes, C. (2021). *Separation of Powers in Climate Cases: Comparing cases in Germany and the Netherlands*. *VerfBlog*. DOI: [10.17176/20210510-181511-0](https://doi.org/10.17176/20210510-181511-0). (accessed 20 August 2023).

¹⁰²³Warnok, C. (2015). The *Urgenda* decision: balanced constitutionalism in the face of climate change?. OUP Blog, Oxford University Press. Available at <https://blog.oup.com/2015/07/urgenda-netherlands-climate-change/> (accessed 20 August 2023).

the three powers in the country do not have rigidly separated relations but represent a balanced system in which the judiciary often evaluates governmental actions.¹⁰²⁴

The second case analyzed in this context is the decision adopted by the Bundesverfassungsgericht (BVerfG), on 29 April 2021, regarding the Federal Climate Change Act of 12 December 2019.¹⁰²⁵ The latter established the national climate targets and annual emission amounts allowed until 2030, which violated fundamental rights. The *Court* declared that the legal provisions violated the fundamental rights irreversibly delaying major emission reduction into the future, after 2030.¹⁰²⁶ The originality in the decision can be found in how the Court argued the violation with an innovative conception of constitutionally guaranteed freedom in the present time and in the future. Following the rationale of the Court, mitigation actions must be implemented in the present time, to avoid negative measures being required in the future. Therefore, fundamental rights must be protected now against a different constitutionally prescribed duty to reduce the emission that may arise in the future. As a matter of fact, the action of today influence the future conditions of the same freedoms, this is the intertemporal protection of freedoms.¹⁰²⁷ Basically, the State did not breach a positive duty, the one regarding the protection of the citizen from climate change, nor failed to comply with the obligation to take climate action, as mandated by the German Constitution. Indeed, the Court did not interpret a positive duty to protect but identified a rights *violation* and interference with fundamental freedoms that cannot be *justified in any case*. By doing so, the Court protected individual autonomy, extending it to future generations. This allowed the court to include citizens after 2030 and their future violations as a language of critique and required the legislature to respect their individual autonomy. Therefore, the court protected the future space of politics and guaranteed participation in the decision-making. The BVerfG straightforwardly addressed the separation of powers issue. The decision is viewed as a way to push the government to implement stricter mitigation measures while leaving to the other two branches freedom on how to respect such requests from the judiciary. In fact, the court imposed on the legislature an obligation to decide on the fundamental choice of distributing the

¹⁰²⁴Eckes, C. (2021). The Urgenda Case is Separation of Powers at Work. To be published in: N. de Boer, B. M. Aernout Nieuwenhuis en J.-H. Reestman (eds.), *Liber Amicorum Besselink* (Amsterdam, 2021), Amsterdam Law School Research Paper No. 2021-39, Amsterdam Centre for European Law and Governance Research Paper No. 2021-05, Available at SSRN: <https://ssrn.com/abstract=3979729> or <http://dx.doi.org/10.2139/ssrn.3979729>

¹⁰²⁵See BVerfG, order of 24. March 2021, - 1 BvR 2656/18 and others

¹⁰²⁶Bodle, R. & Sina, S. (2021). The German Federal Constitutional Court's decision on the Climate Change Act. Ecologic Institute. Berlin.

¹⁰²⁷Naglieri, G. (2023). Climate changes in Courts: different judicial approaches to government actions on cutting greenhouse emissions. Comparing Europe and America through selected cases. DPCE Online, [S.l.] v. 5 n. 4. ISSN 2037-6677.

national budget itself while the decision on when to reduce emissions and by how much cannot be left to the executive power.¹⁰²⁸

A third, and final, example of separation of powers in the climate litigation field is the *Friends of the Irish Environment v. The Government of Ireland*¹⁰²⁹ case. On January 2019, the environmental NGO Friends of the Irish Environment presented requested the Irish High Court to cancel the 2017 National Mitigation Plan since it failed to meet the climate goals violating human rights.¹⁰³⁰ The Irish High Court ruled in favor of the government denying that the Plan was insufficient to achieve the reduction target of emissions, adding also that the government exercised its due discretion. However, after the appeal presented by the NGO, the Irish Supreme Court reversed the first ruling and decided to cancel the National Mitigation Plan, asserting that the Plan was insufficient to guarantee that Ireland could achieve its 2050 climate goals, thus the State failed to comply with its statutory mandate.¹⁰³¹ The Court stressed the serious importance of transparency and public participation in the adoption and implementation of climate measures. An annulment, thus, was in line with the separation of powers. If the law entails a government plan to be formulated in a certain way, the question of compliance is a matter of law, not policy. Based on this, it is possible for a court to make the legislature power conscious regarding its legal obligations.¹⁰³² However, regarding the standing of the NGO as a corporate entity to raise questions regarding personal constitutional or human rights, this was initially permitted but then, the Supreme Court clarified that the Irish constitutional law does not permit the *action popularis*. Therefore, the NGO did not have legal standing to bring claims under the ECHR or the Constitution.¹⁰³³

In conclusion, the concept of the separation of powers plays a crucial and dynamic role in the evolving landscape of climate litigation. As this field continues to gain prominence in addressing the urgent global challenge of climate change, the division of powers among legislative, executive, and judicial branches remains pivotal in ensuring a balanced and effective approach. The interplay between these branches serves as a checks-and-balances mechanism, preventing any single entity from dominating climate policy and litigation. By upholding the principle of separation of powers,

¹⁰²⁸Eckes, C. (2021). *Separation of Powers in Climate Cases: Comparing cases in Germany and the Netherlands*, *VerfBlog*, <https://verfassungsblog.de/separation-of-powers-in-climate-cases/>, DOI: [10.17176/20210510-181511-0](https://doi.org/10.17176/20210510-181511-0).

¹⁰²⁹See *Friends of the Irish Environment v. The Government of Ireland & Others*, [2020] IESC 49.

¹⁰³⁰Suryapratim, R. (2022). The Domestic Life of Climate Law: *Friends of the Irish Environment v Ireland*. *Irish Supreme Court Review*, Vol 3. Available at SSRN: <https://ssrn.com/abstract=3997445>

¹⁰³¹See *Friends of the Irish Environment v. Ireland* at <http://climatecasechart.com/non-us-case/friends-of-the-irish-environment-v-ireland/> (accessed 20 August 2023).

¹⁰³²Kelleher, O. (2020). The Supreme Court of Ireland's decision in *Friends of the Irish Environment v Government of Ireland* ("Climate Case Ireland"). *EJIL TALK*. available at <https://www.ejiltalk.org/the-supreme-court-of-irelands-decision-in-friends-of-the-irish-environment-v-government-of-ireland-climate-case-ireland/> (accessed 20 August 2023).

¹⁰³³White, A. & O Callaghan-White, L. (2021), Taking Governments to Court Climate Litigation and its Consequences. IIEA. Available at: https://www.iiea.com/images/uploads/resources/Taking-Governments-to-Court_1.pdf pp.6-8

nations can navigate the complex legal terrain of climate litigation with integrity and ensure that collective efforts are harnessed to create a sustainable and resilient future for generations to come. As governments, activists, and stakeholders continue to navigate this critical realm, a robust understanding and application of the separation of powers will remain essential for achieving meaningful progress in addressing the multifaceted challenges posed by climate change.

2.5 New entities in court: citizens and youth

A remarkable evolution within the climate litigation field is the emergence of novel legal elements, such as the participation of citizen groups and young people in courtrooms. This not only underscores the increasing recognition of the environment as a shared legal interest but also reflects a growing societal consensus that transcends traditional legal boundaries. As citizens and young people step into the legal arena to hold governments and corporations accountable for their environmental responsibilities, a new era of climate justice is unfolding, redefining the contours of legal advocacy and environmental protection on a remarkable scale.

Representing future generations in courts is a way to advance climate and intergenerational justice. It may seem unfair to expect present generations to have obligations for the future ones as climate change has already posed challenges to them. However, the protection of future generations is a democratic tool to counteract intergenerational injustices.¹⁰³⁴ Future generations are now mentioned in national and international legislation, but we must underline the importance of intergenerational equity in various climate lawsuits, especially if those are brought by young plaintiffs. Future generations have one, main problem in courts: they do not exist.¹⁰³⁵ Their non-identity is a serious issue when responsibilities are being decided by projecting them into the future. One proposed solution is to think of them as possessors of future rights as a class since individuals, once they are born, become right holders.¹⁰³⁶ This hypothesis can be considered correct but does not address the non-identity problem. In fact, with this theory, future generations are an abstract identity that cannot participate, protest, or contribute to policy action. Therefore, it is more useful to identify and clarify how and by whom the interests of future generations could be protected and considered in the

¹⁰³⁴Gonzalez-Ricoy, I. & Rey, F. (2019). Enfranchising the future: Climate justice and the representation of future generations. *WIREs Clim Change*. 10:e598. <https://doi.org/10.1002/wcc.598>

¹⁰³⁵Fikkers, S. (2016). Legislating For Future Generations: Goal Regulation. *ARSP: Archiv Für Rechts- Und Sozialphilosophie / Archives for Philosophy of Law and Social Philosophy*, 102(1), 2–21. <http://www.jstor.org/stable/24756825>

¹⁰³⁶Wilfred, B. & Pasek, J. (2001). 'The Rights of Future Generations', *Justice, Posterity, and the Environment* (online edn, Oxford Academic, 1 Nov. 2003), <https://doi.org/10.1093/0199245088.003.0002>, accessed 14 Aug. 2023.

present.¹⁰³⁷ For example, on 29 April 2021, the German Constitutional Court¹⁰³⁸ published its decision on the Federal Climate Change Act of 12 December 2019, establishing that national climate targets and annual emission amounts planned until 2030 violated fundamental rights. The Court declared that the legal provisions violated the fundamental rights by permanently delaying the emission reduction burdens into the future, after 2030. This allowed the court to include citizens and German generations after 2030 and their future violations as a language of critique and required the legislature to respect their autonomy. The court was able to protect the future space of politics and ensured that future generations were being considered in the current political deliberation.¹⁰³⁹

Also, it is truly inspiring to witness the younger generations taking a stand and actively protesting climate change. Their unwavering commitment to the cause demonstrates a remarkable level of awareness and responsibility towards the future of the planet. Their protests are a powerful testimony to the fact that they refuse to be passive bystanders, instead choosing to raise their voices and demand accountability from those in power. By advocating for sustainable practices and policies, they are not only fighting for a healthier planet but also for their own future and that of generations to come.¹⁰⁴⁰ What makes their activism even more impactful is the level of organization and global solidarity they have achieved. Through the effective use of social media and technology, they have managed to unite like-minded individuals from all corners of the world, amplifying their message and pushing for meaningful change on a global scale. Society needs to listen and engage with these young activists, as they possess valuable insights and fresh perspectives. Their dedication to preserving the environment challenges us all to reevaluate our own actions and responsibilities. Together, we can forge a path toward a sustainable future by supporting and collaborating with these passionate advocates for climate change.¹⁰⁴¹

The younger generations have also been actively involved in climate lawsuits, playing a crucial role in holding governments and corporations accountable for their actions and their impact on the environment.¹⁰⁴² One notable climate lawsuit initiated by young people is the already mentioned

¹⁰³⁷Slobodian, L. (2020). Defending the Future: Intergenerational Equity in Climate Litigation. THE GEORGETOWN ENVTL. LAW REVIEW. Vol. 32:569. <https://www.law.georgetown.edu/environmental-law-review/wp-content/uploads/sites/18/2020/08/GT-GELR200020.pdf>

¹⁰³⁸It refers to the BVerfG decision analyzed in the section above 2.4 The separation of powers doctrine.

¹⁰³⁹Bäumler, J. (2021). Sustainable Development made justiciable: The German Constitutional Court's climate ruling on intra- and inter-generational equity. EJIL Talk. Available at <https://www.ejiltalk.org/sustainable-development-made-justiciable-the-german-constitutional-courts-climate-ruling-on-intra-and-inter-generational-equity/> (accessed 25 August 2023).

¹⁰⁴⁰Percy-Smith, B., & Burns, D. (2013). Exploring the role of children and young people as agents of change in sustainable development. *Local Environment: The International Journal of Justice and Sustainability*, 18(3), 323–339. doi:10.1080/13549839.2012.729565.

¹⁰⁴¹Daly, A. (2022). 'Climate Competence: Youth Climate Activism and Its Impact on International Human Rights Law' in *Human Rights Law Review*, 22 (2,). Pp. 1-24.

¹⁰⁴²Gasparri, G. et al. (2022). Integrating youth perspectives: adopting a human rights and public health approach to climate action. *International Journal of Environmental Research and Public Health*, 19(8), 4840.

*Juliana v. United States*¹⁰⁴³ lawsuit, often referred to as the "*Youth v. Government*" case for this reason. This lawsuit was filed in 2015 by a group of 21 young plaintiffs, aged between 11 and 22 at the time, along with the organization "Our Children's Trust", sustaining that the US government violated their constitutional rights by failing to take sufficient action to address climate change. Even though the case was unfortunately dismissed, it highlighted the role of youth in advocating for climate action.¹⁰⁴⁴

Similarly, there are numerous cases all over the world in which younger people acted as plaintiffs in climate litigation. In *La Rose v. Her Majesty the Queen*¹⁰⁴⁵ a group of fifteen young Indigenous activists from the Beaver Lake Cree Nation in Canada filed a lawsuit against the Queen and the Attorney General of Canada declaring that the country contributes to emitting greenhouse gases and instead of pursuing the stable climate goal. The case was dismissed but the fifteen young indigenous have appealed hoping to continue their fight to achieve justice.¹⁰⁴⁶

These lawsuits are significant because they recognize that the current and future generations will bear the burden of climate change's consequences. By participating in climate lawsuits, young activists are utilizing the legal system as a tool to demand climate action and justice. They are highlighting the failure of governments and corporations to adequately address the climate crisis and seeking legal remedies to ensure a sustainable future.¹⁰⁴⁷ Through these lawsuits, they aim to establish legal precedents and enforce regulations that prioritize environmental protection and curb harmful practices. These legal battles demonstrate the determination of the younger generations to protect their rights to a clean and livable planet. They are using the law as a means to fight for climate justice, and in doing so, they are influencing public opinion, raising awareness, and putting pressure on institutions to take meaningful action. The involvement of young activists in climate lawsuits is not only a powerful statement but also a testament to their resilience, courage, and belief in the power of the legal system to effect change. While climate lawsuits are complex and can take time to unfold, the involvement of the younger generations sends a clear message: they are not willing to sit powerlessly and watch their future compromised. Indeed, they are actively engaging with the legal system, seeking justice, and leaving a lasting impact on the fight against climate change. Their efforts are instrumental in pushing for accountability and encouraging the transition to a sustainable,

¹⁰⁴³See *Juliana v United States* at <http://climatecasechart.com/case/juliana-v-united-states/> (accessed 25 August 2023).

¹⁰⁴⁴Barton, J. (2021). *Juliana v. United States: Climate Change, Youth Activism, and the Law* (Doctoral dissertation, University of Oregon).

¹⁰⁴⁵*La Rose v Canada*, Judgement, 2020 FC 1008, T-1750-19, 27 October 2020

¹⁰⁴⁶Cameron, C. & Weyman, R. (2022). Recent Youth-Led and Rights-Based Climate Change Litigation in Canada: Reconciling Justiciability, Charter Claims and Procedural Choices, *Journal of Environmental Law*, Volume 34, Issue 1, Pages 195–207, <https://doi.org/10.1093/jel/eqab026>

¹⁰⁴⁷Gharabaghi, K., & Anderson-Nathe, B. (2018). Children and youth in the era of climate change. *Child & Youth Services*, 39(4), 207-210.

environmentally conscious society. So, at least the successful cases demonstrate that courts are better than other democratically accountable governmental branches to include these types of interests in the climate change debate. Courts, indeed, are very active in respecting the intergenerational equity principle, surely more than the legislative or executive.¹⁰⁴⁸

Along with the participation of young people, groups of citizens have now also become proactive agents of change through the avenue of climate litigation. Their initiatives, as a whole group of people who live on the same territory, represent a profound shift in the dynamics of environmental advocacy, as ordinary individuals step into courtrooms to demand accountability and action from governments and corporations. Their collective efforts transcend borders and legal conventions, serving as a testament to the growing realization that the battle against climate change requires a unified global response. As these citizen-led initiatives gain momentum, they not only redefine the boundaries of legal action but also serve as a vivid embodiment of the urgency and determination needed to safeguard our planet's future.

There are several examples. In Italy, the case previously reported in this work underlined that the lawsuit was presented by a coalition made of organizations and of hundreds of citizens who signed the petition.¹⁰⁴⁹ In May 2019, the Dutch NGO MilieuDefensie, seven other environmental NGOs, and more than 17,000 individual co-plaintiffs brought the famous Shell company to court.¹⁰⁵⁰ In the *Klimaatzaak* case, the lawsuit was brought by the NGO and 58,000 worried citizens as co-plaintiffs.¹⁰⁵¹ Even the *Urgenda* case saw the participation of nine hundred Dutch citizens.¹⁰⁵²

The commitment of citizens, to transform through the use of lawsuits, national climate laws should not be shocking as the main negative effects of global GHG emissions are firstly felt more brutally by the citizens thus, their participation in political life is a way to ensure influence in the policies drafted and implemented by the central and local governments. This has been described as the legalization of public life.¹⁰⁵³ So, citizens are choosing all the legal routes available to achieve justice, this also reflects the already explained modification of the notion of citizenship, currently more and more keen on environmental issues.

¹⁰⁴⁸Fischer Kuh, K. (2019). The Legitimacy of Judicial Climate Engagement, 46 Ecology L.Q. 731, <https://digitalcommons.pace.edu/lawfaculty/1152/>.

¹⁰⁴⁹See *A Sud et al. v Italy*, Civil Court of Rome (2021)

¹⁰⁵⁰See *Milieudefensie et al. v. Royal Dutch Shell plc.* (2021).

¹⁰⁵¹See *VZW Klimaatzaak v. Kingdom of Belgium & Others* (2014)

¹⁰⁵²See *Urgenda Foundation v State of the Netherlands* (ECLI:NL:RBD-HA:2015:7196)

¹⁰⁵³Wójtowicz, A. & Lewandowski, W. (2022). Climate lawsuits as the citizen-led path towards climate transition? A short guide to climate litigation. Wise Europe. Report available at <https://wise-europa.eu/wp-content/uploads/2022/11/Climate-litigation.pdf> p.14

2.6 New interpretation of treaties in climate terms (Paris Agreement & Energy Charter Treaty)

Climate litigation has emerged as a potent tool in the fight against climate change, serving not only as a means of holding governments and corporations accountable but also as a driver of innovative interpretations of existing laws and treaties. As the urgency of addressing climate challenges grows, courts around the world are increasingly being called upon to navigate complex legal terrain, often leading to ground-breaking interpretations that push the boundaries of traditional legal frameworks. Climate lawsuit has proven effective in challenging established legal norms and principles that may have hindered ambitious climate action. Courts have been presented with arguments that push the boundaries of traditional legal concepts, such as human rights, public trust, and the duty of care owed by governments to citizens. These novel arguments have led to the reconsideration of established legal doctrines and have compelled courts to explore uncharted legal territory. Litigations have played a role in expanding the interpretation of treaty obligations, particularly within the context of international agreements like the Paris Agreement. Courts have demonstrated a willingness to delve into the intent and purpose of these treaties, using innovative interpretations to hold governments accountable for their commitments. This has the potential to amplify the impact of international agreements and foster a more holistic understanding of treaty obligations.

Specifically, the interpretation of treaties, within the context of climate agreements, has become a critical aspect of international law, as nations cope with the urgent need to address climate change. The recent *PSB v. Brazil case*¹⁰⁵⁴, as explained, offered a unique example of how an innovative approach to treaty interpretation can encourage states to fulfil their obligations under climate treaties more effectively.¹⁰⁵⁵ This new approach proposed moves beyond traditional methods of treaty interpretation by incorporating scientific, environmental, and socio-economic considerations, ultimately leading to more meaningful and impactful climate action. If other states would follow this approach, the international community could enhance its commitment to achieving the ambitious goals of the Paris Agreement while fostering equitable and sustainable global climate action. Basically, the new interpretation of the treaty and the repeated constitutional safeguards on the right to environmental protection will achieve more positive results in other climate cases, because it realizes a positive precedent for the efforts of other countries in environmental protection.¹⁰⁵⁶ The

¹⁰⁵⁴The case was analyzed in the previous chapter of this work.

¹⁰⁵⁵Danielle de Andrade Moreira et al, (2023). Rights-Based Climate Litigation in Brazil: An Assessment of Constitutional Cases Before the Brazilian Supreme Court, *Journal of Human Rights Practice*, huad023, <https://doi.org/10.1093/jhuman/huad023>

¹⁰⁵⁶See *PSB et al v. Brazil (on Climate Fund) (ADPF 708)* at <https://www.escri-net.org/caselaw/2023/psb-et-al-v-brazil-climate-fund-adpf->

government tried to argue that the Fund, realized following the international climate change commitments, did not bind the government as it was not a Brazilian law. but the Court stressed that the protection of the climate is considered a constitutional value. For this, the Supreme Court considered environmental law treaties as a type of human rights treaty, which enjoys supranational status. The latter means that they are above the national laws in the legal hierarchy, consequently, they always prevail if in conflict and actions or omissions against their protection are a direct violation of the Constitution and human rights. Also, we have to remember that when the Paris Agreement was negotiated, there was a lot of disappointment in the lack of human rights obligations in the text.¹⁰⁵⁷ With this interpretation, the poor mention of human rights in the preamble has gained more legal strength.

Critics are present even in this case. Some scholars, indeed, considered the recognition of the Paris Agreement as a human rights treaty as ambiguous. On one hand, it was seen as a great means for the codification of climate change issues as human rights issues, which is the victory of the case. However, there are scholars who think that it was a political manipulation to hide the fact that it was a situation with a lack of rights associated with climate change and a high level of normative-judicial incompetence because the political force of a legal instrument relates to its legal efficacy.¹⁰⁵⁸ Still, even if this was the case, especially given the poor commitments of the Brazilian government in fighting climate change, interpreting the Paris Agreement as a human rights treaty will change still-pending cases in the country and, with high probability, climate law in the rest of the world.

Similarly, the energy charter treaty issues, explored with the analyzes of the Soubeste case, is another example that is worth following. Especially because in July 2023, the European Commission proposed that EU member states jointly withdrawn from the charter which has been a lot criticized because it limits climate change goals.¹⁰⁵⁹ For example, scholars are in favour of a restrictive interpretation of the claim under Article 13 of the Charter:

“Investments of Investors of a Contracting Party in the Area of any other Contracting Party shall not be nationalised, expropriated or subjected to a measure or measures having effect equivalent to nationalisation or expropriation (hereinafter referred to as “Expropriation”) except where such Expropriation is:

- (a) for a purpose which is in the public interest;

[708#:~:text=Thus%2C%20the%20new%20interpretation%20of.the%20country%27s%20environmental%20protection%20efforts.](#)

¹⁰⁵⁷Tigre, MA. (2022). Advancements in climate rights in courts around the world. Sabin Center for Climate Change Law at Columbia Law School available at <https://blogs.law.columbia.edu/climatechange/2022/07/01/advancements-in-climate-rights-in-courts-around-the-world/> (accessed 20 August 2023).

¹⁰⁵⁸Rutherford, A., & Nobrega, F. (2022). The paris agreement as human rights treaty: the ruling in psb et al brazil (on climate fund). *Jus Corpus Law Journal*, 3(2), 456-466.

¹⁰⁵⁹Reuters & Joe Lo, (2023) EU set to propose mass exit from Energy Charter Treaty. Climate Home News. Available at <https://www.climatechangenews.com/2023/06/30/ect-energy-charter-treaty-europe-eu-commission/>

- (b) not discriminatory;
- (c) carried out under due process of law; and
- (d) accompanied by the payment of prompt, adequate and effective compensation.”¹⁰⁶⁰

The public interest would include environmental protection and the treaty could be more in line with environmental policies. However, this also raises questions on how the ECT must be interpreted in the context of other norms of international law and how they relate to each other. According to the Vienna Convention on the Law of Treaties, a treaty under international law must be interpreted in good faith following its meaning and objectives.¹⁰⁶¹ International treaties are then sided with successive agreements on the interpretation. Therefore, a new interpretation of the ECT would require the parties to declare the new meaning.¹⁰⁶² A changed ECT from a normative viewpoint could have a crucial role in the transition to a sustainable society. To achieve both environmental and economic goals, the ECT should be reshaped in line with the Paris Agreement.¹⁰⁶³ Still, the proposed joint withdrawal would have significant political effects. In the EU, it would continue to be a pressure subject for those who do not want to withdraw. Outside the EU, it would probably reduce the appeal of being a member. Surely, the advantage of concluding the ECT to negotiate a new treaty would be the possibility to decide and write a treaty starting from scratch.¹⁰⁶⁴

In conclusion, interpreting the Paris Agreement and the Energy Charter Treaty within the context of international human rights law and climate change ensures that climate efforts are harmonized with the protection and promotion of human rights. This approach fosters a comprehensive and equitable approach to addressing global challenges, enhancing the effectiveness and legitimacy of climate-related agreements. Also, incorporating human rights considerations helps prevent adverse consequences of climate policies on vulnerable populations. For example, transitioning to renewable energy sources, while vital for climate action, could avoid negatively impacting communities through displacement or loss of livelihoods. Human rights and environmental principles provide guidance for ensuring a just transition that respects the rights of all, only in this way justice is achieved.

¹⁰⁶⁰Article 13 of the Energy Charter Treaty. https://www.trans-lex.org/501100/_art-13-energy-charter-treaty/

¹⁰⁶¹Article 31 of the Vienna Convention on the Law of Treaties

¹⁰⁶²Ekardt, F., Roos, P., Bärenwaldt, M., & Nesselhauf, L. (2023). Energy Charter Treaty: Towards a New Interpretation in the Light of Paris Agreement and Human Rights. *Sustainability*, 15(6), 5006. MDPI AG. Retrieved from <http://dx.doi.org/10.3390/su15065006>

¹⁰⁶³Bernasconi-Osterwalder, N. & Dietrich Brauch, M. (2019). Redesigning the Energy Charter Treaty to Advance the Low-Carbon Transition. Published in TDM 1 (2019) "Modernisation of the Energy Charter Treaty (ECT)" Special Issue as N. Bernasconi-Osterwalder; M.D. Brauch; "Redesigning the Energy Charter Treaty to Advance the Low-Carbon Transition", TDM 1 (2019)., Available at SSRN: <https://ssrn.com/abstract=3446723>

¹⁰⁶⁴Brauch, DM. (2021). *Should the European Union Fix, Leave or Kill the Energy Charter Treaty?*. Columbia University. Available at: https://scholarship.law.columbia.edu/sustainable_investment_staffpubs/190

2.7 Corporate liability and the greenwashing

Corporate liability in climate litigation refers to the legal responsibility of corporations for their role in contributing to climate change and its impacts. This can include actions or omissions that lead to greenhouse gas emissions, pollution, deforestation, or other activities that contribute to the acceleration of climate change.¹⁰⁶⁵ As the global community becomes increasingly aware of the severe consequences of climate change, there has been a growing interest in holding corporations accountable for their actions.

The *Milieudefensie et al v. Royal Dutch Shell* case demonstrates that corporate climate litigation can rely on notions of human rights due diligence integrated into international and national law. Since 2011, the UNGPs, the MNE Guidelines, and other OECD tools have referred to due diligence and human rights as a set of different corporate responsibilities. These include the establishment of processes so that companies can manage and limit their potential effects on human rights and the environment such as identifying and assessing the impacts of the company, correcting practices, and tracing the effectiveness of processes used to mitigate those impacts.¹⁰⁶⁶ Indeed, this type of climate change litigation aim at developing legal arguments and strategies that can be useful to corporate actors. Some cases are grounded in tort law while others are on financial regulation, but still, these cases pursue corporate duties in climate change mitigation that could be based on constitutional and human rights law.¹⁰⁶⁷ Last year there were sixteen corporate climate lawsuits appealing to rights protected by international soft law instruments.¹⁰⁶⁸

An innovative aspect, besides the approach and results generated from cases like *Milieudefensie*, is the use of the *greenwashing* notion. The latter refers to the practice of conveying a false impression of environmental responsibility through marketing, advertising, or public relations efforts.¹⁰⁶⁹ This phenomenon can take place in different forms: selective disclosure, symbolic management, deflection of public attention, and the discrepancy between the claims of companies and their lobbying and investment activities. Also, it goes from being light greenwashing to heavier false claims.¹⁰⁷⁰ In the context of climate change, it often involves companies portraying themselves as environmentally

¹⁰⁶⁵Bright, C., & Buhmann, K. (2021). Risk-based due diligence, climate change, human rights and the just transition. *Sustainability*, **13**(18), 10454.

¹⁰⁶⁶Rajavuori, M., Savaresi, A. & Van Asselt, H. (2023), Mandatory due diligence laws and climate change litigation: Bridging the corporate climate accountability gap?. *Regulation & Governance*. <https://doi.org/10.1111/rego.12518>

¹⁰⁶⁷Beauregard, C., Carlson, D., Robinson, S., Cobb, C., & Patton, M. (2021). Climate justice and rights-based litigation in a post-Paris world. *Climate Policy*, **21**(5), 652–665.

¹⁰⁶⁸Savaresi, A., & Setzer, J. (2022). Rights-based litigation in the climate emergency: Mapping the landscape and new knowledge frontiers. *Journal of Human Rights and the Environment*, **13**(1), 7–34.

¹⁰⁶⁹Cojoianu, T. et al. (2020). Greenwatch-shing: Using AI to Detect Greenwashing. *AccountancyPlus - CPA Ireland*, 2020, Available at SSRN: <https://ssrn.com/abstract=3627157>

¹⁰⁷⁰Lyon, T.P., & Montgomery, A.W. (2015). The Means and End of Greenwash. *Organization & Environment*, **28**(2), 223–249. <https://doi.org/10.1177/1086026615575332>

friendly, sustainable, or committed to addressing climate issues when their actual actions do not align with these claims. Greenwashing can mislead consumers, investors, and other stakeholders into believing that a company is taking meaningful steps to combat climate change, when in reality, their practices may be harmful or insufficient.

Since it is a dishonest practice, following the theory, victims can file lawsuits against the companies who practice greenwashing. In reality, this is a very recent and unexplored field. Looking back at the climate case filed so far against companies, one old case seems to be in line with claims against greenwashing, even if this case was totally unknown when the case arrived in court. In 2015, Volkswagen was involved in a major scandal, the famous "*Dieseldgate*". Briefly, the company installed software in its diesel vehicles to cheat emissions tests. Consequently, there was a discrepancy between the claims of Volkswagen to be producing clean diesel vehicles and the actual emissions levels of those vehicles.¹⁰⁷¹ Can this case represent the first greenwashing case?

Recently, one case in been presented in Australia to pursue justice against greenwashing claims. The Environmental Defenders Office, on behalf of the Australasian Centre for Corporate Responsibility (ACCR), has submitted to the Federal Court a lawsuit against the gas giant Santos due to its claims of producing natural gas as clean fuel since the company decide to pursue zero emissions by 2040. The Centre argues the goals and the declaration of clean fuels, underlined in the 2020 Annual Report of the company, are misleading under the Corporations Act 200 and the Australian Consumer Law.¹⁰⁷² The case is still pending but it has already reached the public debate as it has been described as the first case in the world to contest the authenticity of the zero strategy made by a company, raising officially the issue of climate greenwashing. In addition, the case targets the environmental impacts of blue hydrogen which is advertised as a key component of oil companies to achieve zero emissions goals.¹⁰⁷³ Thus, for the first time a private entity, the ACCR, used consumer law, and not corporation law, to make a company responsible for its false contribution to climate change. The case is the first of its kind, and the financial regulator Australian Securities and Investments Commission

¹⁰⁷¹Parab, V., Ramesh, M. & Diksha, T. (2022). 'The 'Diesel Gate': A Case Study on Volkswagen Scandal of Inserting a Cheat Device for Manipulating Emission Norms. *Indian Business Case Studies Volume VII*. Oxford Academic. <https://doi.org/10.1093/oso/9780192869432.003.0018> (accessed 17 August 2023).

¹⁰⁷²See Australasian Centre for Corporate Responsibility v. Santos at <http://climatecasechart.com/non-us-case/australasian-centre-for-corporate-responsibility-v-santos/#:~:text=Summary%3A,ACCR%20raised%20two%20major%20claims>

¹⁰⁷³Environmental Defenders Office. (2021). World-first Federal Court case over Santos' 'clean energy' & net zero claims. EDO. Available at <https://www.edo.org.au/2021/08/26/world-first-federal-court-case-over-santos-clean-energy-net-zero-claims/>

has declared to have started an investigation to discover other entities that could be making greenwashing claims.¹⁰⁷⁴

As mentioned, the case is still pending but its importance lies in several arguments. First of all, it creates a legal Precedent. If the case results in a legal ruling or precedent that establishes criteria for identifying and penalizing greenwashing, it could serve as a reference point for future cases and regulatory actions. Clear legal standards can help deter other companies from engaging in similar misleading practices. Secondly, it integrates with corporate accountability as Legal actions against companies accused of greenwashing can hold them accountable for their claims and practices. A successful case could require the company to correct its marketing materials, pay fines, or take specific actions to ensure transparency and accuracy in its sustainability claims. The third result will be achieving consumer protection.¹⁰⁷⁵ Cases like these can protect consumers from being misled or making purchasing decisions based on false environmental claims. Then, legal cases related to greenwashing can also influence regulatory frameworks. If courts determine that existing regulations are insufficient to address such deceptive practices, it might prompt lawmakers to strengthen regulations or create new ones to prevent and penalize greenwashing. Lastly, the case pursues public awareness and education.¹⁰⁷⁶ High-profile legal cases, like this one, can draw public attention to the issue of greenwashing and increase awareness about the importance of genuine corporate sustainability practices. This heightened awareness can drive demand for greater corporate transparency and ethical behavior.

This analysis illustrates the growing concern around greenwashing and the need for companies to provide accurate and transparent information about their environmental claims. As awareness of the climate crisis and the importance of sustainable practices continues to increase, legal actions against companies engaged in greenwashing may become more frequent and impactful. As a matter of fact, such cases play a role in shaping legal standards, corporate behavior, and consumer expectations related to climate and environmental claims.

3. Old international law principles against the climate crisis: still effective?

In this work climate litigation cases are being examined not only as mechanisms to achieve justice but also as catalysts for the evolution of novel legal frameworks, principles, and rights. As the global

¹⁰⁷⁴Fitzgerald, D. (2022). Gas giant Santos accused of 'greenwashing' clean energy claims, in Federal Court case. ABC Rural News. Available at <https://www.abc.net.au/news/rural/2022-08-31/santos-accused-of-greenwashing-by-accr-in-federal-court-case/101385728> (accessed 25 August 2023).

¹⁰⁷⁵Arbinaolo, R. (2023) Protecting consumers: new EU laws set to curtail greenwashing and boost repair. EEB. Available at <https://eeb.org/protecting-consumers-new-eu-laws-set-to-curtail-greenwashing-and-boost-repair/>

¹⁰⁷⁶Álvarez-García, O. & Sureda-Negre, J. (2023) Greenwashing and education: An evidence-based approach. The Journal of Environmental Education. DOI: [10.1080/00958964.2023.2238190](https://doi.org/10.1080/00958964.2023.2238190)

community grapples with the multifaceted challenges posed by climate change, the courts have emerged as crucial arenas for seeking redress, accountability, and systemic change. However, these climate-related legal battles extend beyond traditional litigation outcomes, offering a dual potential: the pursuit of justice for affected individuals and communities, and the progressive shaping of legal landscapes that respond comprehensively to the intricate web of environmental, social, and economic consequences engendered by a changing climate.¹⁰⁷⁷ At the core of this investigation lies a compelling inquiry: can climate litigation cases function not only as instruments of justice for those impacted by environmental degradation but also as vehicles to forge new legal paradigms that respond adeptly to the unprecedented challenges of the Anthropocene era? From the analysis proposed the answer is yes, climate litigation have the potential to drive significant changes in the law and challenge established principles, particularly in the context of addressing the complex and urgent issue of climate change. Obviously, the impact of climate litigation depends on several elements such as jurisdiction, legal systems, political contexts, and the specific issues of the case. While climate litigation can certainly contribute to changes in the law and established principles, its effectiveness in driving systemic change will depend on a combination of legal, social, and political factors.

So, climate litigation impact national and international law in different ways. First of all, they are able to establish legal precedents and in doing so also international law evolves. Court rulings in climate-related cases can establish legal precedents that set new interpretations of existing laws or create new legal principles. These precedents can influence future cases and guide legal decisions, potentially leading to shifts in how climate-related issues are addressed within the legal system. Landmark cases that influence the interpretation and implementation of international agreements, treaties, and conventions related to climate change, can lead to changes in international legal norms. This recalls the elements of customary international law: the state practice and the *opinion juris*.¹⁰⁷⁸ Second, climate litigation can lead to the recognition of new legal rights or the expansion of existing rights. For example, cases focused on the rights of future generations, indigenous peoples, or vulnerable communities may result in the development of legal doctrines that protect these groups' interests in the context of climate change. Therefore, there is the necessity to overcome the frameworks and the principles developed so far in order to meet the challenge brought by the societies, indeed the law must be able to address the new challenges. New actors may be taken into consideration as climate litigation often involves public interest litigation, where individuals,

¹⁰⁷⁷Setzer, J. & Higham, C. (2023). *Global Trends in Climate Change Litigation: 2023 Snapshot*. Grantham Research Institute on Climate Change and the Environment and Centre for Climate Change Economics and Policy. London School of Economics and Political Science

¹⁰⁷⁸Van der Wilt, H. (2019). State Practice as Element of Customary International Law: A White Knight in International Criminal Law?. *International Criminal Law Review*, 20(5), 784-804. <https://doi.org/10.1163/15718123-02001003>

communities, or non-governmental organizations take legal action to hold governments or corporations accountable for their climate-related actions or inactions. Such cases can influence the framing of legal debates and emphasize the importance of considering broader societal interests. Then, the cases reported, as well as the others that are not mentioned in this work, encourage innovative legal arguments that challenge conventional legal thinking. Lawyers and advocates may develop creative legal strategies that rely on constitutional rights, human rights, environmental protection, and other legal principles to compel action on climate change. Moreover, a key element is that successful litigation can push governments and corporations to change their policies, practices, and behaviors to align with legal mandates. These changes can, in turn, drive broader shifts in societal attitudes and practices related to climate change.

Basically, what climate cases underlined globally is the need for transformations in international law to encourage wider international cooperation. Especially scholars have long been calling for a new system of global environmental governance based on the integration of the already existing frameworks.¹⁰⁷⁹ About climate change, scholars have pushed for a multicentered approach¹⁰⁸⁰ to reflect the multilevel governance, regimes, and institutions which is the core of the transnational dimension of climate change. Following this rationale, for example, it has been proposed to have the Paris Agreement embrace all the existing treaties negotiated between subnational entities. In this way, subnational entities could self-organize and develop alternative frameworks that could deliver climate change commitments that will openly reference the Paris Agreement and consequently, the Paris Agreement could reference them back.¹⁰⁸¹ This will allow the international community to integrate and organize themselves also with arrangements taken between subnational actors. Even because international law does not explicitly exclude the inclusion of subnational entities in international agreements, while they will not be managed under the Vienna Convention on the Law of Treaties as the Convention considers only treaties among nation-states.¹⁰⁸²

However, bringing changes in international law is an old issue and a persistent dilemma. On one side, treaties are difficult to revise, and other side the evolution of customary international law is uncertain and unpredictable, nor does it come with instructions. For this, the role of the courts remains crucial, even more, international courts because of their authority. Also, International legal change can be caused by political intervention and social processes. However, the law of treaties indicates

¹⁰⁷⁹Slaughter, A.-M. (2004). *A New World Order*. Princeton University Press. <http://www.jstor.org/stable/j.ctt7rqxg>

¹⁰⁸⁰Keohane, RO & David GV. (2010). The Regime Complex for Climate Change. Discussion Paper 2010-33, Cambridge, Mass.: Harvard Project on International Climate Agreements.

¹⁰⁸¹Esty, D C & Adler, D P. (2018). Changing International Law for a Changing Climate, 112 AJIL Unbound 279. Available at: https://scholarship.law.columbia.edu/sabin_climate_change/75

¹⁰⁸²Roberts, A., & Sivakumaran, S. (2012). Lawmaking by Nonstate Actors: Engaging Armed Groups in the Creation of International Humanitarian Law. *Yale Journal of International Law*, 37(1), 107-152.

that law is developed by interpreting the texts, which is a competence of courts. The analysis here demonstrated that even domestic courts clarify and develop the law through legal interpretation. At the international level, States must apply the general rule of treaty interpretation.¹⁰⁸³ So, could international law change following the willingness of the States? From this, another question arises: are the States willing to change international laws and old principles to meet climate change needs? It is very complex to give an answer, the entire climate framework is based on responsibilities and economic resources that drive political actions in the climate justice context. So far, very few States resulted to accept to sacrifice part of their economic development to achieve environmental protection and climate justice, also because the system is not based on obligations. However, as highlighted with climate litigation, as these cases accumulate and successful outcomes continue to pile up, the landscape of global governance is undergoing a profound transformation, bolstering the rule of law and potentially reshaping the established international order. One of the most significant contributions of climate litigation lies in its capacity to create legally binding obligations for states to act on climate change. Traditionally, international environmental agreements and protocols have often lacked the teeth to enforce compliance, relying on diplomatic pressure and peer review mechanisms. However, with the rise of climate litigation, courts in various jurisdictions have begun to recognize that governments have a legal duty to take robust measures to mitigate climate change and protect the environment for present and future generations. These court decisions not only establish the liability of states for their contributions to climate change but also emphasize the urgency of implementing concrete measures to curb greenhouse gas emissions, transition to renewable energy sources, and adapt to the impacts of a changing climate. The implications of this trend are far-reaching and have the potential to reshape the global order. By strengthening the rule of law in the context of climate change, these legal victories are progressively altering the dynamics of international relations. As states face mounting pressure from their own judiciaries and from the global community, they are compelled to prioritize environmental protection and sustainability in their policies and actions.

It is important to note that the process of changing international law is often gradual and can take time, as it requires the consensus and cooperation of multiple states and actors. Additionally, the interpretation and enforcement of international law can vary, leading to ongoing debates and discussions that contribute to its evolution.

¹⁰⁸³Haque, A.A. (2022). The Inner Logic of International Law. Rutgers Law School Research Paper, Available at SSRN: <https://ssrn.com/abstract=4261174>

4. Climate change, human rights and criminal law: a field in development

In an era characterized by unprecedented global interconnectivity and pressing challenges, the intersections between international criminal law, human rights, and environmental concerns have become increasingly salient. The evolving landscape of international legal frameworks has paved the way for the recognition of the complex interplay between these spheres, shedding light on the need for accountability and justice in the face of grave offences. Central to this nexus is the pivotal role played by the International Criminal Court (ICC), an institution established to address egregious crimes of international concern.¹⁰⁸⁴ As the world grapples with emerging threats like climate change, a new concept has emerged on the legal horizon, that of "*ecocide*", reflecting society's growing awareness of the need to safeguard the environment through robust legal mechanisms.¹⁰⁸⁵

International criminal law, a branch of law that seeks to hold individuals accountable for grave violations of international norms, has evolved significantly since its inception. Often intersecting with the domain of human rights, international criminal law aims to deter and redress crimes that shock the conscience of humanity, such as genocide, war crimes, and crimes against humanity.¹⁰⁸⁶ By prosecuting perpetrators of these heinous acts, international criminal law not only seeks to bring justice to victims but also underlines the universal commitment to upholding human rights principles. The core values of dignity, equality, and respect for all individuals are interwoven within the fabric of both human rights and international criminal law, reinforcing their symbiotic relationship. In recent decades, the global community has witnessed the intensification of climate change, driven by human activities that endanger the delicate balance of the ecosystems of the planet. The integration of criminal law principles into the realm of climate change represents a profound shift in the legal response to environmental challenges.¹⁰⁸⁷ By recognizing the link between human conduct and environmental harm, societies can establish a framework for accountability and deterrence, fostering a greater sense of responsibility for safeguarding the environment.

The intricate tapestry woven by the convergence of international criminal law, human rights, climate change, and the emerging concept of ecocide underscores the pressing need for an inclusive and holistic approach to global challenges. The evolving jurisprudence of the International Criminal Court, coupled with the burgeoning recognition of ecocide, exemplifies the adaptability of

¹⁰⁸⁴International Criminal Court, (2020), Understanding the International Criminal Court, ISBN No. 92-9227-365-5 at: <https://www.icc-cpi.int/sites/default/files/Publications/understanding-the-icc.pdf> p.9

¹⁰⁸⁵Profiri, I. (2021). Legal experts present definition of ecocide for adoption by ICC. *Jurist*, online: <https://www.jurist.org/news/2021/06/legal-experts-present-definition-of-ecocide-for-adoption-by-icc/>.

¹⁰⁸⁶Robinson, D. (2008). The Identity Crisis of International Criminal Law. *Leiden Journal of International Law*, 21(4), 925-963. doi:10.1017/S0922156508005463

¹⁰⁸⁷McKinnon, C. (2019). Climate crimes must be brought to justice. UNESCO. Available at <https://en.unesco.org/courier/2019-3/climate-crimes-must-be-brought-justice>

international law in addressing contemporary issues that transcend traditional boundaries. As the international community continues to grapple with the intricate web of interconnected challenges, the pursuit of justice, accountability, and the protection of human rights and the environment remains a shared endeavor on the path toward a more just and sustainable world. This section analyzes the potential contribution that the ICC could realize in the climate change field, especially because ecocide is finally becoming a concrete concept.

4.1 International Criminal law and Ecocide

The International Criminal Court is a permanent international judicial institution established to prosecute individuals for the most serious international crimes.¹⁰⁸⁸ Its role at the international level is to ensure accountability for these crimes and contribute to the prevention of future atrocities. The primary role is to investigate and prosecute individuals accused of committing four core international crimes.¹⁰⁸⁹ The first one is genocide which indicates acts committed with the intent to destroy, in whole or in part, a national, ethnic, racial, or religious group.¹⁰⁹⁰ The second are crimes against humanity that are widespread and systematic attacks directed against civilians, such as murder, enslavement, torture, and other inhumane acts.¹⁰⁹¹ The third are war crimes, violations of the laws and customs of war, including targeting civilians, using child soldiers, and intentionally causing great suffering or serious injury.¹⁰⁹² Lastly, the crime of aggression, this notion indicates the planning, initiation, or execution of an act of aggression by a state against another state.¹⁰⁹³ By holding individuals accountable for committing these grave offences, the ICC aims to deter future perpetrators from committing similar crimes by demonstrating that there are consequences for such actions but also contribute to the establishment of a culture of accountability, where individuals are held responsible for their actions, regardless of their official status.¹⁰⁹⁴

Moreover, the ICC operates on the principle of complementarity, which means that it can only intervene when national jurisdictions are unable or unwilling to prosecute and try individuals for

¹⁰⁸⁸See International Criminal Court <https://www.icc-cpi.int/about/the-court>

¹⁰⁸⁹Sutto, M. (2020). The “Core” International Crimes. The CoESPU MAGAZINE. no. 3. Available at <https://www.coespu.org/articles/core-international-crimes>

¹⁰⁹⁰See the Rome Statute, Article 6

¹⁰⁹¹Ibid. article 7

¹⁰⁹²Ibid. article 8

¹⁰⁹³Ibid. article 8 (2).

¹⁰⁹⁴Saxon, D. (2015). The International Criminal Court and the Prevention of Crimes, in Serena K. Sharma, and Jennifer M. Welsh (eds), *The Responsibility to Prevent: Overcoming the Challenges of Atrocity Prevention*. Available at <https://doi.org/10.1093/acprof:oso/9780198717782.003.0006> (accessed 17 August 2023).

crimes within its jurisdiction.¹⁰⁹⁵ This encourages states to take primary responsibility for prosecuting these crimes and only involve the ICC when necessary.

The jurisdiction of the Court does not explicitly extend to addressing climate change as a criminal offence. While climate change has profound and widespread consequences for the global population, it doesn't fit neatly into the traditional categories of crimes that fall under its mandate. That being said, there have been discussions and debates about whether environmental destruction, including actions that contribute to climate change, should be recognized as an international crime. Some legal scholars and activists have argued for the inclusion of "*ecocide*" as an international crime, which could potentially encompass large-scale environmental harm, including actions contributing to climate change.

Historically, the term ecocide was mentioned for the first time during the 1970s associated with the Vietnam War due to the use of chemical warfare by the US military which caused destruction to the environment. This led the public to question if America was committing ecocide in Vietnam.¹⁰⁹⁶

From that moment advocates, scholars, and the international community started the debate regarding ecocide. Currently, numerous states are slowly recognizing ecocide as a fifth crime in international criminal law adopting also ecocide at the domestic level. The first issue at this point is the definition, for this reason, in 2021 an International Expert Panel¹⁰⁹⁷ announced a proposed definition where ecocide "*means unlawful or wanton acts committed with knowledge that there is a substantial likelihood of severe and either widespread or long-term damage to the environment being caused by those acts.*"¹⁰⁹⁸

As everyone can imagine, the benefits of such recognition are multiple. The entire notion is based on the fact often those who breach environmental principles, causing severe injuries, remain unpunished. These might happen for several reasons, one of these can be corruption of governmental branches.¹⁰⁹⁹ Ecocide has all of the characteristics of other international crimes, starting from devastating harms, trans-boundaries effects, and inadequate national regulations. In fact, national environmental laws are frequently inadequate, inconsistent, and corrupted. Their consequences

¹⁰⁹⁵Marshall, K.A. (2010). Prevention and Complementarity in the International Criminal Court: A Positive Approach." Human Rights Brief 17, no.2. pp21-26.

¹⁰⁹⁶Short, D. (2016). *Redefining genocide: Settler colonialism, social death and ecocide*. Bloomsbury Publishing.

¹⁰⁹⁷See the International Expert Panel for the Legal Definition of Ecocide, Commentary and Core Text (2021), available online at <https://ecocidelaw.com/legal-definition-and-commentary-2021>

¹⁰⁹⁸Ibid., article 8 ter

¹⁰⁹⁹Van Dinh, TT. (2012). Addressing Corruption in the Environmental Sector: How the United Nations Convention against Corruption Provides a Basis for Action, Papers from the special event "Impact of corruption on the environment and the United Nations Convention against Corruption as a tool to address it", fourth Conference of States Parties to the United Nations Convention against Corruption (Marrakesh, Morocco, 26 October 2011), UNODC, available at https://www.unodc.org/documents/corruption/Publications/2012/Corruption_Environment_and_the_UNCAC.pdf pp.34-50

overcome the national borders and become an international concern.¹¹⁰⁰ For this reason, ecocide would create accountability and at the same time, it would prevent environmental disasters. Especially for the companies whose objective is having a profit, ecocide laws would transform the framework in which they work because they will be obliged to make environmental considerations when making decisions. Consequently, companies and individuals as well could be held responsible for destroying the environment. The legal recognition of ecocide would oblige people, nations, and private entities to be responsible for the environment, otherwise, they could face criminal charges for environmental harms which is the incentive dimension in being more responsible.¹¹⁰¹

Advocates sustain that ecocide could have been included in the Rome Statute already when it was drafted, in fact, the ILC reflected whether an environmental crime could have been mentioned in the Draft Code of Crimes Against the Peace and Security of Mankind, and in the 1982 draft an environmental crime was mentioned. The article in which it was considered was long debated but following the criticisms who viewed ecocide as included in the notion of war crimes, the article was then modified. The official text then became the Rome Statute of the International Criminal Court.¹¹⁰² However, there are still scholars who want the inclusion of ecocide in the Rome Statute, like Higgins who sustains that those responsible for the ecological loss should be treated as the international community treat criminals processed for crimes against humanity.¹¹⁰³ Moreover, the inclusion in the Rome Statute would mean that cases could be submitted before the ICC. A law against the destruction of the environment means also to alter concepts, theories, and principles of the current legal system, thus it cannot be reduced to simply introducing a new crime, which is a real revolution of the system that would be adjusted to efficiently protect the environment.¹¹⁰⁴ Also, If ecocide is to be treated as a crime it must be validated with devastating impacts, demonstrated with evidence of intention, maleficence, and or negligence even by political and important actors.¹¹⁰⁵

Nevertheless, there are some limits on ICC jurisdiction linked to climate change and ecocide. The first one is temporal because crimes cannot be retroactive, the same for the prosecutions that occurred before the legal recognition. Then, the poorest will remain more vulnerable to a new crime of ecocide because the developed countries will still be more responsible for the emission. Another obstacle is

¹¹⁰⁰Robinson, D. (2022). Ecocide — Puzzles and Possibilities, *Journal of International Criminal Justice*, Volume 20, Issue 2, P. 317

¹¹⁰¹Jain, A., & Soni, C. (2021). Ecocide: new international crime. *Jus Corpus Law Journal*, 2(2), 627-634.

¹¹⁰²Jenkin, A. (2022). The Case for an International Crime of Ecocide. *New Zealand Journal of Environmental Law*, 26, 221-244.

¹¹⁰³Higgins, P. (2015). *Eradicating Ecocide: Exposing Corporate and Political Practices Destroying the Planet* (2nd ed.). Shephard-Walwyn.

¹¹⁰⁴Yaday, D. (2022). Ecocide: The Missing Convention. *International Journal of Law Management & Humanities*, 5, 445-458.

¹¹⁰⁵Alberro, H. & Daniele, L. (2021), 'Ecocide: Why Establishing a New International Crime Would be a Step Towards Interspecies Justice', *The Conversation*.

the capacity and the willingness to prosecute under Article 17 of the Statute which clarify that the Court can only intervene if there is a lack of capacity or willingness from the state part.¹¹⁰⁶ Additionally, dealing with environmental issues would mean that the ICC necessitates assistance because the judges do not have expertise in environmental subjects. For this, some scholars declared that the Court could lose its credibility by boosting crimes rather than limiting them. These are the same scholars that suggest establishing an independent court to deal with ecocide with experts on the issue.¹¹⁰⁷

We cannot exclude the European Union from this analysis. At the origin of the EU, criminal law was not included in its competencies, consequently, the national criminal law of its Member States was not affected by the EU. The classic notion sees criminal law as deeply anchored to national sovereignty reflecting the values of the State.¹¹⁰⁸ This changed with the economic integration of the EU, and it became challenging to see the limitations and boundaries among the different fields of law. Then, in 1993 the third pillar of the EU was enacted, and criminal law was included in the objectives of the EU.¹¹⁰⁹ This work has explained how the EU has advanced climate policies through the decades. The EU has been active in implementing environmental policies and regulations aimed at protecting the environment and combating ecologically harmful activities. Since the start of the ecocide debate, the EU has participated actively also on this subject. In March 2023, the European Parliament agreed on a text for the new Environmental Crimes Directive¹¹¹⁰ that forbids environmental damage using analogous terms as used by the Independent Expert Panel proposal for the definition of ecocide. In addition, the draft was voted unanimously which was considered a great success for the advocates and scholars who pushed for the inclusion of ecocide in the Draft Directive. The latter would substitute the current EU Environmental Crimes Directive¹¹¹¹ adopted in November 2008. The definition of ecocide emerges in the preamble and then in article 3 of the Draft.¹¹¹² We can definitely say that the EU has recognized the crime, in fact, Marie Toussaint who is the leader behind

¹¹⁰⁶Environmental, Natural Resources, & Energy Law Blog. (2022). Climate Crime at the ICC - Environmental Justice through the Looking Glass - Patrick Canning. Lewis&Clark School. Available at <https://law.lclark.edu/live/blogs/177-climate-crime-at-the-icc-environmental-justice> (accessed 20 August 2023).

¹¹⁰⁷Smith, G. (2022). *Ecocide, the Fifth War Crime?*, *Earth Island Journal* https://earthisland.org/journal/index.php/magazine/entry/ecocide_the_fifth_war_crime/

¹¹⁰⁸Klip, A. (2011). *European Criminal Law* (Cambridge – Antwerp – Chicago: Intersentia, 2021) 15–16. com 573 final (n 4) 3.

¹¹⁰⁹Buisman, S.S. (2022). The Future of EU Substantive Criminal Law: Towards a Uniform Set of Criminalisation Principles at the EU level. *European Journal of Crime, Criminal Law and Criminal Justice*, 30(2), 161-187. <https://doi.org/10.1163/15718174-bja10032>

¹¹¹⁰See REPORT on the proposal for a directive of the European Parliament and of the Council on the protection of the environment through criminal law and replacing Directive 2008/99/EC

¹¹¹¹See Directive 2008/99/EC of the European Parliament and of the Council of 19 November 2008 on the protection of the environment through criminal law (Text with EEA relevance) *OJ L 328, 6.12.2008, p. 28–37*

¹¹¹²Mackintosh, K. (2023). European Parliament Votes Unanimously for Ecocide. *OpinioJuris*. Available at <http://opiniojuris.org/2023/04/10/european-parliament-votes-unanimously-for-ecocide/>

this directive confirmed the intention of the recognition of ecocide. Following the adoption, the Member States would have to review their national laws and gradually adopt ecocide as an international crime also at the ICC. This is also because the Member States are the 40% of the parties to the ICC, so, the recognition of this crime will surely be shifted at the global level.¹¹¹³

Overall, the concept of ecocide is advancing within an unmatched and unexplored political and legal background. The adoption will require 75% of signatory countries to the ICC to officially ratify it as a new crime, this will require also a common definition and frame in which to navigate.¹¹¹⁴ By designating ecocide as a criminal offence, the law can compel accountability for actions that imperil the environment. Simultaneously, from a sociological perspective, the concept of ecocide acts as a catalyst for introspection, generating awareness about the vital link between ecological well-being and societal harmony. In this light, the sociological impact of ecocide lies in its potential to ignite a collective consciousness. It prompts introspection, encouraging individuals, communities, and nations to re-evaluate their environmental practices, policies, and values.

4.2 The figure of *climate criminals*

The most powerful element of ecocide is probably the individual responsibility that can arise from it. The threat of personal sanction over actions that harm the environment is a great deterrent. Advocates argue that it will create a serious moral judgement associated with being accused or charged with this crime because it will be considered like a crime against humanity.¹¹¹⁵ Now, the question would be if the idea of being a climate criminal is enough to guide the actions of individuals and political actors. Recently, the term “*climate crime*” has been used to indicate those states and companies that are still pursuing oil extraction or political and economic choices knowing that might produce avoidable environmental damage for the profit.¹¹¹⁶ This notion has also been used recently by the United Nations to define climate deniers as responsible for global ecological catastrophes underlining the need to bring justice.¹¹¹⁷

However, we must clarify the term "*climate criminals*" is not a recognized legal term within the context of international law or criminal law. However, it is sometimes used colloquially or

¹¹¹³Romano, V. (2023). Parliament adds ecocide to EU’s draft list of environmental crimes. EURACTIV. Available at <https://www.euractiv.com/section/energy-environment/news/parliament-adds-ecocide-to-eus-draft-list-of-environmental-crimes/> (accessed 20 August 2023).

¹¹¹⁴Walters, R. (2023). Ecocide, Climate Criminals and the Politics of Bushfires, *The British Journal of Criminology*, Volume 63, Issue 2, Pages 283–303, <https://doi.org/10.1093/bjc/azac018>

¹¹¹⁵Jenkin, A. (2022). The Case for an International Crime of Ecocide. *New Zealand Journal of Environmental Law*, 26. p.235

¹¹¹⁶South, N. & Walters, R. (2020), ‘Power, Harm and the Threat of Global Ecocide’, in L. Copson, E. Dimou, S. Tombs, eds., *Crime, Harm and the State*, 139–77. The Open University Press.

¹¹¹⁷Hinman, P. (2019). Australia is a leading Climate Criminal: New Report Finds. Available online at <https://www.greenleft.org.au/content/australia-leading-climate-criminal-new-report-finds> (accessed 20 August 2023).

rhetorically to refer to individuals, entities, or governments that are perceived as contributing significantly to climate change through actions such as excessive greenhouse gas emissions, deforestation, pollution, and other environmentally harmful activities. In addition, while the term climate criminals might be used in public discourse or advocacy, there is no legal definition or classification. Under existing international law, the responsibility for addressing and mitigating climate change primarily rests with states, and legal mechanisms such as treaties and agreements like the Paris Agreement are designed to encourage collective action to address this global challenge.

This term is used very often in public debate or in journalistic terms. Especially in America where the narrative aim at making everyone feel guilty about their action when the actions of the most powerful Americans produce the most emission for the entire country and for this, they should be held responsible. Instead, they are able to escape accountability continuing their actions that harm the other citizens.¹¹¹⁸ This is certainly a reality, however, everyone should reconsider their action to be more responsible regarding the environment, yet the power and liability of those climate criminals should be addressed to climate justice. We have to underline that those considered climate criminals in America are not only directors of oil companies but also actors or singers that live their life following luxuries and unsustainable entertainment. For example, the most blamed in this category are the influencer Kylie Jenner and the rapper Travis Scott. Their activities posted on social media platforms raises always critics as they travel with private jets, often for short distance places that could be reached in a more sustainable way. consequently, people were alarmed that many other celebrities contribute heavily to emissions in a delicate crisis moment. A lot of other celebrities, along with CEOs of oil companies, have been indicated as climate criminals for similar activities.¹¹¹⁹

Even though this is not a legal concept nor a legal issue, the mention of climate criminals in this work can be useful to grasp how this notion could change, gaining legal substances, especially if ecocide is being recognized. It is also a way to underline that while the international community out effort whit laws and treaties, these individuals with their activity can annul most of the efforts put in place by others. Obviously, it is not only celebrities but also wealthy individuals that adopt unsustainable lifestyles. In fact, even known environmentalists such as Leonardo Di Caprio have been accused of producing emissions while on vacation on a luxury yacht.¹¹²⁰ This reflects how hard it is

¹¹¹⁸Wright, G., Olenick, L. & Westervelt, A. (2021). The dirty dozen: meet America's top climate villains. The Guardian. Available at <https://www.theguardian.com/commentisfree/2021/oct/27/climate-crisis-villains-americas-dirty-dozen> (accessed 20 August 2023).

¹¹¹⁹Pandey, D. (2022). 'Climate criminals': Taylor Swift, Floyd Mayweather, Jay-Z among celebs who are private jet polluters. India TV. Available at <https://www.indiatvnews.com/trending/news/climate-criminals-taylor-swift-floyd-mayweather-jay-z-alex-rodriquez-celebrities-who-are-private-jet-polluters-2022-07-30-796110>

¹¹²⁰Di Placido, D. (2022). Kylie Jenner's 'Climate Criminal' Controversy, Explained. Forbes. Available at <https://www.forbes.com/sites/danidiplacido/2022/07/19/kylie-jenners-climate-criminal-controversy-explained/?sh=52cb2a0626a4> (accessed 25 August 2023).

to change our life to meet climate goals at the individual level, but also claim for the urgency to do it given the severe crisis.

The purpose of linking international criminal law and climate change is indeed to reveal the recognizable transgressors that contribute to climate change. This would require the implementation of ecocide law to spot illegal behavior and to change those norms that necessitate a more rigid interpretation.¹¹²¹

5. Is an *ad hoc international climate tribunal* possible?

The escalating climate crisis has underscored the urgency of global cooperation to address its far-reaching impacts. While international agreements such as the Paris Agreement have taken significant strides, the need for a specific international climate tribunal or court is becoming increasingly evident. Such a tribunal could serve as a powerful instrument to hold nations accountable for their environmental commitments, facilitate dispute resolution, and drive a collective effort toward mitigating climate change.¹¹²² This section delves into the compelling rationale behind establishing a climate tribunal, the potential benefits it offers, and the avenues available within the framework of international law to create such an institution.

Scholars and some political actors have supported the idea of an *ad hoc* international court since the 1980s when the idea started to circulate in the literature gaining scientific consensus of anthropocentric climate change and its risks linked to humanity.¹¹²³ However, the success of its creation depends on the values of society, and national or political interests that influence the decision-making process and its realization.¹¹²⁴

An international court on environmental issues could be a perfect response to the failure of the international framework. The benefits that would generate are multiple. First of all, an International Climate Tribunal could ensure that nations uphold their commitments by providing a neutral platform for assessing compliance and enforcing obligations, thus reinforcing global accountability. Consequently, it would provide legal clarity on the interpretation and implementation of climate agreements, reducing ambiguity and potential disputes arising from differing understandings of obligations. It could be treated as an authoritative venue for resolving disputes between nations regarding emissions reductions, resource sharing, and environmental impacts, reducing the potential

¹¹²¹Keenan, P. J. (2019). International criminal law and climate change. *Boston University International Law Journal*, 37(1), 89-122. P.96

¹¹²²McMillan, A. (n.d.). Time for an International Court for the Environment. IBA. Available at <https://www.ibanet.org/article/71B817C7-8026-48DE-8744-50D227954E04>

¹¹²³E. Dehan, A E. (1992). An International Environmental Court: Should There Be One?', 3 (1992) *Touro Journal of Transnational Law* 31-58

¹¹²⁴Goldsmith, J. & Posner, E. (2005). *The Limits of International Law*. Oxford University Press

for diplomatic conflicts. Second, benefits can be traced to deterrence and incentives that could create. In fact, an effective international Court would discourage non-compliance by imposing penalties or sanctions on nations failing to meet their commitments, while incentivizing adherence through recognition and rewards for positive actions. Also, the Court could hold accountable the actions of non-state entities. The latter provide transboundary harm and often standing and other rules of most judicial bodies do not allow non-state actors to be held accountable. Therefore, it could strengthen international responsibility.¹¹²⁵ A third important factor is the expertise and technical support that the Court would have. The tribunal could harness scientific expertise to assess environmental data and projections accurately, aiding in informed decision-making and policy formulation. Indeed, environmental lawsuit requires complex, technical, and scientific information, something that current judicial bodies do not always have.¹¹²⁶ Final consideration can be developed regarding public awareness. A proceeding held by an International Court specific to environmental matters would attract global attention, raising public awareness about the urgency of climate action and the consequences of environmental negligence. This is associated with the fact that for years scholars have called for public participation in international disputes. Also, limits such as restrictions on standing, participation, and access to international courts are the most debated with analyzing environmental litigation. If standing and access rules would be broadened it could solve similar obstacles, for example, the *actio popularis* which the ICJ does not recognize because not mentioned in international law.¹¹²⁷

As we can imagine, the idea of establishing an ad hoc international tribunal for climate matters raised critics. The establishment finds its foundation within international law. In fact, the notion of *international legalism* can be helpful in this case since it is able to identify a collective action for a common problem and a remedy can be found through international law. An additional factor is that this notion supports the idea of judicialization, where groups stimulate debates stressing judicial involvement if political decisions cannot defend their interests.¹¹²⁸ In addition, through customary international law, States could negotiate an innovative treaty or convention to establish the International Court, formalizing their agreement to adhere to its jurisdiction and rulings.¹¹²⁹ Some

¹¹²⁵Kalas, P R. (2001). 'International Environmental Dispute Resolution and the Need for Access by Non-State Entities'. *Colorado Journal of International Environmental Law* 191, 214-221.

¹¹²⁶Murphy, S D. (2000). Does the World need a new International Environmental Court, 32 *George Washington Journal of International Law and Economics* 333-349

¹¹²⁷Stuart, B. (2016). The Project for an International Environmental Court in Christian Tomuschat et al (eds), *Conciliation in International Law* (Brill), Available at SSRN: <https://ssrn.com/abstract=3028580>

¹¹²⁸Tate, C. (1995). 3. Why the Expansion of Judicial Power?. In C. Tate & T. Vallinder (Ed.), *The Global Expansion of Judicial Power* (pp. 27-38). New York, USA: New York University Press. <https://doi.org/10.18574/nyu/9780814770078.003.0006>

¹¹²⁹Greenwood, C. (2008). Sources of international law: an introduction. *United Nations Treaty Collection*.

scholars sustain that the United Nations, through its various bodies and mechanisms, could facilitate the creation of the judicial body, building upon its existing infrastructure for international cooperation or that it could collaborate closely within its framework.¹¹³⁰ Moreover, negotiating a specialized convention is another option. A dedicated international convention could be crafted to establish the court, outlining its structure, functions, jurisdiction, and procedural rules. This mechanism would follow the same procedures that were implemented when established the International Criminal Court.¹¹³¹

Even though international law outlines the possibility to follow to create the Court, there are still several critiques and concerns that have been raised against its recognition. Two main difficulties have impeded the development of a new judicial body as a response to climate crimes: firstly, the problem is political because the new tribunal will practically necessitate states to concede a little part of their sovereignty to a juridical body. The second problem is a problem of purpose, for some scholars is not clear what could be accomplished by using international criminal law, for example, to address climate change.¹¹³² Thus, it has been reasoned that the right places to face environmental and climate disputes are generalist courts such as the ICJ or specialized bodies such as ITLOS. It is undeniably true that the already existing courts such as the ICJ and ITLOS, or even other bodies, could lead to important inputs to environmental dispute resolution. This, however, could happen only if reformed because their deficiencies, analyzed in this work, will keep creating inadequate resolutions.¹¹³³ So, overall, the critics follow these two main issues from various perspectives and considerations. Critics argue that nations might be hesitant to cede authority over their domestic policies and decisions to an international tribunal, particularly in matters as complex and politically sensitive as climate change.¹¹³⁴ Skeptics doubt the feasibility of enforcing decisions made by the Climate Court. Without a robust mechanism to ensure compliance, some argue that nations might simply ignore or resist the tribunal's rulings, thereby undermining its effectiveness. Also, critics contend that this type of court could inadvertently exacerbate inequities between developed and developing nations. Imposing penalties or sanctions on developing countries for emissions without addressing historical responsibility or providing adequate support for adaptation and mitigation efforts could be seen as unfair. In addition, the establishment of an International Climate Tribunale

¹¹³⁰Cole, J. (2015). *After the COP21 Paris Climate Accord, What We Need is an Int'l Climate Court*, INFORMED COMMENT. Available at <http://www.juancole.com/2015/12/after-climate-accord.html>.

¹¹³¹Bassiouni, M. C. (2010). Crimes Against Humanity: The Case for a Specialized Convention, 9 WASH. U. GLOBAL STUD. L. REV. 575. Available at https://openscholarship.wustl.edu/law_globalstudies/vol9/iss4/2

¹¹³²Keenan, P. J. (2019). International criminal law and climate change. *Boston University International Law Journal*, 37(1), 89-122.

¹¹³³Hinde, S. (2003). 'The International Environmental Court: Its Broad Jurisdiction as a Possible Fatal Flaw', 32 *Hofstra Law Review* 727;

¹¹³⁴Dupuy, P & Viñuales, J. (2015). *International Environmental Law*. Cambridge University Press. Chs 8-9.

might lead to increased geopolitical tensions, as nations with differing interests and priorities could find themselves in adversarial positions within the tribunal's proceedings. This could potentially hinder cooperation and diplomatic efforts on climate-related issues. Surely, establishing and maintaining an ad hoc climate tribunal would require significant financial and human resources. Critics worry that these resources might divert attention and funds away from more immediate and impactful climate mitigation and adaptation initiatives.¹¹³⁵ Moreover, climate disputes are intricate and often involve a multitude of factors, making their resolution time-consuming. Critics argue that the new international court would require complex procedures that will lead to delays in decision-making, hindering the timely response required for addressing climate-related challenges. Also, it would duplicate efforts already made by existing international agreements and bodies, such as the Paris Agreement and the UNFCCC. This duplication might lead to confusion and inefficiencies.¹¹³⁶ Strictly linked to this issue, opponents underlined that the project might not receive the necessary public support to be effective. If citizens perceive the tribunal as distant from their concerns and unresponsive to their needs, they might not view its decisions as legitimate or binding.¹¹³⁷ Concluding this debate, an international climate tribunal could ease the road to climate and environmental justice as the benefits result are more convenient for the international community. However, its establishment would likely require the negotiation of a new international treaty or convention, which could be challenging to achieve given the diverse interests and priorities of nations. Furthermore, determining the jurisdiction and authority of the new tribunal over national policies could lead to legal disputes. For this reason, critics suggest that existing mechanisms and institutions, such as domestic courts, regional tribunals, and international organizations, could be better suited to address climate-related disputes and accountability without the need for creating a new tribunal.¹¹³⁸ But the global nature of climate change requires bold and innovative solutions. An International Climate Tribunal presents an opportunity to consolidate efforts, enforce compliance, and ensure equitable burden-sharing among nations. By capitalizing on international legal frameworks and leveraging existing structures, the establishment of a climate court could catalyse coordinated and effective action against climate change, safeguarding the future of the planet for generations to come.

¹¹³⁵S. Bruce, (2016). An international court for the environment?. Climate2020. Available at https://static1.squarespace.com/static/56c0ae80ab48de4417bd17fa/t/5bf73e972b6a28e7ef16d719/1542930073200/An_international_court_for_the_environment.pdf

¹¹³⁶Desai, B H. & Sidhu, B K. (2020). 'International Courts and Tribunals – the New Environmental Sentinels in International Law'. 1. Pp.17 – 33.

¹¹³⁷Robinson, N. (2012). Ensuring Access to Justice Through Environmental Courts, 29 Pace Envtl. L. Rev. 363 DOI: <https://doi.org/10.58948/0738-6206.1691>

¹¹³⁸Hockman, S. (2017). Why do we need a new international environmental court?. Lecturer. Available at <https://6pumpcourt.co.uk/wp-content/uploads/2017/03/Stephen-Hockman-QC-Why-do-we-need-a-new-environmental-court.pdf> (accessed 28 August 2023).

6. Is the Environmental/Climate Constitutionalism finally taking place?

Concluding this work without mentioning the biggest transformation that is interesting almost every domestic jurisdiction would leave this analysis incomplete. Climate litigation has emerged as a potent tool in the battle to protect human rights against the devastating impacts of climate change. By recognizing the intrinsic link between a stable climate and the fundamental rights of individuals and communities, legal actions have been instrumental in demanding accountability from governments and corporations that contribute to the crisis. It has been explained how by employing the law as a means to challenge insufficient climate policies, advocate for robust emissions reductions, and seek remedies for affected communities, climate litigation has become an essential avenue for safeguarding the rights to life, health, food, water, and a sustainable environment.¹¹³⁹ Through its capacity to galvanize public awareness, shape policy discourse, and push for meaningful action, climate litigation represents a crucial and transformative force in the ongoing struggle to protect human rights in the face of the existential threat posed by climate change. However, we have to underline an additional consequence of the advancement of the climate litigation field, which is the development of *climate constitutionalism*. Climate litigation and climate constitutionalism are closely intertwined, as they both aim to address the urgent need for climate action and the protection of human rights through legal means.¹¹⁴⁰

Climate constitutionalism refers to the use of constitutional law and principles to tackle the climate crisis and advance environmental protection. It involves interpreting and applying constitutional provisions to secure environmental rights and obligations related to climate change mitigation and adaptation.¹¹⁴¹ In this work, it has been demonstrated how lawsuits challenging inadequate climate policies or government inaction on climate change invoke constitutional provisions related to the protection of fundamental rights, including the right to a healthy environment, the right to life, and the right to sustainable development. Indeed, by using constitutional law as a foundation, climate litigation seeks to enforce legal obligations on governments and hold them accountable for taking necessary action to combat climate change and protect human rights. Based on this rationale, we can say that climate litigation plays a central role in advancing climate constitutionalism.

Moreover, climate litigation contributes to the development of climate constitutionalism by shaping judicial interpretations and expanding the legal framework for addressing climate-related

¹¹³⁹Yoshida, K., & Setzer, J. (2020). The trends and challenges of climate change litigation and human rights. *European Human Rights Law Review*, 2020(2), 140-152.

¹¹⁴⁰Ghaleigh, N.S., Setzer, J., & Welikala, A. (2022). The complexities of comparative climate constitutionalism. *Journal of Environmental Law*, 34(3), 517-528.

¹¹⁴¹Beckman, L. (2016). Power and future people's freedom: intergenerational domination, climate change, and constitutionalism. *Journal of Political Power*, 9(2), 289-307.

issues. For example, landmark court decisions recognizing the constitutional rights to a healthy environment and sustainable development have emerged in various countries, setting important precedents for future climate-related legal cases and establishing a constitutional basis for climate action. In turn, the growth of climate constitutionalism can also bolster climate litigation.¹¹⁴² As more countries recognize the importance of constitutional rights and environmental protections, it strengthens the legal foundation for climate-related lawsuits, providing individuals and organizations with a stronger basis to challenge inadequate climate policies and demand meaningful action. Overall, climate litigation and climate constitutionalism are interconnected strategies in the pursuit of climate justice. They work hand in hand to push for legal remedies, shape policy discourse and advance the protection of human rights in the face of the climate crisis.

Furthermore, climate constitutionalism is a concept that recognizes the need for constitutional frameworks to address the challenges posed by climate change. It emphasizes the idea that legal systems should incorporate provisions and principles that prioritize the protection of the environment and the mitigation of climate-related risks. Therefore, it calls for the inclusion of environmental rights, responsibilities, and safeguards within constitutions to ensure the sustainable and equitable management of natural resources.¹¹⁴³ By integrating climate considerations into constitutions, countries can establish a strong legal foundation for climate action. This can involve recognizing the right to a healthy environment, promoting sustainable development, and imposing obligations on governments to mitigate and adapt to climate change.¹¹⁴⁴ However, climate change provisions constitutions demand to be more than only an annex of the former environmental constitutionalism. The climate provisions should include the standards for good climate governance *and* the cultural values of the society. The correct constitutional design, in this case, must be adapted and stretched to include climate issues and societal issues related to climate change. The institutional framework secured in a constitution, indeed, needs to follow the numerous challenges of climate change. Obviously, this framework should include the protection of individual rights and the democratic interests embodied in all of the branches of the government.¹¹⁴⁵ For example, Kotzé emphasizes the need to have more comprehensive constitutional tools in the international community. These tools would provide more substance to the notions of responsibility and care. His idea consents us to

¹¹⁴²May, J.R., & Daly, E. (2019). Global climate constitutionalism and justice in the courts. In *Research handbook on global climate constitutionalism* (pp. 235-245). Edward Elgar Publishing.

¹¹⁴³Tully, J. (2020). Sustainable democratic constitutionalism and climate crisis. *McGill Law Journal*, 65(3), 545-572.

¹¹⁴⁴Atapattu, S. (2019). Environmental justice, climate justice and constitutionalism: protecting vulnerable states and communities. In *Research handbook on global climate constitutionalism*. Edward Elgar Publishing.

¹¹⁴⁵Toral, K. M., Higham, C., Setzer, J., Ghaleigh, N. S., Welikala, A., & Arena, C., (2021). The 11 nations heralding a new dawn of climate constitutionalism. Web publication/site, LSE Grantham Research Institute on Climate Change and the Environment. Available at <https://www.lse.ac.uk/granthaminstitute/news/the-11-nations-heralding-a-new-dawn-of-climate-constitutionalism/>

imagine the constitutional discourse based on fundamental values such as sustainability, justice and responsibility.¹¹⁴⁶

Without any doubt, the doctrine highlights the role of courts in upholding and interpreting these climate-related provisions. It recognizes that judicial review and interpretation of constitutional law can play a crucial role in ensuring that governments adhere to their climate-related obligations and protect the rights of present and future generations. Not coincidentally, Laura Burgers wrote that judicial power has the competence to adjudicate political matters, such as climate change.¹¹⁴⁷ Additionally, climate lawsuits initiated by political parties, such as the Brazil case, are a symbol of constitutionalism. These types of lawsuits represent the overexploitation of law by political branches to use the judiciary to destabilize an opposing government in power.¹¹⁴⁸

So, implementing climate constitutionalism requires a comprehensive approach that involves collaboration between the legislative, executive, and judicial branches of government. It entails enacting and enforcing laws, developing climate policies, and creating mechanisms for accountability and transparency.¹¹⁴⁹ Ultimately, climate constitutionalism serves as a vital tool in addressing the multifaceted challenges of climate change. It reinforces the importance of integrating climate considerations into legal systems, indicating a commitment to a sustainable future and the protection of fundamental rights in the face of a changing climate.¹¹⁵⁰

Even though climate constitutionalism is still a fresh field in development, while climate litigation has long been analyzed, this does not mean that concrete changes did not already occur. For sure, future advancement in this doctrine will be crucial for the climate change debate as it might be able to strengthen human rights protection and climate policies in domestic jurisdictions at the same time.

¹¹⁴⁶Kotzé, L. (2019). A Global Environmental Constitution for the Anthropocene? *Transnational Environmental Law*, 8(1), 11-33. doi:10.1017/S2047102518000274

¹¹⁴⁷Burgers, L. (2020). Should Judges Make Climate Change Law? *Transnational Environmental Law*, 9(1), 55-75. doi:10.1017/S2047102519000360

¹¹⁴⁸Rutherford, A., Fernanda, F & Nóbrega, B. (2022). The Paris Agreement as a Human Rights Treaty: The Ruling in *PSB et al v Brazil (on Climate Fund)*. *Jus Corpus Law Journal*. Available <https://www.juscorpus.com/wp-content/uploads/2023/01/99.-Angelica-Rutherford.pdf>

¹¹⁴⁹May, J. R., & Daly, E. (2019). Global climate constitutionalism and justice in the courts. In *Research handbook on global climate constitutionalism* (pp. 235-245). Edward Elgar Publishing.

¹¹⁵⁰Beckman, L. (2016). Power and future people's freedom: intergenerational domination, climate change, and constitutionalism. *Journal of Political Power*, 9(2), 289-307.

CONCLUSION

This thesis tried to develop a comprehensive analysis of the intricate terrain of climate justice, endeavoring to bridge the gap between environmental protection and human rights that is fulfilled by climate litigation. Through a meticulous exploration of climate change, diplomacy, human rights, legal frameworks, and case studies, this study has sought to illuminate the multifaceted dimensions of this critical discourse.

The first chapter on climate change provided a robust understanding of this complex phenomenon, unraveling its far-reaching implications for both the environment and the broader socio-economic fabric. This understanding laid the theoretical groundwork for the subsequent chapters, which delved into the realms of climate diplomacy, human rights, and legal frameworks. The chapter on climate diplomacy unveiled the international frameworks crafted by institutions such as the United Nations and the European Union, underscoring the imperative for collective action in the face of a rapidly changing climate. Subsequently, the exploration of human rights and climate change illuminated the direct violations to which individuals and communities are subjected due to climate-related phenomena, forming the bedrock for the subsequent exploration of climate justice. However, the heart of this thesis lies in the exploration of climate justice, where the theoretical underpinnings of climate litigation were dissected alongside an examination of how courts and legal mechanisms respond to cases of environmental harm and human rights infringement. This foundation paved the way for a comparative analysis of cases, which provided tangible illustrations of climate justice in action, rooted in diverse geographical, political, and socio-economic contexts.

The proposed work addressed three main questions:

1. What is the transnational nature of climate litigation? What are the implications?
2. Can judgments from different jurisdictions influence other jurisdictions?
3. Are climate decisions influencing or altering the current international law order?

Regarding the first research question, the transnational nature of climate litigation refers to the fact that legal actions taken to address climate change often involve multiple countries or jurisdictions. This arises from the inherently global nature of climate issues, as greenhouse gas emissions and their impacts are not confined by political borders. Climate litigation can involve parties from different countries suing each other, or it can involve cases brought against multinational corporations operating in various jurisdictions. Additionally, international treaties and agreements play a significant role in shaping climate-related legal disputes. This transnational dimension introduces a complex web of legal, jurisdictional, and regulatory challenges. Consequently, the implications of this transnational nature are multiple. Firstly, it underscores the interconnectedness of climate issues,

emphasizing that effective solutions must be coordinated on a global scale. Secondly, it necessitates the harmonization of legal frameworks and standards across the different levels of jurisdictions to ensure consistency and fairness in climate-related legal proceedings. Thirdly, it highlights the need for increased international cooperation and collaboration to effectively address climate change through legal means. Lastly, the transnational nature of climate litigation underscores the importance of establishing clear mechanisms for enforcement and compliance with international climate agreements. Overall, recognizing the transnational nature of climate litigation is crucial in developing robust legal frameworks that can effectively mitigate and adapt to the challenges posed by climate change.

The interconnectedness brought by transnationality is also the answer to the second research question: climate judgments from different jurisdictions can indeed influence one another. This phenomenon, known as legal precedent or jurisprudential influence, occurs when decisions in one jurisdiction serve as persuasive or even binding authority in similar cases in other jurisdictions. When a significant climate-related case sets a precedent, it can establish legal principles, interpretations of law, or standards of conduct that may be considered by courts in other jurisdictions facing similar issues. For example, a landmark climate-related decision in a country that establishes a duty of care for corporations to mitigate climate impacts might be cited in a similar case in another country. Judges in the second jurisdiction may find the reasoning and legal principles outlined in the first decision persuasive and may use them as a basis for their own ruling. This cross-jurisdictional influence contributes to the development of a consistent and coherent body of climate-related jurisprudence on a global scale. It can also foster legal innovation and encourage jurisdictions to adopt best practices in addressing climate issues. Additionally, it helps to ensure that legal approaches to climate change are not isolated within specific regions, but are instead part of a broader, interconnected global effort to combat climate change through legal means.

The outlined analysis brings us to the last question, which is also the most complex because the crystallization of international laws is a long process that takes time. Still, climate decisions are influencing and altering the current international law order. The rapid escalation of climate change has necessitated legal responses at both national and international levels. As a result, this work showed how climate-related decisions are shaping and redefining established principles and norms within international law. One of the main ways in which this is happening is through the development of new customary international law norms related to climate change. As explained, customary international law emerges from the consistent and general practice of states followed by a belief that such practice is legally required (known as *opinio juris*). Decisions in international climate-related cases, along with the actions and statements of states in response to climate change, are contributing

to the establishment of customary norms regarding responsibilities for emissions reductions, adaptation measures, and obligations to protect vulnerable communities. Furthermore, climate decisions are influencing the interpretation and application of existing international treaties and agreements. Courts and tribunals are considering how principles of international law, such as the duty to prevent transboundary harm, apply to climate-related situations. Notable cases, like the Urgenda case in the Netherlands or the Juliana v. United States, have invoked international law principles to support climate-related claims. In addition, climate decisions are driving discussions about the need for enhanced international cooperation and governance mechanisms to address climate change effectively. This includes calls for stronger enforcement mechanisms for international climate agreements and the establishment of new legal instruments to regulate emissions and promote sustainable practices. In the final chapter, indeed, the future trends of climate justice were forecasted, drawing connections between the preceding discussions and examining the transformative power of localized efforts on a global scale. For example, the intriguing case of Brazil served as a compelling focal point, highlighting the potential for transnational change in climate litigation and its capacity to reshape international legal paradigms. The comparison of the case studies, with insights derived from the extensive literature review, allowed for a holistic understanding of how theoretical frameworks manifest in practical applications, and conversely, how real-world cases inform and challenge existing theoretical paradigms. This integrative approach illuminated the complexities and potentials inherent in the pursuit of climate justice and showed how climate decisions are contributing to a dynamic shift in international law, emphasizing the urgency of collective action to combat climate change and highlighting the evolving nature of legal norms in the face of this global challenge.

Briefly, this thesis would like to provide a comprehensive foundation for the pursuit of climate justice in a rapidly changing world. By navigating the intersections of climate change, diplomacy, human rights, legal frameworks, and case studies, this study seeks to contribute to the ongoing discourse surrounding environmental protection and human rights hoping that this work could serve as a catalyst for continued exploration and action towards a sustainable, equitable, and rights-based approach to climate change mitigation and adaptation.

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