Department of Political Science

Major in Politics, Philosophy and Economics

Chair of Population, Environment and Sustainability

Chasing an effective climate deal: Are we on the right Path?

A perspective study of international environmental agreements up to the COP21

Supervisor:

Prof. Marcello Di Paola

Candidate:

Bianca Mularoni 074642

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Introduction

As of today, global rates of greenhouse gases emissions and the deriving climate change are among the most urgent issues that the world is facing. We are aware of the deepness of the problem, we known that we have to act as soon as possible, and yet we do not know which path is best to follow.
Throughout history, countries have consistently chosen the path of international cooperation, pursued mainly through voluntary international agreements. Yet, a real cooperation is often difficult to achieve and as a consequence, international agreements often failed to meet their expectations. International agreements are in reality a difficult coordination game with many countries having little interest in solving the problem and other countries that cannot be prevented from free riding. Thus, no treaty so far has managed to have all the world's most influential economy to converge on an effective text establishing a real regime of climate governance.
Nonetheless, as history proves, treaties can work in establishing regulatory regimes. In fact, we can find some examples of treaties that actually worked, such as the Montreal Protocol on Substances that Deplete the Ozone Layer. In this case, the urgency was evident and the gravity of the problem was out for everyone to see, and this was an important trigger that caused an effort of the international community. Yet, creating such momentum in climate agreement is much more difficult, especially because of the alleged scientific uncertainty on which some actors still try to rely.
Last year represented a crucial year for the fight towards climate change. Between November and December 2015, representatives from 195 countries gathered in Paris for the UN Climate Change Conference COP21. This treaty managed to create a stronger regime to reduce carbon emission and climate change, showing a different approach from the previous United Nations Framework Convention on Climate Change and its Kyoto Protocol. However, for the Paris Agreement to enter into force 55 countries who produced at least 55% of the world's greenhouse emissions were to ratify the agreement, this target was reached on November 4th 2016.
In this dissertation I am going to carry out a study of current status of affairs with climate change and of most relevant climate agreements up until the Paris Agreement to understand if this agreement will be capable of really making a change, or whether it will end up being just a loose set of regulation as it was the case for other climate treaties.
This dissertation is divided in four chapters. The first chapter analyses the current status of climate change, giving a historical introduction of the issue, looking at the scientific evidence that we have

today in support of the existence of this phenomenon to then give a quick analysis of the current status of climate governance globally.

The second chapter of this dissertation analyses the main obstacles to a successful international cooperation in environmental agreements, such as the lack of enforcing mechanisms, free riders, the concept of common but differentiated responsibilities and so on, trying to understand what a climate governance treaty must be able to solve to become an effective regulatory treaty.

The third chapter gives a perspective study of the most relevant agreements from the emergence of the issue of climate change in international negotiations until the Kyoto Protocol, analysing the first agenda setting phase between 1985 and 1992, leading to the 1992 United Nations Framework Convention on Climate Change, and then I will analyse the Kyoto Protocol with its main points and its pitfalls.

Finally, the fourth chapter analyses the 2015 Paris Agreement in detail, exploring the main concepts and values of the document, trying to critically understand if this new agreement can really be a watershed in climate governance for the future.

I - The Current Status of Climate Change

1.1 Introduction

Today, we often hear politicians and scientists debate about issues related to climate change and global temperatures rising. Although the issue is not new at all, in fact, it was already noticed by the Swedish scientist Arrhenius in 1896 that an increased quantity of certain gasses in the atmosphere could lead to a general warming of the planet[1], the concept reach popular attention only recently.

At its outset in the second part of the 20th century, international environmental law was mainly concerned with international disputes among independent countries, such as in the Trail Smelter Arbitration, or transboundary pollution issues, such as acid rains[2]. Only in the 1980's, with the discovery of the Antarctic ozone hole the idea that the world as we have it is not to be taken for granted and that the climate can be heavily influenced by human activity gained international recognition.[3]

The year 1987 was marked a fundamental turning point as two events took place[4] : the adoption of the first effective climate agreement to solve a mankind caused issue, the Montreal Protocol on Substances that Deplete the Ozone layer, and the publishing of "Our Common Future", also known as the Brundtland Commission report, a text which for the first time highlighted the need of a more sustainable development, namely a development that takes in consideration the environment and is sustainable over time, thus not depleting earth's natural capital. This concept became so widely recognised that in 1992 representative from most countries in the world met in Rio De Janeiro for the UN Conference on Environment and Development, to discuss issues of climate change and sustainable development.

Today, although the concept of climate change is increasingly debated, some people still cling on scientific uncertainty, and as such, not everyone still agrees on its relevance and urgency. Yet, the scientific proofs of this men induced changes to the environment are many. The UN Intergovernmental Panel on Climate Change team of scientists found evidence that he earth has

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1 *"Svante Arrhenius : Feature Articles". 2016. Earthobservatory.Nasa.Gov. http://earthobservatory.nasa.gov/Features/Arrhenius/.*

2 *Gupta, Joyeeta. The History Of Global Climate Governance. 2014 Cambridge University Press*

3 *Ibid.*

4 *"The Global Climate Change Regime." 2012. CFR.org. Council on Foreign Relations*

warmed by 0.5 celsius degrees over the past 100 years, with the concentration of greenhouse gases in the atmosphere increasing of over 30% in the last 200 years[5]. This data led to the emergence of stronger requests for a clearer climate governance, restricting carbon emissions to address the risks posed by climate change.

The changes that our planet is undergoing are so clear and relevant that some scientists and ecologists called this historical time a new geological era : the anthropocene, a geological era influenced by humankind[6]. In fact, a key feature of problems relating to climate change is that these changes do not look temporary, rather, they are probably going to influence the generations that will come after us still for a long time. Human caused influence on the climate system is clear and current anthropogenic emissions in the atmosphere are at their peak[7]. The idea that humans may have changed the world permanently went so far as to sparked debates between geologists and ecologists about the geological epoch in which we live. According to the International Union of Geological Sciences, we currently live in the Holocene, a geological era that started more than 11,000 years ago[8]. Yet, many scientists argue that we have now evidence that man made change pushed us into a new geological epoch, characterised by anthropogenic interference with the environment. The concept does not only regard climate change, rather, it regards all of the men induced changes such as environmental damage caused by plastic, concrete buildings, the presence of nitrogen and phosphorous on soils and the mass extinction of flora and fauna that is taking place[9]. Of course, climate change is among the causes that led many scientists to believe that we are entering a new geological epoch. Climate change does not only regard the atmosphere and its concentration of greenhouse gases, but also the deriving damage to oceans, glaciers and entire ecosystems.

Even though according to many geologists formally declaring a geological new epoch may not be of any use, this term is culturally important to understand how mankind influence on the planet has reached.

I will now proceed to analyse the main features of the current status of climate change and climate governance

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5 *"IPCC - Intergovernmental Panel On Climate Change". 2016. Ipcc.Ch. http://www.ipcc.ch/.*

6 *W.Steffen, J. Grinevald, P.Crutzen, J.McNeill Phil. 2011. Trans. R. Soc. A 2011 369 842-867; DOI: 10.1098/rsta. 2010.0327.*

7 *IPCC Climate Change Synthesis Report, 2014*

8 *"What Is The Anthropocene And Are We In It?". Smithsonian. 2013 http://www.smithsonianmag.com.*

9 *Vaughan, Adam. 2016. "Human Impact Has Pushed Earth Into The Anthropocene, Scientists Say". The Guardian. https://www.theguardian.com/environment*

1.2 How Climate Change Emerged: Some Scientific Evidence

If we are looking for a single cause for climate change, the most intuitive answer would be energy production and consumption. Before the industrial revolution, the only kind of energy at men's disposal was somatic energy, namely the strength of our bodies and of domesticated animals. This status held true for centuries. A powerful breakthrough came with the industrial revolution which changed the whole situation very rapidly.[10] Somatic energy was substituted by fossil fuels, mostly coal, that had been until then stored in the earth's crust. Coal combustion became humankind's main source of energy production, even though at the time this production was very inefficient. Yet, the discovery of coal combustion is among the greatest climate changers in history. A further great change came with the electrification of the world around 1980's, which led to an unprecedented soar in energy demand[11]. The world's quantity of energy used kept on increasing constantly and led to a search for new sources of energy as an alternative to coal, such as oil, nuclear power and natural gas.

This development in the energy sector changed the world greatly. Fossil fuels release greenhouse gases during their combustion, and their intense use as energy source rapidly filled the atmosphere with these gases, thickening the gas cover that keeps the planet warm, making it unnaturally warm. Also, the increased availability of relatively cheap energy was not the only change. Rather, its consequences further worsened the situation. Cheap energy meant easier production and more consumption which in turn led to greater wealth, urbanisation and greater population growth. These factors coevolved and developed, causing a major shift in society.

Today, finding the main cause of climate change is indeed very difficult as the causes are many and each different from the other.

Some environmental scholars argued that when looking at the cause of an environmental problem, we can reduce the causes to three factors : population, affluence and technology. This so called I=PAT model tries to simplify environmental damage, attributing it to either population growth, consumption and technology.[12]

Yet, the problem with this model is that it doesn't tell any causality relations. In the case of climate change, we know that each of the three factors influenced the world balance of greenhouse gases,

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[10] *McNeill, John Robert. 2000. Something New Under The Sun. New York: W.W. Norton & Company.*

[11] *Ibid.*

[12] *Bodansky, Daniel. 2010. The Art And Craft Of International Environmental Law. Cambridge, Mass.: Harvard University Press.*

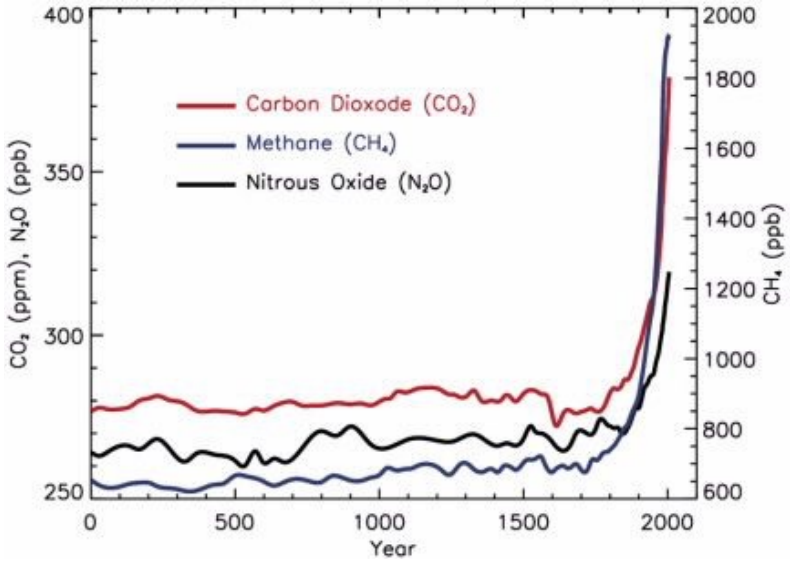
but we cannot know in which measure, as we cannot surely state if population growth, consumption or technology influenced world climate the most. Yet, we know for sure that we need to reduce our carbon emissions in the atmosphere, and probably, the easiest way to do so is to start by changing our energy production sources from non-renewables to renewables. Yet, to do so at the international scale, a great cooperation and consensus is needed.

Even if finding a clear cause can be difficult, we can say that the evidence is indisputable and the proofs that human's economic activity and energy use have shaped our climate are many.

Yet, today, many people are still skeptic about the existence of climate change. In order to prompt world leaders to take action as rapidly as possible, In their last report on climate change, the Fifth Assessment Report (2014)[13] the IPCC proposed a set of observed changes in the climate system, stating that :

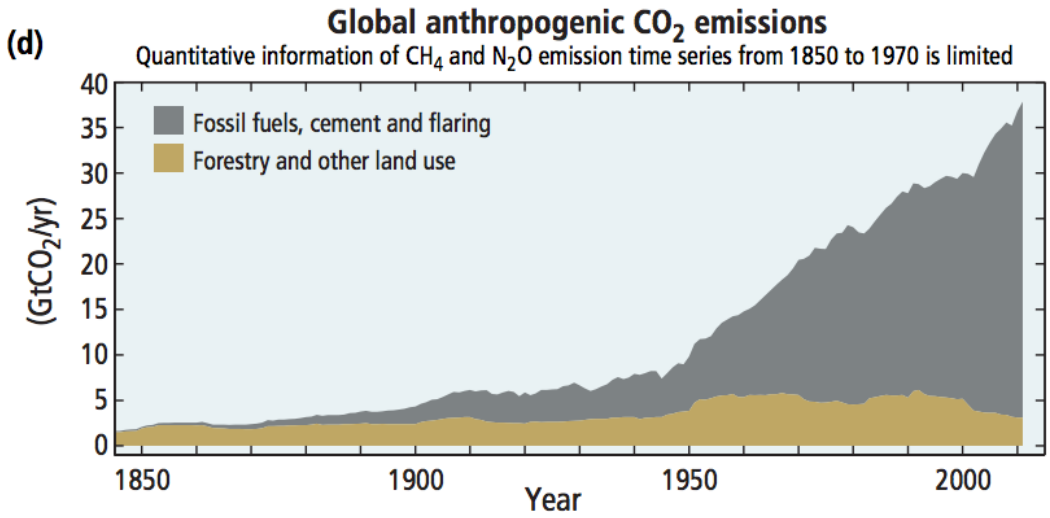
"Warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia. The atmosphere and ocean have warmed, the amounts of snow and ice have diminished, and sea level has risen"

Further reports from the previous IPCC Fourth Assessment Report (2007)[14] showed how the presence of greenhouse gases Methane, Carbon Dioxide and Nitrous Oxide in the atmosphere soared from 1800 until today, and the cause is indeed increased human activity.



[13] *Climate Change 2014 Synthesis Report". IPCC Fifth Assessment Report 2014. https://www.ipcc.ch*

[14] *Climate Change 2007 : Synthesis Report. IPCC Fourth Assessment Report 2005 https://www.ipcc.ch*



Furthermore, since 1850, thus from the beginning of the industrial revolution every decade has been the warmest decade in history, with this trend continuing until today, having disastrous effects on glaciers and on sea level. Yet, the trend is not changing. In fact, emissions are still in an increasing trend, as the following graph shows, and this is mainly because of an inefficient climate governance.

I'll now proceed to analyse the current status of climate governance, and what it has been done and what is still to be done to solve the problem.

1.3 Climate Governance Today

As I have just discussed, we have today enough evidence about the changes that the earth is undergoing and the risks related to this change.

As soon as the problem emerged, the governments of many countries started to discuss strategies to cut emissions on a global scale. From the outset, it look clear that establishing a real regime of climate governance would be a difficult task, as it would need the participation of every country in the world in the process. An international emission reduction would require a deep change in consumption patterns, transforming key economic sectors such as the energy sector, the transportation sector and the industrial sector.[15] Yet, we need this shift to take place as soon as possible. In fact, greenhouse gases stay in the atmosphere for many years, and to have clean air in 100 years requires action starting from today.[16]

[15] *Bodansky, The Art and Craft of International Environmental Law (See footnote 12)*

[16] *Calzolari, Giacomo and Marco Casari. "Carbon Is Forever: A Climate Change Experiment On Cooperation". SSRN Electronic Journal.*

As of today, climate governance has not gone very far. Individual countries are still free to decide in which scale they want to contribute in solving the matter, with many countries refusing to participate in the process at all. Also, it's important to note that climate change can have essentially economic consequences. An example of this is that a 1 degree increase would dramatically damage the agricultural sector.[17] This aspect should create more incentives for countries to intervene about climate change, especially for many developing countries who rely heavily on traditional sectors.

Up until today, there have been two major treaties signed by the international community to counter climate change, namely the United Nations Framework Convention on Climate Change of 1992 (UNFCCC) and the Kyoto Protocol to the UNFCCC of 1997.

The UNFCCC was adopted during the 1992 Rio Conference when the issue of climate change started to gain international recognition. The treaty set itself the goal of stabilising greenhouse concentrations in the atmosphere and average global temperature increases at a level that would not be dangerous to the climate and to the mankind.

The treaty presented itself as no more than a convergence of opinions and ideas, and as such, at its signing, the treaty contained no specific limitations on emission by single countries and indeed no enforcing mechanism[18]. Yet, the treaty was crucial in bringing the issue to the world's attention and also established the regular meeting of conference of parties in the future to further combat the problem.

In 1997, the weak UNFCCC was strengthened by the addition of the Kyoto Protocol, signed. The Kyoto Protocol commits industrialised countries to stabilise greenhouse gas emission and recognises that developed countries are mostly responsible for the current level of greenhouse gases in the atmosphere and as such have a duty to contribute more toward the final goal. Thus, a fundamental peculiarity of the Kyoto Protocol is that why it leaves kind of loose developing countries, it regulates 37 industrialised countries and the European Union imposing a reduction of emissions of 5% compared to the 1990 levels over the working period 2008-2012.

Also, during its brief history the Kyoto Protocol saw important setbacks, such as the non-ratification by the United States and the withdrawal of Canada, which defined the goals set by the Protocol unworkable. Until 2015, the climate regime consisted of a set of loose regulations addressed to a small group of countries while leaving the others largely free to act as they wanted. Wit the climate emergence getting worse, it became evident that it was urgent to strengthen the

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[17] The Consequences of Climate Change. 2016. http://climate.nasa.gov/effects/.

[18] "Two Degrees: The History Of Climate Change'S Speed Limit I Carbon Brief". 2014. Carbon Brief. https://www.carbonbrief.org

current framework with a more binding treaty even though it immediately appeared clear that managing to bind countries to a very demanding climate agreement would have been a difficult task.

In 2015 during the COP21, the 21st meeting of the UNFCCC, a new environmental agreement was signed. This agreement tries to take policies to combat climate change to a different level. The Paris Agreement will be analysed in depth later in this dissertation.

What appears evident from the aforementioned treaties is that establishing an actual regime of climate governance is difficult for many reasons. In the next chapter I will analyse the main issues with negotiating an effective climate agreement and the main obstacles to international cooperation in environmental issues.

II - The Challenge of International Cooperation

2.1 Introduction

As the previous chapter shows, climate change is today a scientific reality posing new threats that need to be addressed as rapidly as possible. Yet, being climate a public good not in the hand of any single actor, but rather in the hands of every country in the world, finding a solution in this regard requires a level of cooperation that may prove particularly difficult to achieve. Many international actors may be willing to wait and see, free-riding on the solution proposed by other countries, while other countries may have different priorities, such as a greater development. With such a varied range of actors and positions, solution need to be as varied to effectively reach their goals.

Even though there has been a proliferation of international environmental norms in the last 50 years, the legal system is still underdeveloped on many sides. International environmental law still does not have a clear legislature, a clear judiciary and a clear executive, and as such the system remains in anarchy, guided by the interests of the most powerful actors in the international panorama.

Over the years, multilateral agreements appeared as the most functional way to address the issues raised by climate change and other environmental issues. However, these agreements often failed to live up to their expectations and to raise an effective climate governance standard. The established international environmental regimes have often proved to be just weak frameworks, such as in the case of the previously mentioned UNFCCC and Kyoto Protocol, and being they so dependent on the will of single states, the failure seemed inevitable.[19] Finding a strategy capable of solving the challenges of international cooperation is thus of the greatest importance.

In this Chapter I am going to analyse the main issues in creating an effective system of climate governance, what are the main obstacles to cooperation, what is needed to achieve a greater convergence on environmental issues, why are countries incentivised to free ride, together with some possible solutions to the problem, such as the concept of common but differentiated responsibilities the principle stated in the UNFCCC often used to draw in as many countries as possible.

[19] *Bodansky, The Art and Craft of International Environmental Law (See footnote 12)*

2.2 A Global Tragedy of the Commons

Problems such as global warming can be interpreted as public tragedies of the commons. The term tragedy of the commons was first introduced by Garrett Hardin[20] to describe a situation in which individually rational behaviour produces a collectively irrational result, because the commons are public and as such owned by no one and non-excludable, and as such externalities can by no means be internalised.

In the case of climate change, each country releases emissions of greenhouse gases in the environment, which is indeed a common good. Each country enjoy the benefits of the activities that cause such emissions but bear the consequence of only a fraction of the cost they cause, as this cost is shared also by every other country in the world. In fact, climate is a public good from which no one can be excluded. From an individual country's standpoint, it is perfectly rational and convenient to emit as much as possible when the cost of this emission is shared with the rest of the world.[21] Yet, if every country applies this reasoning, the environment will find itself unprotected and in danger.

Furthermore, it is also important to note that citizens and countries are not forced to pay anything on their emissions, meaning that the cost of us deciding to drive our cars more than we need does not fall of us, but rather on the climate as a public good. Emissions end up being a global externality, the environment is damaged and this damage is not economically accounted for. This means that we have no incentives to not drive our cars, because there is no market for pollution and as such we are not forced to pay anything. With such a market failure[22], it is fundamental to give a price to pollution, as if the effects are priced, actors have incentives not to "demand" them. As with all commons, finding a regime of sharing rules is difficult, but that is what international agreements should work towards.

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[20] Hardin, "The Tragedy of the Commons, Social Contract Journal," 2001, available at : http://www.garretthardinsociety.org/articles_pdf/tragedy_of_the_commons.pdf

[21] : MacLellan, Matthew. 2015. "The Tragedy Of Limitless Growth: Re-Interpreting The Tragedy Of The Commons For A Century Of Climate Change". Environmental Humanities

[22] Clark, Duncan. 2012. "Why Do Economists Describe Climate Change As A 'Market Failure'?". The Guardian. https://www.theguardian.com/environment/2012/may/21/economists-climate-change-market-failure.

2.3 Non-enforceability and Incentives to Free Ride

One of the greatest pitfalls of the actual system of international environmental cooperation is given by the fact that most environmental agreements are based on a system of voluntary compliance. What this means is that in this system any country can commit to a common goal, ratify a treaty without actually having a duty to comply with it, thus not incurring in any sanctions in case of failure to comply as these treaties are non-enforceable, as in the previously mentioned case of Canada in the Kyoto Protocol. At the moment, this system is essential as most countries would not even participate in negotiations if a treaty were to become legally binding on them, thus legally enforceable . Yet, even in this non-enforceable treaty system, countries often decline to ratify environmental treaties, as it is the case for the United States and the Kyoto Protocol. Up to this moment, international environmental agreements have mostly acted as guidelines with a common goal, void of legal effect. Yet, they did not always fail to meet their goals and they overall did improve the legal framework.

As I have mentioned earlier, climate change can be considered a global externality, and as in the case of most externalities, an endemic problem is that of free riders.[23] When we are acting in the public realm, the benefits deriving from international environmental agreements would not only benefit the countries who decide to act, but also those who decide not to act as the environmental and climatic improvement would fall on the whole planet, as such, it may look rational for a country to decide to not to act and wait for other countries to solve problems, then benefitting from this solutions. Free riders are particularly likely when treaties require a high commitment level and high costs of compliance[24]. How to get free riders to participate in international negotiations is still a widely debated topic and the solution that have been proposed are many. Some scholars have proposed trade sanctions towards countries that prove reluctant to cooperate in international environmental agreements. However, it is still not clear whether these sanctions would work, or whether they would just make cooperation more difficult.

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[23] Ana Espínola Arredondo and Félix Muñoz García. 2009 "Free-riding in International Environmental Agreements:A Signaling Approach to Non Enforceable Treaties". Washington State University School of Economic Sciences Working Paper Series.

[24] Ibid.

2.4 Creating Convergence of Opinions

Issues may make their way in the international policy agenda in many different ways. They can be brought up by sudden accidents, such as in the case of the Basel Convention[25], triggered by a repeated series of international accidents involving hazardous waste, by a popular mobilisation, by movies, by scientists' reports and so on. The way in which an issue emerges is fundamental to understand its future regulatory development. For example, in the case of a repeated oil spill, it is likely that the international community, given the clarity of the issue, will push to intervene, while if an issue is brought up by a contestable source such as that of scientists, as it is the the case for climate change, countries may disagree about the significancy and the urgency of the problem. Many politicians, scientists and countries still do not agree about the existence of such phenomenon. Different approaches to the problem can be found in different countries, for example the UK Government Chief Scientist David King characterised climate change as a graver problem the terrorism[26], while the Bush Administration did not acknowledge the problem, and still today, the US Presidential Republican candidate Donald Trump still refers as climate change as a "hoax"[27]. This kind of disagreements can indeed be a difficult obstacle to overcome for the international community as when there is no complete agreement on an issue, many countries may refuse to cooperate because of scientific uncertainty that would not justify any efforts.

Yet, even when it is clearly shown that carbon dioxide and other greenhouse gases are increasingly present in the atmosphere, causing temperatures to increase, as the UNFCCC showed, there is still a question of causality to address. Who is to be held responsible, where should we intervene first? Is it due to human activity, or is it merely the evolution of our planets's climate system? Thus, having a convergence of opinions is fundamental to reach a functional measure, yet, finding a real convergence on an issue is often very difficult.

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[25] Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, Basel, 22 March 1989, United Nations Treaty Series, vol. 1673 No.28911

[26] BBC NEWS | Science/Nature | Global Warming 'Biggest Threat'". 2016. News.Bbc.Co.Uk. http://news.bbc.co.uk/1/hi/sci/tech/3381425.stm.

[27] Milman, Oliver. 2016. "Donald Trump Would Be World's Only National Leader To Reject Climate Science". The Guardian. https://www.theguardian.com/us-news/2016/jul/12/donald-trump-climate-change-science-sierra-club.

2.5 Different Values and the Principle of Common but Differentiated Responsibilities

Furthermore, an even greater problem to overcome in international agreements is that of different values. Different countries have different values, and this influences international cooperation greatly. Less developed countries usually place greater emphasis on issues of development, and can thus dedicate less resources to environmental issues, as they have more urgent issues to solve, such as hunger and poverty. Also, they might claim that current development is mostly caused by today's developed countries, and as such it should be up to them to find a solution. On the other hand, developed countries are usually not prone to give up much more than the others to protect the environment.

A measure adopted to draw as many developing countries as possible in the environmental regulatory process is the concept of common but differentiated responsibilities.[28] The concept was first adopted by the United Nations Framework Convention on Climate Change (UNFCCC), which reads : "… the global nature of climate change calls for the widest possible cooperation by all countries and their participation in an effective and appropriate international response, in accordance with their common but differentiated responsibilities and respective capabilities and their social and economic conditions"[29] and was then repeated in the Kyoto Protocol.

The principles acknowledges that each country has indeed the same responsibility to protect the planet as all the others, but given that some countries are more developed than others, each country should contribute in a proportioned manner to their economic and social conditions. By doing this, the international community introduced the principle of equity in treaty making, allowing that not all countries are equal and some countries deserve more time to act, and to be able to divert more resources on problems such as poverty and hunger. Also, they deserve to receive financial and technical support by developed countries, so to solve the problem in a more equal way.

Although the concept proved functional in drawing more countries as possible to the negotiating table, so much that it was also repeated in the Paris Agreements, it still has many setbacks. In fact, the principle often led to very loose regulations towards developing countries which in many cases completely failed to act. For example, in the case of the Kyoto Protocol[30], it meant that developing

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[28] Centre for International Sustainable Development Law, 2002. The Principle of Common But Differentiated Responsibilities: Origins and Scope

[29] United Nations Framework Convention on Climate Change, Rio De Janeiro 1992, 771 UNTS 107; S. Treaty Doc No. 102-38; U.N. Doc. A/AC.237/18 (Part II)/Add.1; 31 ILM 849 (1992)

[30] Kyoto Protocol, UN Doc FCCC/CP/1997/7/Add.1, Dec. 10, 1997; 37 ILM 22 (1998)

countries were exempt from emission thresholds and as such felt free to continue to pollute as much as they wanted. However, it has also proved successful in many cases, such as in the Convention on Biodiversity and the Montreal Protocol on Substances that Deplete the Ozone Layer.

2.6 How Countries Value the Future

A further ideologic obstacle to a successful problem solving at the international level is that of how countries value the future compared to the present. Although this may sound trivial, an effective climate change policy requires an important value to be placed on the future. Just like a person that know that smokes harms you, but still decides to smoke because he values the present more than the future, many countries may believe that the effects of climate change will really be influential too far in the future, and as such they do not deserve great attention and resources today, but rather shall be left for the next generation to solve. Others believe that climate change effects will be seen not too late in the future, but still value the present more than the future. As such, money invested today to prevent something that will happen too far away in the future, would not economically make sense. An effective cooperation to reach a real and immediate environmental governance would need countries to converge on the urgency of the issue and place a value on the future of the planet and on intergenerational equity.

2.7 Weak Finance

Gathering sufficient amounts of money is always among the hottest topics in environmental treaties. Money is a trigger for action, and without it, any policy aimed at mitigating climate change and creating resilience and adaptation is vain. Past climate treaties such as the UNFCCC and the Kyoto Protocol largely failed in raising adequate flows of money. However, the total amount money raised every year as of today for climate protection today is much higher than it used to be in the past, even though it is still not enough.

The question of how to raise this money is a very delicate one. It is today evident that asking single countries to dedicate a share of their total GDP is not enough and new strategies have to be found. First of all a major inclusion of the private sector is need, especially, we need public money to unlock private investments in green sectors. Another road that is being explored is that of the Green

Climate Fund, an funds established by the UNFCCC to make sure that developing countries have at their avail a predictable source of financial flows to fight climate change.

Whatever the proposed solution, finding consistent financial flows is key to combat climate change, and as we will see, this was one of the pillars of the 2015 Paris Agreement.

III - Past Climate Agreements: A Perspective Study

3.1 Introduction

To better understand the breakthrough that the Paris Agreement represented if compared to the previously existent agreements, it is important to look at how the issue of climate change rose in prominence in the global agenda together with the evolution of climate change regulations over the years.

Environmental issues were largely ignored in the first half of the 20th century and climate change wasn't officially recognised as an international issue until the 1990's. In fact, the first major UN environmental conference was held in 1972 in Stockholm in what was called the first Earth Summit. [31]The conference adopted the Stockholm Declaration on the Human Environment, a largely philosophical document concerned with the preservation of the environmental resources. Yet, already at the 1972 Stockholm Conference it was proposed to set up stations to monitor changes in atmospheric constituents which may cause climatic changes. In the following years, issues regarding the air pollution and climate change slowly gained international attention. In 1979, the UNEP called for the Convention on Long-Range Transboundary Air Pollution[32] to solve the problem of long-range air pollution when it was noted that air pollution originating in one country could easily move and reach other countries, thus creating transboundary pollution.

A major shock that awakened the world to the effect of pollution and climate change came in the 1980's when scientists started to note that the ozone layer was being damaged by the intense use of chlorofluorocarbons F-11and F-12. Again, this led to a milestone in climate protection known as the Montreal Protocol on Substances that Deplete the Ozone Layer. [33]

At this point, the risks connected to emissions and prolonged pollution were clear and these issues became increasingly common in international public opinion. From 1985 onwards, several conferences were held concerning climate change, such as the Villach Conference[34], the Toronto Conference and the Nordwjik Conference. Finally, this increasing awareness was followed by the

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[31] *McNeill, John Robert. 2000. Something New Under The Sun. (See footnote 10)*

[32] *Bodansky, Daniel. 2001. The History of the Global Climate Change Regime, International Relations and Global Climate Change, MIT Press*

[33] *Ibid.*

[34] *Ibid.*

convening of the second World Climate Conference, which called for an urgent global agreement on climate change. The perfect occasion for the signing of this agreement was found in the 1992 Rio Conference, where the cornerstone of climate change governance, the United Nations Framework Convention on Climate Change was signed. The UNFCCC was later followed by the 1997 Kyoto Protocol which called for greater action by reducing industrialised country's emissions. At this point, climate change was an internationally known issue, regulated by two important documents.

In this Chapter I will analyse the main treaties cited in this introduction to understand how climate change governance emerged and developed over the years before the Paris Agreement.

3.2 The Agenda Setting Phase for Climate Change Governance: 1985-1992

After a greater scientific consensus had emerged in the 1980's about climate change, the momentum created by the increased scientific knowledge helped to create political interest around the matter. From 1985 a series of meeting took place, initially with the participation of just a small group of scientists and later extending to a wider public, discussing exclusively climate change and trying to set an effective agenda to solve the problem in the future. The first international meeting convened was held in Villach in 1985, the meeting had few participants, mainly scientists and academics. These scientists concluded that there was an urgent need for governments to fight climate change as a result of an increased presence of greenhouse gases in the atmosphere. In this meeting the Advisory Group on Greenhouse Gases was created by the World Meteorological Organization and the UN Environment Programme (UNEP), laying important foundations for the future. In trying to create an international agenda to fight climate change, scientists, representatives from few countries, the UNEP, and the Intergovernmental Panel on Climate Change (IPCC), an international group of over 300 climate scientists that had just been created, the Canadian government and several international organisations met in Toronto in 1988 for the International Conference of the Changing Atmosphere. The Toronto Conference greatly boosted international awareness and called for a cut of 20% to Co2 emissions before the year 2005, a cut that sounds unrealistically harsh today and also established a world atmosphere fund, financed through taxes on fossil fuels.

The year 1988 brought a change in climate governance. Until then, climate change was faced as a mainly scientific issue, as showed by the presence of mainly scientists at the Villach and Toronto conferences. From 1988 on, governments started to play an increasingly important role in agenda

setting, always accompanied and supported by international organisations, such as the UNEP and scientists, such as the IPCC. In the years 1988-90 several conferences and meetings were held, all calling for a greater responses to the climate change issues.[35]

In 1988 the UN General Assembly delivered its first resolution on climate change, characterising it as an issue with great urgency, as the climate is " common concern of mankind". Furthermore, 1989 saw the meeting of two important climate conventions : the Hague Summit and the Noordwijk ministerial meeting,[36] the first calling for the creation of a new institutional authority to combat climate change and the second calling for a stabilisation of greenhouse emissions as soon as possible. At this point, the only governments interested in the issue were those of developed western countries, and also within them, United States and Japan firmly opposed strong measures to combat climate change. On the there hand, developing countries such as India and China firmly stated that any measure could not infringe their sovereignty.

Although these agreements did not have any real effects on climate change, they raised awareness and created momentum and a global agenda to solve the problem of climate change. Thanks to these meetings, governments of almost two hundreds countries agreed to meet during the Rio Convention in 1992 to set up a real framework of climate governance, what will develop to be the United Nations Framework Convention on Climate Change.

3.3 The United Nations Framework Convention on Climate Change

The United Nations Framework Convention on Climate Change was initially drafted by an Intergovernmental Negotiating Committee which met in New York in April-May 1992, driven by the momentum created by the strong agenda setting between 1985 and 1992. The treaty was opened for signature during the United Nations Conference on Environment and Development known also as the Earth Summit. The first thing that should be noted about the UNFCCC is that it is, as its name says, a framework convention, namely an international treaty providing general guidelines and principle for climate governance, yet doing so at a high level of generality, thus not containing any precise measures on how to solve the problem of climate change.

[35] *Change, United. 2016. "Climate Change Information Sheet 17". Unfccc.Int. http://unfccc.int*

[36] *Bodansky, Daniel. 2001. The History of the Global Climate Change Regime (See footnote 32)*

The documents starts by setting out its one and only goal, namely ensuring the "*stabilisation of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.*". [37]

Then, the conference sets out some fundamental principles of climate governance that will guide successive climate treaties and environmental treaties in general, such as that of intergenerational equity, intended as a duty we have to leave future generation with an environment in the same or better condition as we have found it, thus allowing them the same opportunities to develop we have had. Also, the treaty speaks for the first time of common but differentiated responsibilities, a concept that at the time sounded very innovative and particularly rational, as in 1992 few developing countries were willing to undertake negotiations for a climate deal, let alone if they were to be treated on par as developed countries. Also, common but differentiated responsibility in the UNFCCC is not only a concept of philosophical equity, but also an economic measure. In fact, industrialised nations agreed in the Convention to support climate mitigation activities and to provide real financial assistance to developing countries, also through a system of grants and loans managed by the Global Environment Facility and last, industrialised countries have a duty to share their know-how and climate mitigation technology with developing countries.

Furthermore, the treaty speaks for the first time of precautionary measures that country should take to minimise the adverse effects of climate change, adaptation as building capacity and resilience to resist climate change and indeed mitigation, as trying to reduce current anthropogenic emission rates . All these concepts will be taken up again and again in future climate change agreements.

Also, the Convention introduces for the first time the concept of sustainable development, central in the Rio Conference, as crucial to achieve successful climate change mitigation.

Even though the treaty brought up very innovative principles, in practice is immediate effect was very feeble. Being it a framework treaty, from a legal standpoint the treaty is considered largely non-binding. It sets no limits on single states emissions, no global thresholds on emissions and so on, thus having little effect in practice. However, a solution to this problem was included in the framework treaty. That is, the Treaty calls for annual meetings of the parties to the Convention, known as the Conferences of Parties (COP), to assess the development of climate change and to draw new agreements and new policies in the matter. The COPs proved the greatest heritage of the UNFCCC, as representatives from most countries met every year to discuss climate change, getting closer and closer to effective climate deals.

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[37] *United Nations Framework Convention on Climate Change, Rio De Janeiro 1992, 771 UNTS 107; S. Treaty Doc No. 102-38; U.N. Doc. A/AC.237/18 (Part II)/Add.1; 31 ILM 849 (1992)*

According to customary international law, framework treaties should be accompanied by protocols with more specific policies and regulations to solve the problem, and this is what happened with the UNFCCC. At the COP3, the parties to the UNFCCC adopted a protocol providing from stricter climate control known as the Kyoto Protocol which has been until 2015 the biggest set of climate regulations.

3.4 The Kyoto Protocol

The Kyoto Protocol is an international agreement under the framework of the UNFCCC aimed at strengthening, especially from an executive standpoint, the regulatory framework established in the United Nations Framework Convention on Climate Change.

For this reasons, the Kyoto Protocol[38] contains more precise measures towards climate change mitigation and it's also considered legally binding, a feature that the previous agreements lacked. The Treaty was negotiated in Tokyo, Japan in December 1997 and entered into force after 8 years, in February 2005. This lengthy ratification was mainly due to the entry into force clauses, which required the ratification of at least 55 signatories representing at least 55% of the global emission of greenhouse gases, a formula that will be taken up also in the Paris Agreements.

The Kyoto Protocol introduces some important innovations in climate protection. First of all, it lists clearly the six most dangerous greenhouse gases that should be controlled to reduce emissions, namely carbon dioxide, methane, nitrous oxide, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF6). The main goal of the Kyoto agreement was to see global emissions reduced by a precise percentage, 5.2%, below the 1990 emission levels before 2012. Even though the 5.2% figure is a global one, it should not be reached with all countries providing the same effort, but rather still with common but differentiated responsibilities, thus, each country was attributed precise targets, in some cases some countries were even allowed to increase their emissions, while others were suggested to cut their emissions heavily. For example, the United States were asked to reduce emissions by 7%, well above the average, while China was exempted as a developing country from having a specific target, a choice that was considered by the negotiators very unjust as China was about to surpass United States in emission rates. Also as a result, the West found convenient, to reduce emissions, to outsource a share of its production in developing

[38] *Kyoto Protocol, UN Doc FCCC/CP/1997/7/Add.1, Dec. 10, 1997; 37 ILM 22 (1998)*

countries who were able to pollute as much as they wanted to, creating a major loophole in the Kyoto Protocol regime.

To facilitate its implementation, the Kyoto Protocol is divided in four years long “commitment periods” : 2008-2012, 2012-2016 2016-2020. The first commitment period provided good results as the ratifying countries fulfilled their goals under the protocol, furthermore, most countries reduced emissions for even more than what was required by the Protocol. Yet, this is not only good news. The overachievement of the first commitment period is easily explained by the fact that United States and Canada did not ratify the Protocol and that most developing countries had no obligations to reduce emissions. Thus, the target of the first commitment period were 36 western countries, making the data much less impressive.[39]

A very innovative feature in the Kyoto Protocol that could come to play a prominent role in the future is that of an emission trading scheme. Under the Kyoto Protocol regime, countries who exceed the emission limits are required to engage emission trading, meaning that they have to buy “emission credits” from countries who overachieving and thus polluted less than they could. This system ensures that the amount of emission is always fixed. An example of this system is that in place in the European Union (the European Emission Trading Scheme) in which to fight climate change and emissions , more than 11.000 factories are allowed to engage in emission trading.[40]

To earn more carbon credits, the Protocol introduces in Article 12 the concept of clean development mechanism, meaning that countries that are bound by emission limitations can implement projects in developing countries that are not bound by the protocol limitations to earn saleable emission credits. This system was conceived to facilitate diffusion of technology and to stimulate sustainable development in developing countries. The project proved successful as according to the UN, it has already registered more than 1600 projects in the first commitment period.

Even though it is scattered with good and innovative ideas, the Kyoto Protocol is often considered an unsuccessful treaty. The failure of the Kyoto Protocol derives mainly from the scarce participation from the world’s biggest polluters. Most importantly, the United States after signing the agreement and participating actively in the negotiations refused to ratify it, as the Senate opposed almost unanimously. Furthermore, Canada did not sign the treaty and Australia did not ratify it. This, united with the almost inexistent control applied to developing countries made a failure out of the Kyoto Protocol. Its well designed regime ended up applying to few developed

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[39] Christoph Böhringer. 2012. The Kyoto Protocol: A Review and Perspectives CPN Discussion Paper No. 04-01

[40] "The EU Emissions Trading System (EU ETS) - European Commission". 2016. Ec.Europa.Eu. http://ec.europa.eu/clima/policies/ets/index_en.htm.

countries who did reduce emissions, but without bringing a real change. In fact, on a global scale, emissions kept increasing during the Kyoto Protocol regime. Mainly because of this failure a new more inclusive agreement appeared urgent, and the response came with the Paris Agreement in 2015 at the twenty-first conference of parties of the UNFCCC.

IV - The Paris Agreement

4.1 Introduction

In December 2015 representatives from 195 countries and from the EU met in Paris for the twenty-first conference of parties of the United Nations Framework Convention on Climate Change. During the conference, a new agreement within the UNFCCC was adopted, known as the Paris Agreement. The treaty was officially adopted on December 12, and was open for signature and ratification with a ceremony held in New York on Earth Day, 22 April 2016. [41]

The Paris Agreement wants to represent the milestone of a new era in climate governance. The bases for this treaty were already put down in 2011. In fact, the treaty is the result of many years of negotiations within the framework of the UNFCCC, which was created as a very imperfect treaty, but then saw great effort especially from the UN to improve it and to make it an effective climate treaty capable of establishing a real climate governance regime. Taken into consideration the limits and the failures of the Kyoto Protocol, world leaders and UN representatives met in Durban, South Africa in 2011 for the United Nations Climate Change Conference (COP17).[42] World leaders noted that climate governance up to that point had been weak, and it was decided that a universal legal agreement on climate change capable to bind all member states was needed urgently, no later than 2015. In addition, the treaty used the momentum created by the COP20 in Lima[43] in which every country had to propose their INDCs, namely their intended national determined contributions, a concept also taken up in the Paris Agreement, meaning that every country had to propose its specific action plan to fight climate change. Lima prepared countries, especially those who had never participated in climate agreements with strategies to fight climate change, and this proved very useful during the Paris negotiations.

For these reasons, Paris proved the perfect forum at the perfect moment to make a really binding agreement, a new kind of treaty that would signify a breakthrough with the UNFCCC and the Kyoto Protocol. I will now proceed to analyse the main points of the Paris Agreement, how it differentiates itself from the past agreements and the relevant loopholes left by the treaty.

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[41] *"COP21 | United Nations Conference On Climate Change". 2016. Cop21.Gouv.Fr. http://www.cop21.gouv.fr/en/.*

[42] *Ecologic Institute, 2016. The Paris Agreement: Analysis, Assessment and Outlook*

[43] *Lima Climate Change Conference - December 2014 United Nations Framework Convention on Climate Change - http://unfccc.int/meetings/lima_dec_2014/meeting/8141.php*

4.2 Structure of the Paris Agreement

For what regards the structure, the Paris Agreement follows closely a structure that had already been used for the UNFCCC, thus, the treaty is divided in several thematic areas, namely adaptation, loss and damage, mitigation, finance, technology, capacity building and reporting and accounting.
In the beginning of the treaty in Article 2[44], the text lists the general purposes and core of the treaty, stated in three points :

I. A long-term goal of keeping the increase in global average temperature to well below 2°C pre-industrial level and to aim to limit the increase to 1.5°C in the short term as this would significantly reduce the risks connected to climate change, such as rise of the sea levels, droughts hurricanes and so on.
II. Increasing adaptation, namely the ability of populations to adapt to a changing climate
III. Making financial flows consistent with a pathway towards low greenhouse emissions

I will now analyse the main points of the agreement and how they have been addressed.

4.3 Mitigation

The concept of mitigation is as fundamental in the Paris Agreement as it was in the previous climate agreements. What is meant by mitigation is all the measures and policies introduced to reduce the current status of greenhouse emissions, thus to mitigate the actual situation. The clearest mitigation effort proposed by the Paris Agreement is indeed that of keeping global average temperature increase at below 2°C from pre-industrial levels while also pursuing efforts to keep the increase below 1.5°C in the short term. This point represented a compromise between developed countries and developing countries. In fact, many developed countries wanted the limit set at 1.5°C, while some developing countries did not find that limit credible and realisable for everyone. [45]
Furthermore, the Paris Agreement asks the parties to realise serious cuts in emissions. The text states the emissions should peak as soon as possible to then decrease permanently during the century. This mitigation should happen through both a cut in emissions caused by humans (anthropogenic emissions in the text) and a greater use of carbon sinks, such as trees, to remove a

[44] *Paris Agreement, Paris 12 December 2016, C.N.92.2016.TREATIES-XXVII.7.d*

[45] *Ecologic Institute, 2016. The Paris Agreement: Analysis, Assessment and Outlook (See Footnote 42)*

share of the greenhouse gases present in the atmosphere. The concept of sinks was already used in the UNFCCC and in the Kyoto Protocol, but yet it was strengthened in the Paris Agreement.
A further way to mitigate the current climatic situation is that of nationally determined contributions. As mentioned earlier in this chapter, countries are required to file a statement of the strategy they are going to adopt to fight climate change. This is one of the few real prescriptions of the treaty, which in Article 4 writes that States have a duty to "prepare, communicate and maintain" successive nationally determined contributions. NDC have the potential to make a change in climate protection, but as I will analyse later, they will need to be strengthened in future conferences as in the present status they show several loopholes in matters of enforcement and contents.

4.4 Adaptation

In the negotiations towards the Paris Agreement it appeared clearly the concept of adaptation would play a greater role than it did in the previous climate agreements. In fact, in the Paris Agreement the concept of adaptation is put on par with the concept of mitigation. Over the years between the Kyoto Protocol and the Paris agreement, it seemed clear that we couldn't hope to mitigate climate change as much as we need in the short term, and some degree of climate change can no more be avoided. Thus, while trying to change the current situation, we also need to build resilience in a way to adapt to the new conditions that are emerging because of climate change. According to Article 7 of the Paris Agreement :

"Parties hereby establish the global goal on adaptation of enhancing adaptive capacity, strengthening resilience and reducing vulnerability to climate change.."

However, while in the case of mitigation the means through which this should be achieved are stated clearly in the treaty, in the case of adaptation there is no explicit measure stated. Rather, the treaty only writes about sharing informations, good practices, strengthening institutional arrangements and strengthening scientific knowledge in the matter. Adaptation is treated using a soft law language and it is stated more as a global goal rather than a problem with a precise solution. Thus, the only measures to which the treaty refers are the aforementioned soft obligations such as sharing informations and strengthening scientific knowledge.

However, Article 7 contains a sort of prescription, namely that each party to the treaty has to regularly submit adaptation communications including its plans and actions, thus asking parties to be constantly at pace with adaptation efforts.

Even though the measures are not as strong as they could have been, the Paris Agreement establishes an important framework in terms of adaptation planning and action. Adaptation is now higher than it has ever been in the global agenda, and this will for sure be one of the most important heritage of the Paris Agreement.

4.5 Loss and Damage

A new feature of the Paris Agreement if compared to the previous climate agreements is the section dedicated to loss and damage. Loss refers to the complete disappearance of something such as species, habitats and human lives, while damage refers to damage that can be repaired such as houses and villages. In the past, loss and damage had always been treated as a subcategory of adaptation. Given the rising frequency of natural catastrophe, especially in developing countries, at the Paris Conference, developing countries and particularly small island states pushed strongly for the agreement to recognise this section as a separate pillar of the new climate regime. Loss and damage refers to all the damage that cannot be avoided through adaptation or mitigation and as such need different responses.

The final version of Article 8 of the Paris Agreement states that the parties recognise the importance of minimising the impact of the adverse effects of climate change such as extreme weather, desertification and so on. A further important step forward of Article 8 is that it makes the previously temporary Warsaw International Mechanism for Loss and Damage created in 2013 at the COP19 into a permanent institution, with the task of coordinating and promoting solutions to loss and damage due to climate change. Finally, the article calls countries to cooperate especially in the areas of early warning processes, emergency preparedness, risk assessments, risk insurance facilities and so on.

The position of developed countries is shown by the clear statement that Article 8 does not provide any basis for a mechanisms of liability and compensation.

Anyway, Article 8 was considered a great success by developing countries who considered loss and damage their greater priority within the agreement. Just like in the case of adaptation, COP21 managed to bring forward and bring into the global agenda the issue of loss and damage and set the

stage for further discussion on the matter at the COP-22 in Morocco, where the functioning of the Warsaw Mechanism is planned to be further analysed.

4.6 Climate Finance

One of the weakest points of the antecedent climate agreements had always been that of financial support. Countries proved reluctant to provide adequate funding to the UNFCCC and to the Kyoto Protocol and there was always disagreement on who had to contribute and in what measure.

A previsionary measure had been tried at the COP16, the 2010 United Nations Climate Change Conference in Cancun, with the funding of the Green Climate Fund, a fund to create a stream of investments in climate protection towards developing countries. Yet, up to now, the fund underperformed as it was met with a reluctance to donate funds to it.

In this regard, the Paris Agreement tries to be a changer, giving a strong signal of transformation. This is seen from Article 2 where "Making financial flows consistent with a pathway towards low greenhouse emissions" is set out as one of the three main goals of the Convention.

In the treaty, Article 9 sets out in detail the functioning of financial resources within the agreement. In this regard, the Paris Agreement allows that developed countries have a greater financial responsibility and as such they shall provide developing countries with financial resources and assistance in meeting the objectives of mitigation and adaptation set out in the treaty. Also, developed countries should take the lead in mobilising climate finance through a variety of sources, such as public and private funds. This Article reiterates the idea of common but differentiated responsibilities in which developed countries are responsible for guiding developing countries, providing them with funds and technical help.

A widely debated issue during the Convention was whether to have or not a quantified financial obligation in the Treaty. In the end, the Paris Agreement does not contain and quantified financial obligation, but, the Paris Declaration published after the conference states that countries should support and develop new financing schemes in such a way to unlock the necessary $100bn/year to invest in projects to fight climate change. The threshold of $100bn/year was already set out in the Copenaghen Accord[46] emerged from COP15, and it was agreed to keep that threshold in the Paris Declaration.

[46] *Copenaghen Accord, Conference of the Parties 15, 18 December 2009. Decision -/CP.15*

There was broad understanding at the conference that new financial inputs are key in reaching long-term goals in climate change adaptation and mitigation, and as such, a major shift in investments and financial flow was needed. The treaty sent a clear signal to investors and business that the world will have to shift its economic pattern and its energy patterns to clean energy, leaving behind fossil fuels. After the agreement numerous investors promised to match the expectations created by the treaty with conspicuous investments in the sectors that would help solving the issues created by climate change.

In this respect, the Paris Agreement tries to be a real innovator by calling countries to gather financial resources from all possible sources as finance is key to action, and even though there is still a lot to do for what regards funding for climate change adaptation and mitigation, the Paris Agreement brought financial matters to the negotiating table and had countries agree on a first step, namely the $100bn/year until 2025.

4.7 Legal Matters

What is the effective legal status of the Paris Agreement? Just like the UNFCCC and the Kyoto Protocol, the Agreement has the status of a treaty under International Law. It is not very clear whether or not the treaty can be said to be legally binding. The treaty has to be signed and ratified by all the participants, yet, to understand its binding status it's important to look at the language used in the text. Whether or not an article can be considered binding depends strongly by the language used by the treaty makers. In fact, within the agreement some points are stated using wordings that suggest specific legal rights, while other points are stated using a soft law language, thus not having legal effect. Yet, the more precise obligations refer mostly to procedural points, while most of the substance is treated as soft law. Thus, we can say that the Paris Agreement hardly has any binding effect, in line with the UNFCCC and the Kyoto Protocol, leaving one of the major issues unresolved. Also, the Treaty does not contain an enforcement mechanism that was asked by several participants at the conference. Rather, the treaty establishes a vague compliance mechanism to "facilitate implementation and promote compliance with the Paris Agreement. This committee shall be composed of experts who work in a manner considered transparent, non-adversarial and non-punitive.

A real obligation provided by the treaty is that members have to meet every 5 years to discuss what has been done and what has to be done, in order to see who has actually acted and who failed to act.

A further focal point of the treaty is that of entry into force. The Paris Agreement establishes in Article 21 a double threshold for its entry into force. For it to enter into force, the treaty had to be ratified by at least 55 parties to the convention representing at least 55% of the global greenhouses gas emission. This safety net was used to ensure that the biggest greenhouse gas emitters would ratify the treaty before it entered into force, as it would have not had the same effect without the biggest polluters joining. An important signal was sent by China and the United States, who ratified the treaty on 3 September 2016 at the Guangzhou G20, showing a whole new level of effort compared to the past, which allowed the treaty to enter into force on the 4th of November 2016, way earlier than predicted by the large majority of commentators.

4.8 Main Issues with the Paris Agreement

Even though the Paris Agreement looks very good on paper, the issues connected to its approval are many. The Paris Agreement was signed in a very turbulent moment in history, characterised by a general rise of populism in western countries, with many of these populist parties opposing global climate change regulations. Also, mass migrations, deriving from many single factors among which we can also find climate change induced displacement, keep posing political problems and these political issue could become a major obstacle toward the functioning of the treaty.

Yet, an even greater obstacle is still that of private interests. While talking about climate governance, it is fundamental to remark that even though for good reasons the responsibility in treaty making is often if not always up to States, it is not the States who are the final targets of regulations, rather, most of the times the regulations agreed upon by States have as an ultimate target business enterprises. More precisely, the business sector mostly influential in climate change, namely that of energy.

The energy sector leaves a major question mark still today. What is going to happen? Is the energy sector going to shift its priorities and move towards renewable energies or they are, notwithstanding State efforts, going to continue to behave as private business polluting as much as they want to pollute?

The situation with the energy sector is a very complicated one. According to a study, only 90 companies are responsible for two-thirds of anthropogenic greenhouse gases emissions[47]. What

[47] Goldenberg, Suzanne. 2013. "Just 90 Companies Caused Two-Thirds Of Man-Made Global Warming Emissions". The Guardian. https://www.theguardian.com/environment/2013/nov/20/90-companies-man-made-global-warming-emissions-climate-change.

does this mean? In practice, the costs of climate change regulations are concentrated towards a small group of companies, mainly in the energy sector, that would bear a great share of global cost of climate regulation, the benefit of which are indeed global. Being these companies so multinational and so wealthy, it is indeed predictable that a major lobbying effort will take place to prevent the Paris Agreement to cause real regulations towards them, while it is also predictable that NGOs and citizens will push towards having these companies pay for climate regulations.
However, we should not think as multinational energy corporations necessarily as self interested and with no values. In fact, much of what will be done in the future will depend by the people who will be involved in the process, namely, by the values of the CEO of companies such as Exxon, Chevron and so on, and by the world leaders who will be involved in the process. For instance, many people still think that if Al Gore had won over George W. Bush in the 2000 US presidential elections we would be further ahead in environmental protection, the same debate is already arising around Donald Trump's presidency, showing how elections and political decisions can really play a key role in the climate regime.
A further problem is still that of the uncertainty about whether the Paris Agreement constitutes a soft law source or a hard law source. What I believe is that in reality this will make no difference, and that the real difference will be made by the way in which the signatory countries approach to the treaty and how they will consider it, whether they will see it as a binding force or not, instead of looking at the international law status of the agreement.
As it is evident, the sources of uncertainty about the Paris Agreement are many, and one could say, uncontrollable. Many things can influence the process of establishing an effective climate governance in many ways, and in some respects, we can just hope that the right people will be the ones who will take part in the process.

4.9 A Final Assessment of the Paris Agreement

Was the Paris Agreement a real breakthrough in climate governance, or it will end up being just a weak framework as it was the case for the UNFCCC and the Kyoto Protocol? Even though it still has many loopholes, in many respects, the Paris Agreement is a landmark in international climate governance, at least for what regards its approach. The treaty managed to be more inclusive than the past agreements, and also managed to have a real participation from developing countries, binding

them to a text with clear regulations. In this, the Paris Agreement changed the concepts of "small steps" and common but differentiated responsibilities, departing from the idea of the Kyoto Protocol, namely that developing countries had to be exempt from regulations, and heading towards a climate regime in which every country must participate to some extent and no one is exempt, as the problem is getting worse as time passes. Thus, differentiation is still allowed between developed and developing countries, but in a much less pronounced way.

The agreement also proved successful in not making the participants feel constrained by the international community as through the nationally determined contribution each country is free to decide how to reach the goals established by the treaty, all of this placed within a transparency framework in which each country has to always keep other countries updated about its effort. The strategy of using a bottom-up approach through NDCs can been seen as a trade-off between regulations and autonomy, in which countries can determine their way to meet their obligations. Also, it is important to note that to incentivise greater efforts over time, countries have to updated their nationally determined contributions every five years, thus establishing regular updating and evaluation of strategies.

Another crucial landmark that was agreed upon in the Paris Agreement is that of climate finance. The conference gave an important signal by showing that countries are ready to build a strong financial framework to fight climate change. This framework will indeed need to be developed in the future with new strategies to attract investments, new strategies to make green investments more attractive to the private sector. Yet, the conference sent a clear message by saying that the green economic sectors are the future.

Even though all treaties are perfectible, at least on paper the Paris Agreement did sign a real change in climate governance. The Agreement showed that countries are now ready to give a small share of their sovereignty to reach a common fundamental goal, it shows a high degree of political commitment by governments, something that was not as strong in the previous climate agreements. However, the Paris Agreement will not be enough to solve a global scale problem such as that of climate change. A prolonged effort from every country in the world is needed. Yet, the Paris Agreement and its new approach to the issue boosted the hope that one day we will be able to solve the problem of climate change.

Conclusion

In conclusion, what emerges from this dissertation after analysing the current status of climate change, the main problems in reaching effective climate agreements, the most relevant treaties until today and the Paris Agreement is that the latter has a big potential for future change.

After two decades of important attempts that yet did not reach their goals, most notably with the Kyoto Protocol, conceived to be the real regulatory "weapon" of the UNFCCC which then ended up applying to just 37 western developed countries, the Paris Agreements seems to bring up new innovative ideas with a completely different character.

The main loophole of the previous agreements, namely their non-bindingness especially on developing countries was in part solved. The Paris Agreement, due to the urgency of the problem, presents itself as a binding agreement, binding not only on developed countries, but also on developing country on which it imposes strict obligations for what regards emission control.

Also, the idea of nationally determined contributions to be updated every five years can in part solve the problem of free riders in international negotiations, as now the measures taken up by every signatory member will have to undergo a check with the greatest transparency from the other members of the Agreement, making sure that no one free-rides, giving countries incentives to actually act.

The Paris Conference showed a great convergence of opinions and values, much larger than any previous climate agreement, overcoming the ideologic difference among countries. Most notably, for the preservation of the planet, United States and China managed to overcome their difference in positions and both agreed to ratify the treaty, giving it a huge boost in popularity and immediately giving it the potential to be the most successful climate deal in history so far.

Also, the conference showed great devotion to the matter by tackling the hot issue of finances, placing the establishment of a consistent flow of finances to combat climate change as one of the three main goals, thus sending a strong signal to investors both in the public and in the private sector.

Indeed, no treaty is perfect and the Paris Agreement is no exception. In fact, the treaty still has no enforcing mechanism and as such probably nothing would happen to countries who do not respect the values of the treaty. Also, the precise amount of money required to raise every year, the Copenaghen 100bn/year are not stated in the Agreement but only in the successive declaration.

Even though it does have some loopholes, if it enters into force, which is at the moment very likely after the ratification of China and United States, I believe that the Paris Agreement could make a

change, especially if it will be further developed in the future. Indeed, there is still much to do to solve the problem of climate change and one single treaty won't do. A long-term global coordinated effort is needed, what we can hope, is that the Paris Agreement will act as a catalyser for this effort. In this regard, rather than the conclusion of a series of failing treaties, we should look at the Paris Agreement as a first step towards a new approach to climate change governance. For the rest, it will be up to single states to ride the momentum created by this Agreement to solve the problem for us and for future generations.

Riassunto in Lingua Italiana

Introduzione

Al giorno d'oggi, i livelli globali di emissioni di gas serra e il cambiamento climatico legato a questo fenomeno sono alcuni dei problemi più urgenti che il mondo deve affrontare. Siamo a conoscenza della profondità del problema, sappiamo che è necessario agire prima possibile, ma nonostante questo non esiste un accordo sul miglior corso di azione per risolvere il problema del cambiamento climatico. Nonostante i vari tentativi per risolvere il problema da parte della comunità internazionale, per alcuni motivi che analizzerò nel corso della tesi, fino ad oggi nessun trattato è riuscito a creare una sufficiente convergenza di opinioni per risolvere il problema del cambiamento climatico e degli alti livelli di emissioni di gas serra.
Lo scorso anno ha rappresentato un anno fondamentale nell'impegno per la risoluzione del problema del cambiamento climatico. Nel Novembre e Dicembre 2015, rappresentanti di 195 nazioni si sono incontrati a Parigi per discutere un nuovo trattato ambientale.
In questa Tesi analizzerò lo stato attuale del problema del cambiamento climatico, i maggiori ostacoli alla cooperazione fino ad oggi, passerò poi ad analizzare in prospettiva i maggiori trattati climatici fino ad oggi per poi passare ad analizzare il trattato di Parigi per capire se questo rappresenta davvero una novità o se sarà destinato alla marginalità come altri trattati climatici.

Capitolo 1 - Lo stato attuale del cambiamento climatico

Al giorno d'oggi, sentiamo spesso politici e scienziati dibattere su problemi legati all esistenza del cambiamento climatico. Nonostante il problema non sia nuovo, infatti il fenomeno dell'aumento delle temperature dovuto ad un aumento di concentrazione di gas serra nell'atmosfera era gia stato notato dallo scienziato svedese Arrhenius nel 1896, ancora oggi una grande incertezza scientifica circonda il fenomeno. Infatti, nonostante il concetto stia diventando sempre più comune e conosciuto, molte persone sostengono ancora che le prove scientifiche per dimostrare la sua esistenza non sono sufficienti. Ma sono le prove scientifiche davvero insufficienti?
Le voci in questo ambito sono multiple. Lo UN Intergovernmental Panel on Climate Change creato dalle Nazioni Unite ha costantemente fornito prove dell'esistenza scientifica di questo fenomeno.

Gli scienziati del Panel hanno trovato prove che dimostrano che la temperatura sulla terra sia aumentata di 0.5 gradi celsius negli ultimi 100 anni, con una concentrazione di gas serra nell'atmosfera del 30% più alta rispetto a 200 anni fa. Nonostante questo, le posizioni a riguardo sono ancora discordanti. È però ormai comune ammettere che la causa primaria di questo aumento di temperatura a livello globale sia l'attività umana. Questo concetto è stato spinto fino al creare un nuovo termine per definire l'era geologica in cui ci troviamo, cioè l' Anthropocene, un era geologica caratterizzata dai cambiamenti che l'uomo ha causato nell'ambiente in cui vive. Questo non riguarda soltanto cambiamenti climatici, ma anche inquinamento di ogni genere, costruzioni in cemento, l'inquinamento del suolo da parte di agenti chimici e scioglimento dei ghiacciai.
Ma quale è la causa principale che ha portato l'uomo a creare questo inquinamento?
Se vogliamo trovare una singola causa per spiegare il fenomeno del cambiamento climatico, sicuramente una prima risposta intuitiva sarebbe la produzione ed il consumo di energia. Infatti, prima della rivoluzione industriale l'unico tipo di energia a disposizione dell'uomo era quella somatica, cioè quella fisica di uomini ed animali. L'arrivo della rivoluzione industriale e i primi motori hanno cambiato completamente il sistema energetico e con questo il mondo. L'energia somatica è stata rapidamente sostituita da quella fossile, prima con il carbone e più tardi con il petrolio. I carboni fossili rilasciano grandi quantità di gas serra durante la loro combustione, e rapidamente l'atmosfera della terra è stata modificata da questi gas.
Questo cambiamento di composizione e di presenza di gas serra nell'atmosfera è univoco e non aperto a interpretazione. In questo riguardo, gli studi che dimostrano la univocità del fenomeno sono molti. La maggiore fonte di informazioni a riguardo sono i rapporti del IPCC (International Panel for Climate Change) che periodicamente stila dei rapporti scientifici a riguardo. Nel rapporto più recente, quello del 2014 viene scritto che " Il riscaldamento del sistema climatico è inequivocabile, e dagli anni 50 in poi, abbiamo osservato cambiamenti senza precedenti in decenni e millenni. L'atmosfera e l'oceano si sono riscaldati, le quantità di neve e ghiaccio sono diminuite e il livello del mare si è alzato".
Ora procederò ad analizzare perché trovare una vera cooperazione internazionale nei trattati che si occupano di clima è difficile, guardando più attentamente i maggiori ostacoli alla cooperazione.

Capitolo 2 - Ostacoli alla cooperazione internazionale

Il climate del nostro pianeta è un bene comune di cui tutti beneficiano, e come tutti i beni comuni, il controllo di questo pone sempre dei problemi particolari. Nonostante l'incredibile proliferazione di trattati internazionali negli ultimi 50 anni, il sistema di governance ambientale è ancora molto arretrato, spesso proprio a causa di queste difficoltà di cooperazione.

Negli anni, la strategia di usare trattati internazionali per risolvere il problema è stata costantemente considerata la più utile e funzionale, ma molto spesso, questi trattati non hanno soddisfatto le grandi aspettative registrate alla loro vigilia. Spesso questi trattati internazionali si sono dimostrati soltanto delle cornici senza grandi poteri e grandi pretese, come è stato il caso per la UNFCCC e per il Protocollo di Kyoto, ed essendo questi trattati dipendenti dalla volontà dei singoli stati, il fallimento è sembrato inevitabile. Ora procederò ad analizzare i maggiori problemi di cooperazione nei trattati ambientali internazionali.

Problemi come quello del cambiamento climatico possono essere interpretati come una tragedia dei comuni a livello pubblico. Questo termine fu introdotto da Garret Hardin per descrivere una situazione in cui il comportamento razionale di un invidio produce dei risultati irrazionali a livello collettivo, perché i "comuni" sono pubblici, e quindi questi non possono essere controllati in modo efficiente. Nel caso del cambiamento climatico, ogni nazione rilascia una precisa quantità di gas serra nell'atmosfera, la quale è un bene comune. Ogni nazione beneficia del poter emettere una precisa quantità di gas serra nell'atmosfera dovendo però pagare soltanto per un frazione dell' esternalità. Per questo motivo, è razionale per uno stato inquinare fino a quando questo risulta economicamente conveniente, in quanto il costo ambientale viene diviso, mentre i benefici rimangono al singolo stato.

Un altro problema di grande rilevanza riguarda il carattere dei trattati internazionali, ed è quello della non-applicabilità. Dato che nessun stato è pronto a cedere parte della propria sovranità, lo schema base dei trattati internazionali di ogni tipo è quello della partecipazione volontaria al trattato. Questo significa che normalmente i trattati internazionali non contengono meccanismi di applicazione e meccanismi di punizione per chi non rispetta le regole stabilite nel trattato. Questo porta ovviamente ad un problema conosciuto come "free riding". Dal momento che i benefici di una lotta al cambiamento climatico ricadono sul mondo intero e non solo per chi paga per questi benefici, per alcuni stati potrebbe risultare razionale aspettare che siano gli altri a risolvere il problema, approfittando poi dei benefici, senza pero pagarne il costo. I free riders sono particolarmente comuni in trattati che hanno un alto livello di impegno e dei costi di

implementazione molto alta. Il problema dei free riders è spesso un ostacolo molto difficile da superare durante le negoziazioni di trattati internazionali.
Altri problemi di carattere più politico rispetto a quelli precedenti, che ho analizzato nella tesi, sono quelli del problema di valori differenti, per cui molto spesso stati diversi hanno valori molto diversi, alcuni stati non ritengono il cambiamento climatico uno dei loro problemi primari ma preferiscono devolvere risorse a problemi più urgenti come quello della fame. Per risolvere questo problema un concetto molto usato in ambito internazionale è quello di responsabilità comuni ma differenziate, permettendo a stati meno sviluppati di beneficiare di aiuti da parte di stati più sviluppati e di contribuire in modo meno impegnativo. Nonostante questo, il principio ha spesso avuto risultati negativi, come nel caso del Protocollo di Kyoto. Un ennesimo problema politico è dato dal fatto che non ogni nazione pone lo stesso valore nel futuro. Alcuni stati ripongono un valore minore nel futuro e per questo motivo potrebbe non voler spendere ingenti somme oggi per contrastare un problema che si manifesterà tra molti anni.
In fine, un ostacolo molto rilevante alla risoluzione del problema nell'ambito dei trattati internazionali è quello finanziario. Senza fondi sufficienti, nessun trattato può raggiungere i suoi obiettivi, e creare dei flussi di denaro consistenti con l'impegno necessario è molto difficile, in quanto molti stati sono spesso riluttanti a partecipare economicamente.

Capitolo 3 - Trattati Climatici Precedenti agli Accordi di Parigi

Prima di analizzare gli accordi di Parigi, è importante capire come siamo arrivati questo punto e quale è l'attuale stato della governance climatica. I problemi relativi all'ambiente sono stati spesso ignorati nella prima parte del ventesimo secondo, mentre il problema del cambiamento climatico non è stato riconosciuto ufficialmente fino agli anni novanta.
Inizialmente, un consenso scientifico sulle possibili conseguenze dell'aumento della concentrazione di gas serra nell'atmosfera iniziò ad emergere nei primi anni ottanta. Dal 1985 in poi si sono tenute una serie conferenze relative al cambiamento climatico, inizialmente con la partecipazione di una cerchia ristretta di scienziati. La prima vera conferenza internazionale su questo argomento fu quella di Villach nel 1985. Già a Villach, gli scienziati che parteciparono conclusero che c'era un bisogno urgente da parte dei governi di misure per contrastare il cambiamento climatico. La conferenza di Villach fu poi succeduta da una serie di conferenze che hanno contribuito a creare un agenda sull'argomento fino al 1992, come la Conferenza di Toronto e quella di Noordwijk. Grazie a

queste conferenze, il problema arrivò all'attenzione della comunità internazionale che si accordò per incontrarsi durante la Conferenza di Rio del 1992 per creare un accordo effettivo di governance climatica, quella che sarà poi la Convenzione quadro delle Nazioni Unite sui cambiamenti climatici. La Convenzione quadro delle Nazioni Unite sui cambiamenti climatici rappresenta il momento più importante della lotta al cambiamento climatico. Essendo questa una Convenzione quadro, non stabilisce delle misure precise, ma crea una cornice su cui lavorare, stabilendo i principi fondamentali della lotta al cambiamento climatico come quello delle responsabilità comuni ma differenziate. La più grande eredita della Convenzione quadro delle Nazioni Unite sui cambiamenti climatici è quella di aver stabilito incontri regolari delle parti del trattato, chiamate COP (Conference of Parties), che hanno contribuito moltissimo negli anni al futuro sviluppo del trattato. Un accordo fondamentale stipulato in una COP all'interno della UNFCCC è il Protocollo di Kyoto. La UNFCCC crea una cornice che va poi riempita da protocolli successivi, e questo è precisamente l'obiettivo del Protocollo di Kyoto. Questo introduce alcune misure innovative, chiedendo delle percentuali di riduzioni precise delle emissioni, in cui ogni nazione ha un obiettivo prefissato. Inoltre, il trattato introduce un sistema di cap-and-trade, in cui chi riduce le emissioni di più di quanto sia richiesto può vendere dei crediti di emissioni a chi non ha ridotto abbastanza, in questo modo si fa si che gli stati con dei costi di abbattimento più bassi siano quelli che riducano di più le loro emissioni. Il Protocollo di Kyoto divide il suo operato in quattro periodi : 2008-2012, 2012-2016 e 2016-2020.

Nonostante questo contenga delle ottime idee per il futuro, il Protocollo di Kyoto ha sostanzialmente fallito per problemi di ratifica e per problemi di principio. Innanzitutto, il principio di responsabilità comuni ma differenziate ha fatto si che i paesi meno sviluppati non partecipassero, inoltre, la mancata ratifica da parte degli Stati Uniti lo ha reso sostanzialmente ineffettivo in quanto è stato applicato soltanto a pochi stati, sopratutto Europei.

Capitolo 4 - Gli Accordi di Parigi

Gli accordi di Parigi rappresentano il più recente tentativo di risolvere il problema del cambiamento climatico attraverso un accordo internazionale. L'accordo di Parigi è stato stipulato all'interno della Convenzione quadro delle Nazioni Unite sui cambiamenti climatici e ne segue la struttura. Il trattato propone essenzialmente tre obiettivi nell'Articolo 2, cioè mantenere l'aumento delle temperature globali sotto i 2°C in relazioni ai livelli pre industriali, aumentare la capacita di adattamento delle

popolazione degli ecosistemi, e di stabilire dei flussi finanziari coerenti per ridurre le emissioni di gas serra. Quindi, negli accordi di Parigi troviamo concetti già ribaditi in passato come mitigazione e adattamento, accompagnati però dalla novità di misure finanziare chiare.
Per quanto riguarda la mitigazione, come già detto, gli accordi di Parigi prevedono di tenere l'aumento delle temperature sotto i 2°C, inoltre, è scritto nel testo che le emissioni dovrebbero raggiungere il loro massimo nel breve periodo, per poi scendere in modo costante. Nel raggiungere questo obiettivo, gli stati sono lasciati liberi di trovare le loro misure, per questo è stato introdotto il concetto di contribuzioni determinate a livello nazionale, lasciando ogni nazione libera di raggiungere l'obiettivo usando la propria strategia.
Anche il concetto di adattamento è stato rinforzato e approfondito, ammettendo che anche con grandi sforzi non sarebbe possibile risolvere il problema nel breve termine, ed è quindi importante che ecosistemi e persone si adattino a questo cambiamento, cosi da poter resistergli in modo più efficace. Inoltre, mentre nel passato il concetto di adattamento includeva anche quello di perdite e danni, negli accordi di Parigi questa parte è stata separata, e, data la crescente frequenza di calamità naturali, il Meccanismo Internazionale di Varsavia per perdite e danni viene reso permanente.
Come detto in precedenza, gli accordi di Parigi rappresentano un importante passo avanti a livello di flussi finanziari. Mentre nel passato questi erano stati lasciati largamente non regolati, la Dichiarazione di Parigi, un documento separato dal trattato, stabilisce uno schema finanziario in cui almeno cento miliardi ogni anno devono essere sbloccati ed usati per combattere il cambiamento climatico. L'inclusione di questo punto nelle trattative rappresenta un passo avanti molti importante, in quanto il trattato manda un messaggio chiaro a settore pubblico e privato, chiamando per investimenti costanti nel settore delle energie rinnovabili e dell'economia sostenibile.
Il trattato di Parigi rimane fondamentalmente un trattato non vincolante, ma nonostante questo per il momento sembra avere un potenziale maggiore rispetto ai suoi predecessori. Sicuramente gli ostacoli al momento sono molti, come per esempio gli interessi privati. Il settore privato è il bersaglio ultimo di ogni misura di protezione ambientale, e creare un vero cambiamento nel settore energetico potrebbe essere comunque molto complicato. Nonostante gli accordi di Parigi non siano perfetti, questi sono riusciti ad essere più inclusivi degli accordi precedenti, anche usando strategie innovative come quella delle contribuzioni nazionali.

Conclusione

Per concludere, quello che emerge da questa tesi dopo aver analizzato in cosa consiste il cambiamento climatico, i maggiori ostacoli verso una vera cooperazione internazionale e i maggiori trattati esistenti, possiamo dire che gli accordi di Parigi, grazie al loro approccio diverso dal passato potrebbero avere un effetto diverso. Gli accordi di Parigi hanno mostrato una grande convergenza di opinioni, cosa che era mancata in grande misura nelle conferenze precedenti, in quanto molte potenze sono riuscite a risolvere delle differenze nelle loro posizioni. Per esempio, nel recente G20 gli Stati Uniti e la Cina hanno entrambe annunciato la loro ratifica del trattato, che lo renderebbe molto vicino alla sua entrata in vigore. Con la partecipazione di Cina e Stati Uniti, gli accordi di Parigi avrebbero già raggiunto un obiettivo che il Protocollo di Kyoto non ha mai raggiunto. Ovviamente, il documento è migliorabile e c'è ancora molto da fare per il futuro, e non sarà un singolo trattato a cambiare le cose. C'è bisogno di uno sforzo coordinato nel lungo periodo da parte di tutti gli stati del mondo, e quello che possiamo sperare, è che gli accordi di Parigi diventino un catalizzatore per questo impegno. Per questo motivo, dovremmo guardare loro come un primo passo verso la risoluzione del problema, che potrà funzionare soltanto se questo primo passo sarà seguito da una serie di trattati ancora più efficaci e ancora più globali.

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