

Marie Hynne Østvang

The shift between leader and laggard

A comparative analysis of the United States' and the European Union's positions on climate protection

Bachelor's project in European Studies with Political Science

Supervisor: Tobias Etzold

May 2021

Marie Hynne Østvang

The shift between leader and laggard

A comparative analysis of the United States´ and the European Union´ s positions on climate protection

Bachelor's project in European Studies with Political Science
Supervisor: Tobias Etzold
May 2021

Norwegian University of Science and Technology
Faculty of Humanities
Department of Historical Studies



Norwegian University of
Science and Technology

Abstract

The United States (U.S.) was considered to be the leading actor in international environmental politics, in reducing greenhouse gas (GHG) emissions, from the late 1960s until around the 1990s. At that time, the European Union (EU) was lagging behind on all environmental agreements. In the 1990s, the political dynamics shifted when the U.S. started opposing international cooperation on climate protection, and the EU emerged as the new global leader. This thesis aims to lay out theoretical explanations to why there was a shift between the EU and the U.S. as leader and laggard with regards to international efforts to reduce GHG emissions. Through a qualitative comparative analysis, the thesis concludes that R. Daniel Kelemen and David Vogel's regulatory politics approach provides the strongest explanatory power. Specifically, its emphasis on how domestic politics and a nation's competitive position affects an actor's view on climate protection. Lastly, the thesis reviews recent developments in the U.S., like the election of President Joe Biden and also changes in public opinion, and thoughts surrounding how these factors may influence future environmental efforts.

Sammendrag

USA var ansett som å være den ledende aktøren i internasjonal miljøpolitikk, i å redusere utslipp av drivhusgasser, fra rundt 1960-tallet til rundt 1990-tallet. På den tiden hang den Europeiske Union (EU) bak på alle internasjonale miljøavtaler. Denne politiske dynamikken endret seg rundt 1990-tallet. USA begynte å motsette seg alt samarbeid om klimabeskyttelse, og EU sto frem som den nye globale lederen. Denne oppgaven redegjør for teoretiske forklaringer for hvorfor det har vært et skifte mellom EU og USA som leder og «laggard» (ettersleper) når det kommer til internasjonal innsats for å redusere utslipp av drivhusgasser. Gjennom en kvalitativ komparativ analyse konkluderer oppgaven at R. Daniel Kelemen og David Vogel´s «regulatory politics approach» har den sterkeste forklaringskraften. Årsaken til det er at teorien legger vekt på hvordan innenrikspolitikk og et lands konkurranseposisjon påvirker en aktørs syn på klimabeskyttelse. I tillegg til det, vil oppgaven presentere nylige utviklinger i USA, slik som valget av president Joe Biden samt endringer i offentlig mening, og tanker omkring hvordan disse faktorene kan påvirke fremtidig innsats i miljøpolitikken.

Table of Contents

List of Abbreviations	v
1 Introduction	1
2 Methodology	3
3 Theoretical Framework	4
4 Empirical Evidence	6
4.1 Defining terms.....	6
4.2 The Stockholm Declaration	7
4.3 The Montreal Protocol	7
4.4 The Kyoto Protocol	8
4.5 The Paris Agreement	9
4.6 Statistics.....	10
5 Comparative analysis and discussion	13
5.1 Theoretical explanations to the shift	13
5.2 Future environmental efforts	16
6 Conclusion	18
7 Bibliography.....	20

List of Abbreviations

CFCs	Chlorofluorocarbons
CH ₄	Methane
CO ₂	Carbon dioxide
EC	European Community
EPA	United States Environmental Protection Agency
EU	European Union
GHG	Greenhouse gasses
NAFTA	North American Free Trade Agreement
N _x O	Nitrous oxides
O ₃	Ozone
UK	United Kingdom
UNFCCC	United Nations Framework Convention on Climate Change
U.S.	United States
WTO	World Trade Organization

1 Introduction

Policymakers were slow to acknowledge the human aspect of climate change, but when new discoveries emerged during the 1960s, they were forced to involve the environment in their politics (Carter, 2018, p. 180). The problem with climate change, is that it does not respect national boundaries. Therefore, one can only attempt to solve these issues through international environmental cooperation (Carter, 2018, p. 182).

The United States (U.S.) is an established superpower and has been so for many years. It is one of the most, if not the most powerful country in the world. For that reason, they are the natural candidate for being the leading actor in taking international environmental action. During the late 1960s and early 1970s, the U.S. emerged as a pioneer of environmental protection (Carter, 2018, p. 132). At the same time, the member states of the European Union (EU)¹ were lagging behind on all environmental agreements and discussions (Kelemen & Vogel, 2009, p. 427). The EU was barely keeping up, and U.S. leadership was absolutely crucial (Kelemen & Vogel, 2009, p. 427). The political dynamics changed during the 1990s however, when the U.S. started opposing environmental agreements and the EU stepped forward as the new global leader (Kelemen & Vogel, 2009, p. 427). Now, the EU are considered to have the most ambitious and comprehensive climate protection legislation in the world (Carter, 2018, p. 291).

Concerns surrounding environmental issues are now a part of everyday life, and cannot be ignored (Connelly & Smith, 2003, p. 2). Because of the complexity and interconnectedness of environmental issues, it is vital to specify which area that will be addressed. Some of the topics within environmental politics includes waste, deforestation, water pollution, acid rain, ice melting, air pollution etc. (Ecavo, n.d.). This thesis will focus on emission of greenhouse gasses (GHG).

The thesis will answer to the following research question: *How can the shift between the U.S. and the EU as leader and laggard with regards to international efforts to reduce greenhouse gas emissions be explained?* This thesis will review empirical and theoretical evidence in an attempt to understand what caused this shift. In order to answer this research question, the thesis will first outline the methodology, followed by the theoretical framework consisting of four theoretical approaches: 1) Combination of postmaterialist values and wealth, 2) support for environmental protection is socially constructed by the world society, 3) the EUs embrace of multilateralism and the U.S. growing unilateralism, and 4) the regulatory politics approach. In a next step, the thesis will present the empirical evidence, starting with a short section of defining terms, followed by a historical perspective that gives evidence to the shift. In this section, the thesis will mainly focus on the following four environmental agreements on GHG emission reduction: The Stockholm Declaration, the Montreal Protocol, the Kyoto Protocol and the Paris Agreement. Additionally, the thesis will present some statistical evidence about GHG emissions in the U.S. and in the EU. In the analysis and discussion, the thesis will

¹ The EU went through major political changes between the 1960s until today. The union was called the European Community (EC) from 1967 and then renamed as the European Union (EU) in 1992 (European Parliament, n.d.). To simplify because of space limitations, the thesis will refer only to the EU.

try to explain the shift from the perspectives of the four aforementioned theoretical approaches. Lastly, the thesis will look at recent statistics and political happenings in order to give some insight on possible future environmental efforts.

The thesis will conclude that both the historical perspectives and the statistical evidence support the statement that the U.S. and the EU have in fact traded places as leader and laggard when it comes to international efforts in reducing GHG emissions in environmental politics. The thesis also finds that it is the regulatory politics approach that has the strongest explanatory power of the theoretical approaches. Lastly, the thesis concludes that there has been a change in American views and policies regarding climate protection in recent years.

This thesis will in some ways be based on R. Daniel Kelemen and David Vogel's article "Trading Places: The Role of the United States and the European Union in International Environmental Politics". In the article, Kelemen and Vogel explain the shift between the U.S. and the EU from different theoretical approaches, mainly their own approach: a regulatory politics approach (Kelemen & Vogel, 2009, p. 427). So, although there is some research on the topic already, it is necessary to do further research since the article is from 2009, and there have been several political happenings and other developments since then. Additionally, Kelemen and Vogel focused on environmental politics in general, while this thesis focuses on GHG emissions. Other academic literature, like journal articles and books, will be reviewed throughout the thesis.

Before moving on to the next section of the thesis, it is necessary to clarify the usage of some terms. The definition and difference between environmental protection and climate protection will be presented in the empirical evidence when defining terms. The important note is that since the thesis builds on many sources, both terms falls under climate protection.

2 Methodology

This thesis builds on a qualitative method, and the research design is a comparative analysis. The reason for this research design is that the thesis looks at explanations to why both the EU and the U.S. changed their politics and their role internationally by comparing the two. If one was to explore the change of policies in only the EU, there would be a lack in explanations to what drove international environmental politics before 1990, since the EU first stepped forward as an important actor only after that. By looking at both the EU and the U.S., the thesis aims at providing a more holistic picture of the dynamics in international environmental politics.

When looking at the environmental politics of the two actors, the thesis samples information from mostly academic journal articles and books. The thesis also uses official websites of various institutions such as the White House and the European Commission. Another important part of the thesis is the empirical data. When presenting these data, the thesis builds on two websites, one providing data about GHG emissions in the U.S. and one about emissions in the EU. The website about the U.S. presents official data provided by the United States Environmental Protection Agency (EPA) and includes data about the total emissions of GHG from 1990 to 2018 (EPA, n.d. a). The website with data about the EU is provided by Eurostat, EUs official statistical office, and shows data about total emissions of GHG from 2009 to 2018 (Eurostat, 2021a).

In order to answer the research question, the thesis bases itself on four theoretical approaches. The theories' main arguments will be presented, and then in the comparative analysis and discussion, the thesis will test them to see if they can be applied to the empirical evidence.

3 Theoretical Framework

After years of efforts to try and explain the national responses to international environmental agreements, the following four theoretical approaches have risen and gained both support and criticism (Kelemen & Vogel, 2009, p. 433).

The first theoretical approach is about a combination of postmaterialist values and wealth. The idea is that the increase of a nation's wealth will automatically inspire and encourage the spread of postmaterialist values. This again will lead to higher public support for the environmental protection cause (Kelemen and Vogel, 2009, p. 433). Postmaterialist values can be defined as instead of prioritising values that emphasizes physical aspects like economy and safety, they focus on 'life values' like self-expression (Knutsen, 1990, p. 85). An analysis done in 2000 found that there is a correlation between wealth and support for environmental or climate protection (Franzen, 2003, p. 297).

The second approach is presented by sociologists, and they argue that the support for environmental protection and related agreements in a nation is socially constructed by the world society. This means that states wish to behave in a way that is expected of them, and the expectation is to sign and ratify treaties and agreements. Some researchers have found that nations that ratify the most environmental agreements are the ones with the tightest link and cooperation to the world society (Kelemen & Vogel, 2009, p. 434). The argument is, according to Meyer, Frank, Hironaka, Schofer and Tuma, that national preferences in environmental politics are not determined by domestic interests but are shaped by a 'world environmental regime' (1997).

The third approach is about how the EUs and the U.S. position on environmental protection is connected to the EU's embrace of multilateralism and the fact that the U.S. adheres increasingly to unilateralism (Kelemen & Vogel, 2009, p. 435). After many years of U.S. leadership in building an international order surrounding multilateral agreements, it is apparent that American foreign policy has a growing unilateral tendency (Ikenberry, 2003, p. 533). There is plenty of evidence that the U.S. since the end of the Cold War have become less involved in and supportive of multilateral treaties, and these will be presented further in the comparative analysis and discussion (Kelemen & Vogel, 2009, p. 435).

Kelemen and Vogel offer a fourth theoretical approach that they argue has more explanatory power: the regulatory politics approach. This theory focuses on that "[...] a state's [...] support for international environmental agreements is a function of the relative political strength of environmental advocates and associated changes in the economic interests of domestic producers" (Kelemen & Vogel, 2009, p. 437). They focus on the interaction between international regulatory competition and domestic politics. Their argument is that domestic politics as well as the way international agreements affect the competitive position of the domestic producers play crucial roles in shaping nations positions on international environmental agreements (Kelemen & Vogel, 2009, p. 438 & 444). When it comes to domestic politics, if green pressure groups have strong political influence, then the support for environmental agreements are bigger and standards are stricter. In contrast, if the green parties and pressure groups have less

influence, then the domestic political support for international environmental agreements weakens (Kelemen & Vogel, 2009, p. 451). There is also a strong connection between the two components in this approach. The competitive impact is dependent on the status of the domestic environmental politics in a country. So, domestic politics influence the economic interests of businesses (Kelemen & Vogel, 2009, p. 437). Therefore, as Kelemen and Vogel (2009, p. 444) describe it:

The more powerful the influence of domestic green pressure groups or parties, the more stringent domestic regulatory standards are likely to become, and therefore the more likely domestic firms will support comparable international standards to create a level playing field.

Nations or actors may act in two different manners. They can act proactively and push for international agreements that would impose strict standards on their foreign competitors, because they recognize that the same strict standards are inevitably being implemented domestically. Or they can act reactively, in which case they try to impose the same standards to other jurisdictions that they have already adopted in their home jurisdiction (Kelemen & Vogel, 2009, p. 444). So, when the domestic regulatory standards are weak, they are more likely to be against any new international agreements. In contrast, if the standards are strict, they are more likely to support relevant international agreements (Kelemen & Vogel, 2009, p. 444).

In the comparative analysis and discussion, the thesis will try to explain the shift between the U.S. and the EU as leader and laggard from these four theoretical views. Before moving on however, it is necessary to define some relevant terms in order to fully grasp the vast themes that is environmental politics and climate protection.

4 Empirical Evidence

In this section of the thesis, the following relevant terms will be defined: greenhouse effect, greenhouse gasses, climate change, global warming, environmental agreements, environmental protection and climate protection. Moving on, four agreements, the Stockholm Declaration, the Montreal Protocol, the Kyoto Protocol and the Paris Agreement, will be presented chronologically, and the EUs and the U.S. position on them will be explained. In order to state that there has been a shift, it is necessary to present some statistics that shows both actors' GHG emissions throughout the years. The reason is that even though an actor is politically involved in combating climate change, they cannot be considered a leading actor unless they themselves cut their emissions.

4.1 Defining terms

In order to fully grasp the concept of climate change and the political ways of dealing with it, it is important to have an understanding of the greenhouse gasses and the greenhouse effect. To begin, the greenhouse effect is crucial in order for life on earth to even exist (Cassia et al., 2018, p. 1). The greenhouse effect, as Cassia, Nocioni, Correa-Aragunde and Lamattina describe it, happens in the lower atmosphere layer around the globe, known as the troposphere. The radiation from the sun is trapped in the troposphere and as a result of that, the planet is warmed up. (Cassia et al., 2018, p. 2). As of 2018, the average temperature on the planet was 14°C, but without the greenhouse effect, the temperature would be as low as around -19°C, which would make it close to impossible for any plants to survive (Cassia et al., 2018, p. 1).

The gasses that trap the sun radiation in the troposphere are called the greenhouse gasses, or GHG (EPA, 2020). The main gasses are methane (CH₄), water vapor, ozone (O₃), nitrous oxides (N_xO) and carbon dioxide (CO₂) (Cassia et al., 2018, p. 2). Most of the emission comes from industry and agriculture, and since 1750, 50% of the emission of CO₂ has happened since the 1970s (Cassia et al., 2020, p. 2). The increase of GHG after the industrial period, have led to extreme climate changes and issues like heat, droughts, floods, etc. (Cassia et al., 2020, p. 1). GHG can stay in the atmosphere up to thousands of years, and the different gasses get mixed together. This is the reason why the amount of GHG that you measure one place is about the same around the entire globe, no matter where on earth the emission is highest (EPA, 2020).

From the discussion of the increase in GHG comes the debate about climate change and global warming. The two terms are often used interchangeably, but they have two very different meanings. Climate change can be defined as "[...] a long-term change in the average weather patterns that have come to define Earth's local, regional and global climates" (NASA Global Climate Change, 2021). Global warming on the other hand, can be defined as;

[...] the long-term heating of Earth's climate system observed since the pre-industrial period (between 1850 and 1900) due to human activities, primarily fossil fuel burning, which increases heat-trapping greenhouse gas levels in Earth's atmosphere (NASA Global Climate Change, 2021).

So, climate change refers to the warming of the planet produced both by natural causes and by humans, while global warming only refers to the latter. In order to prevent further global warming, the world's governments have, especially since the 1970s, developed, signed and ratified several environmental agreements (Kelemen & Vogel, 2010, p. 429).

Because GHG get mixed together, environmental problems can only be addressed and tackled through international cooperation, through environmental agreements (European Commission, n.d.). An international environmental agreement is according to the School of International Service "[...] signed treaties that regulate human impact on the environment in an effort to protect it" (2018). These agreements have both economic and political impacts on a country. In order for a country to be considered a participant of an agreement, it needs to be both signed and ratified. Two examples of international environmental agreements are the Kyoto Protocol and the Paris Agreement (School of International Service, 2018).

Lastly, it's important to distinguish between environmental protection and climate protection. Climate can be defined as the average weather in an area over a time period (Climateurope, n.d.). Climate change, as mentioned, is defined as any changes in the weather, either its natural or because of humans. The environment, however, is everything around us. Humans impact the physical environment through many ways, including deforestation, overpopulation, burning fossil fuels, pollution and climate change (National Geographic, n.d.) So, environmental protection refers to many different subjects, while climate protection only refers to the climate as a part of the environment. Since the thesis is based on many different sources, it will at times use the term environmental protection, but will only focus on climate protection.

In conclusion, as the topic of environmental politics is large, it has been necessary to narrow it down and define the most relevant terms for this thesis. The terms that will be used the most throughout the thesis is GHG, climate change, international environmental agreements and climate protection.

4.2 The Stockholm Declaration

The U.S. played a leadership role when preparing for the United Nations Conference on the Human Environment in Stockholm in 1972 (Kelemen & Vogel, 2009, p. 428). The 1972 Conference was the first meeting with the goal of making the protection of the climate a major issue on the international stage (United Nations, n.d.). It was an important milestone in growing awareness for climate protection (Carter, 2018, p. 248). The main thought that triggered the Convention was that many of the changes of the climate was caused by humans and had become an urgent issue for all countries in the world. The consensus was that these problems had to be solved through international cooperation (United Nations Audiovisual Library of International Law, 2012, p. 1). After some years of preparations and meetings, the Declaration on the Human Environment was adopted on the 16th of June 1972 (United Nations Audiovisual Library of International Law, 2012, p. 2-3). After some time, the EU also signed the declaration (Kelemen & Vogel, 2009, p. 429).

4.3 The Montreal Protocol

Moving on, in 1974 a couple of scientists suggested that high levels of chlorofluorocarbons (CFCs) (organic compounds composed of chlorine, carbon and

fluorine) would destroy the ozone shield (Beron, Murdoch & Vijverberg, 2003, p. 287). The U.S. saw these recent findings as an imminent threat to the environment, and quickly started to criticise the abundant use of CFCs. They banned the use of CFC propellants in 1978 and started major scientific efforts to measure the ozone shield, in order to get a better understanding of the problem (Beron, Murdoch & Vijverberg, 2003, p. 287). These efforts eventually lead to 36 nations signing the Montreal Protocol in September 1987. The Protocol set limits for emissions (Beron, Murdoch & Vijverberg, 2003, p. 287). The consumption and production of CFCs have been controlled since the Montreal Protocol, because of the early efforts by the U.S. (Hu et al., 2017, p. 8075).

Because of their early efforts in combating climate change, U.S. leadership in the establishment of environmental agreements was crucial during the 1970s (Kelemen & Vogel, 2009, p. 427). Still, the country's two main parties, The Democrats and The Republicans, stood on opposite sides during the environmental debate. The Republican party has been actively trying to oppose any efforts to improve climate protection, while the Democratic party has been more inclined to sign agreements and cut emissions (Carter, 2018, p. 132). In the late 1960s and the 1970s, the U.S. issued legislation addressing pollution and established itself as a pioneer of climate protection (Carter, 2018, p. 132). In the 1970s, environmentalists had considerable political power, and the U.S. wanted to spread the same strict standards to other countries (Kelemen & Vogel, 2009, p. 431). As a consequence, they took a leadership role in environmental politics, and tried to lead by example (Kelemen & Vogel, 2009, p. 431).

In Europe, on the other hand, environmentalists did not have the same political power as in the U.S. Regulations were less strict than in the U.S. most of the time (Kelemen & Vogel, 2009, p. 432). Even though the EU member states eventually signed the treaties and agreements that were on the environmental agenda, it was a slow process and sometimes they did work to weaken the agreements (Kelemen & Vogel, 2009, p. 432). While the U.S., in cooperation with some other countries, fought to ban nonessential uses of CFCs, the EU strongly resisted the actions (Carter, 2018, p. 253).

Looking back, something happened during the negotiations for the Montreal Protocol, the EU's approach to climate protection changed. They shifted from being resistant to regulations and cuts in production, to accepting a proposal to reduce their production of CFC by 50% of the levels they had in 1986 by 1999 (Carter, 2018, p. 253). There is a widely spread consensus that it is one of the most successful environmental agreements of all time (Carter, 2018, p. 255).

4.4 The Kyoto Protocol

The trend of the U.S. being the leading actor in environmental politics and climate protection shifted around the 1990s (Kelemen & Vogel, 2009, p. 427). There is evidence that indicates that the U.S. opposed more and more agreements, and that the EU emerged as a global environmental leader, promoting more and more agreements (Kelemen & Vogel, 2009, p. 427). From 1989 to 2001 the EU signed and ratified twelve environmental agreements, while the U.S. only ratified two agreements (Kelemen & Vogel, 2009, p. 428).

One area where you can truly see that the U.S. no longer had an interest in having the leading role, is the negotiations and ratifications of the Kyoto Protocol (Hovi, Sprinz & Bang, 2010, p. 129). According to the United Nations Framework Convention on Climate Change (UNFCCC), the Kyoto Protocol commits "[...] industrialized countries and

economies in transition to limit and reduce greenhouse gases (GHG) emissions in accordance with agreed individual targets” (UNFCCC, n.d. a). The Protocol was adopted in December 1997 but did not enter into force before February 2005 (UNFCCC, n.d. a).

While the Montreal Protocol represented a shift in the EUs environmental politics and efforts, the Kyoto Protocol meant a major shift in American environmental politics. Even though President Bill Clinton signed the Protocol in 1998, President George W. Bush abandoned it in 2001 (Lisowski, 2002, p. 101). The Bush administration said that they were opposed to any legally binding restrictions on carbon emissions (Kelemen & Vogel, 2009, p. 441). The EU, on the other hand, was more than willing to ratify the Protocol without U.S. participation. The former EU chief negotiator for the Protocol stated in 2001: “To bring the US on board, we first needed a boat. Now we have a boat” (Lisowski, 2002, p. 116). The statement gives an impression that the negotiators gave the U.S. a chance to come back to the negotiation table (Lisowski, 2002, p. 116). To this day, the U.S. is still not a part of the Kyoto Protocol (UNFCCC, n.d. b).

At the time, the U.S. was responsible for around 25% of global GHG emissions, so when they withdrew from the Protocol, it threatened to destroy it all together since not enough countries had ratified it (Carter, 2018, p. 257). In order to keep the Kyoto Protocol alive, the EU agreed to drop its opposition to Russian membership in the World Trade Organization (WTO) in exchange for Russia ratifying the agreement (Carter, 2018, p. 257). The Kyoto Protocol contributed to the development of many new strict climate policies over the world (Carter, 2018, p. 257-258). The EU was a major driving force behind the success of the Kyoto Protocol (Oberthür & Groen, 2017, p. 1).

As Groenleer and Van Schaik (2007, p. 971) stated in their article, the EU has shown a high degree of international actorness when it comes to the case of the Kyoto Protocol. The EUs position in working for climate protection is rooted, among other reasons, in the union’s desire to claim a leadership role in this policy area (Damro & Méndez, 2003, p. 79). The process of policy innovation in the EU continued after the Protocol, but in the U.S. the process stalled (Damro & Méndez, 2003, p. 90).

4.5 The Paris Agreement

The Paris Agreement can be considered a huge success and an inclusive successor to the Kyoto Protocol (Carter, 2018, p. 262). The Paris Agreement is a legally binding international treaty, and was adopted by 196 parties in 2015, and came into force in 2016. The treaty’s goal is to limit global warming to below 2, ideally 1.5 degrees Celsius, when comparing to the pre-industrial levels (UNFCCC, n.d. c). UNFCCC states that in order to achieve this particular goal “[...] countries aim to reach global peaking of greenhouse gas emissions as soon as possible to achieve a climate neutral world by mid-century” (UNFCCC, n.d. c). The agreement provides both technical and financial support for several developing countries who are not capable of making the changes on their own (UNFCCC, n.d. c).

The EU was one of the major negotiating groups for the Paris Agreement (Carter, 2018, p. 263). There is no doubt that the overall GHG emissions in Europe have fallen significantly (Carter, 2018, p. 270). The reason for the high goal achievement of the Paris Agreement is, among some other reasons, due to the EU and their ‘mediator’ role (Oberthür & Groen, 2017, p. 6). A ‘mediator’ is according to Neil Carter (2018, p. 294) a combination of mediator and leader. So, when it comes to climate protection and

reduction of GHG emissions, the EU has stepped forward as a superpower in climate protection (Oberthür & Groen, 2017, p. 6).

As previously mentioned, the U.S. as an established superpower is the natural candidate for being the leading actor. Even though this was the case before the 1990s, the politics after that time-period shows that they have more than often obstructed international cooperation on climate protection. This was especially highlighted in 2017, when former president Donald Trump withdrew the U.S. from the Paris Agreement (Carter, 2018, p. 264). Trump took the opposite position from his predecessor, President Barack Obama, who consistently tried to use the existing legislation to impose stricter GHG emissions standards. The Supreme Court halted the implementation of many of his policies though (Carter, 2018, p. 133). During Obamas presidential term, Trump announced to make several changes in the environmental policy area when he became president (Carter, 2018, p. 133-134).

Trump kept his promise, and his decision to withdraw from the Paris Agreement angered the heads of state all across the globe. French president Emmanuel Macron even stated that President Trump had made a huge mistake for his people, his country and for the future of the planet (Hook & Spanier, 2019, p. 366-367). There was no changing Trumps mind though, as he on several occasions stated that he did not believe that climate change was real and dismissed it as a hoax by the Chinese (Carter, 2018, p. 137). He claimed that the restrictions from all of the agreements was an unfair burden on the American coal industry and announced that 'the war on coal is over' (Carter, 2018, p. 134). Therefore, the Trump administration called for several steep staff and budget cuts in EPA (Hook & Spanier, 2019, p. 367).

It is clear that there has in fact been a shift between leader and laggard when it comes to climate protection. This is only the political actions though, and it is important to include some empirical data about both the EUs and the U.S. GHG emissions in order for the statement to be considered true.

4.6 Statistics

Before comparing GHG emissions, there are some factors worth bearing in mind. First, there is a difference between their geographic area, which may be an explanatory factor in eventual differences in emissions. The U.S. has a land area of about 9,147,420km² and the EU has a land area of about 3,999,622km² (The World Bank, n.d.).

Second, there is also a difference in population. As of Monday, April 26, 2021 the population in the U.S. was 332 584 983 (Worldometer, 2021). When looking at the EUs population, it is important to take into account that the United Kingdom (UK) as of 2020 was no longer a part of the EU. EUs population, including the UK, was as of 2019 513 093 556 people. The EUs population, excluding the UK, was at 447 319 916 people in 2020 (Eurostat, 2021b).

The U.S. has a larger geographical area and the EU has a larger population. It is important to note that both of these factors can have explanatory powers to the difference in GHG emissions between the U.S. and the EU, but the thesis will further on not take these into account.

In order to compare the U.S. and the EUs data, it's necessary to divide the U.S. data in two, from 1990-2009 and from 2009-2018. The reason for this is because the data used in this thesis about EUs emissions begins in 2009, so when doing a comparison, it needs

to cover the same period. That does not mean that the data from 1990-2009 are not worth looking at. It is useful with regards to back up the statement that the U.S. political efforts in climate protection went down after 1990. According to EPA, the U.S. total GHG emission increased with 5,1% from 1990-2009 (see Figure 1) (EPA, n.d. a). In 1990 the total GHG emission was at about 6,442.65 million metric tons, and in 2009 the emission was about 6,772.00 million metric tons (EPA, n.d. a). These numbers are consistent with how the political perspective describes that the U.S. efforts in climate protection decreased after 1990. Moving on, the total GHG emission in the U.S. from 2009 to 2018 tells another story. In this 9-year period, total GHG emission decreased with 1,5% (See figure 2). As mentioned, the total emission in 2009 was about 6,772.00 million metric tons and in 2018 the total was about 6,671,45 million metric tons (EPA, n.d. a).

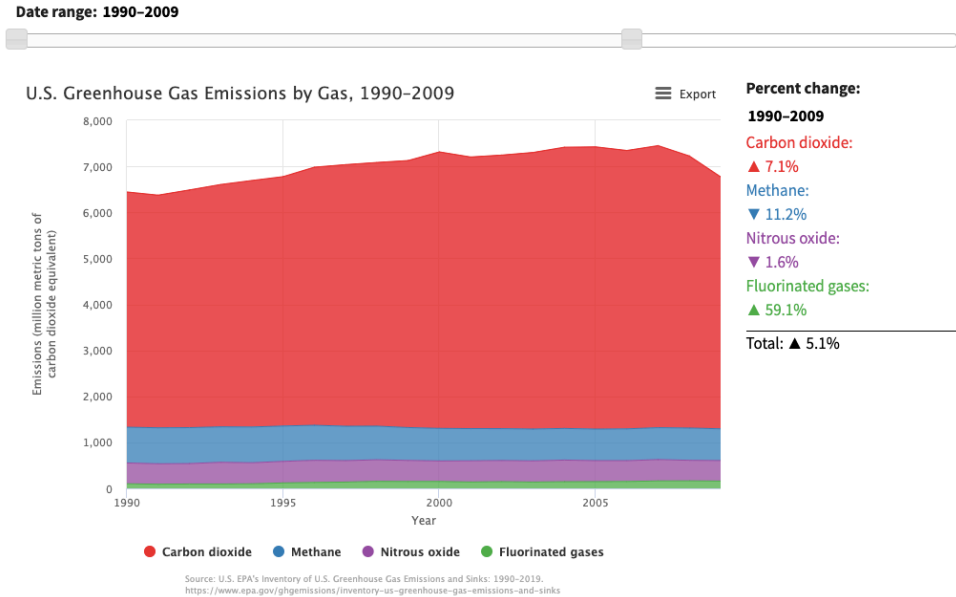


Figure 1: GHG emissions in the U.S. from 1990-2009 (EPA, n.d. a).

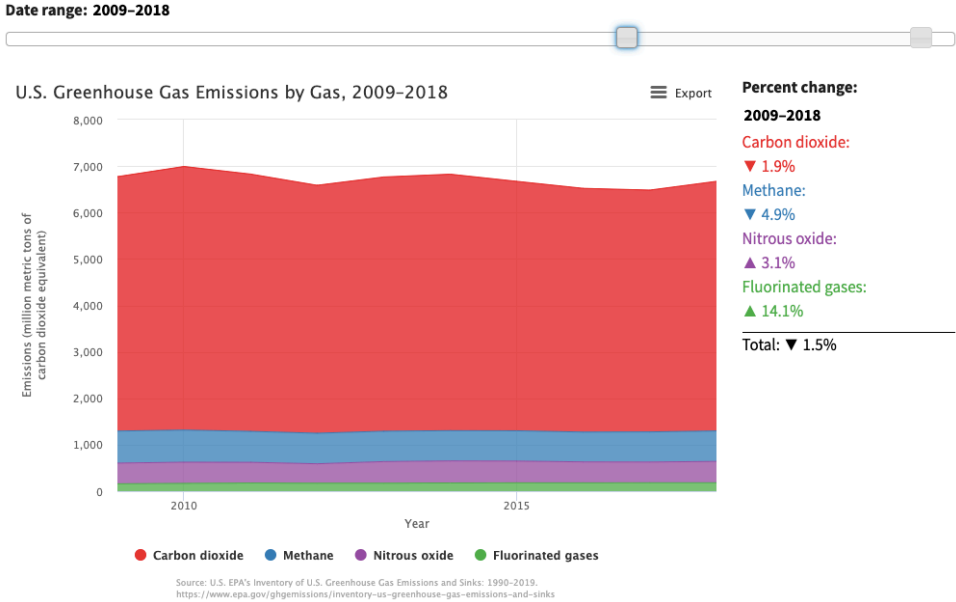


Figure 2: GHG emissions in the U.S. from 2009-2018 (EPA, n.d. a).

The EU also have a decrease in their total GHG emission from 2009 to 2018. In 2009, the EUs emission was about 4,825.27 and in 2018, it was about 4,391.84 (See figures 3 and 4). That gives a total decrease of 0,433.43 million tonnes (Eurostat, 2021a). Therefore, as the numbers will confirm, the EU have statistically made a bigger effort than the U.S. when it comes to decrease in GHG emissions. This statement cannot alone be supported by numbers, because there may be other factors that come into play; for example, a difference in costs of emissions decrease.

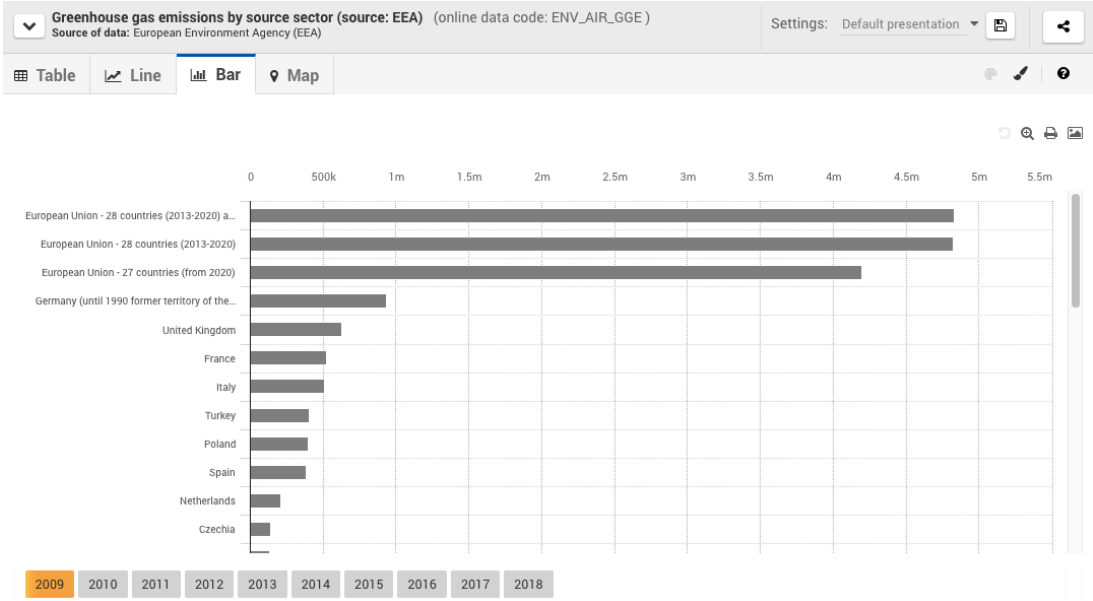


Figure 3: GHG emissions in the EU (European Union – 28 countries (2013-2020)) in 2009 (Eurostat a, 2021).

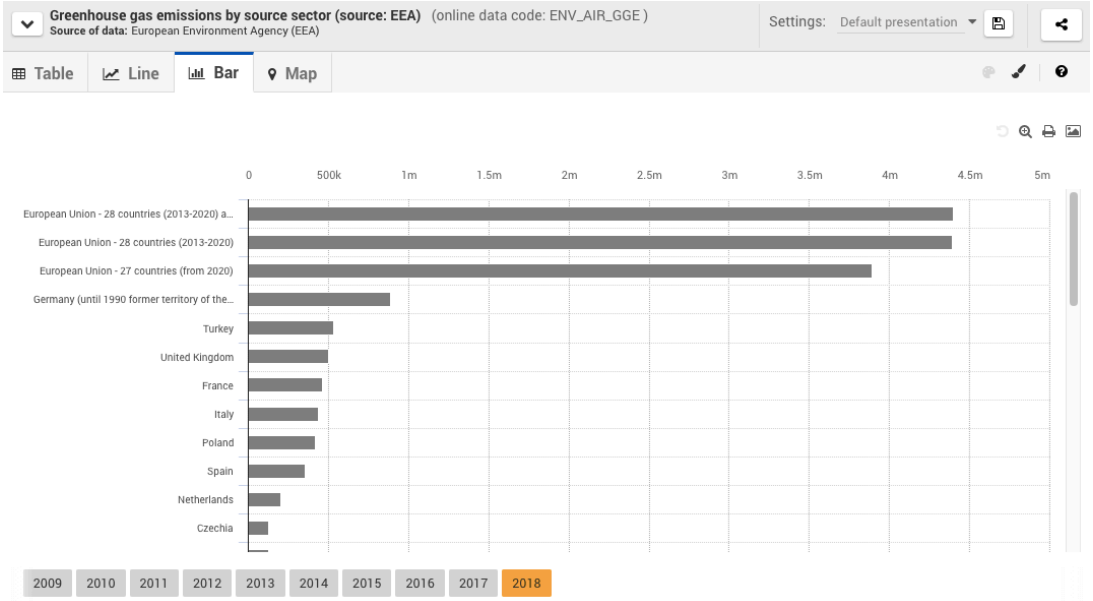


Figure 3: GHG emissions in the EU (European Union – 28 countries (2013-2020)) in 2018 (Eurostat a, 2021).

5 Comparative analysis and discussion

5.1 Theoretical explanations to the shift

The first theoretical approach is the one that emphasized a combination of postmaterialist values and wealth. (Kelemen & Vogel, 2009, p. 433). A study posted by Steven P. Recchia in 2002 state that there is indeed a connection between postmaterialist values and support for environmental protection (Recchia, 2002, p. 476). J. Timmons Roberts posted the results of a cross-national study in 1996, which stated that wealthier countries ratify more treaties than poorer countries (Kelemen & Vogel, 2009, p. 433).

Even though there is evidence that the theory's main arguments can hold ground, it is not however that explanatory of the shift of positions between the U.S. and the EU. The U.S. economic growth surpassed the EUs growth in the 1980s and pulled even further ahead during the 1990s (Kelemen & Vogel, 2009, p. 433). Also, when looking at the other part of the theory's argument, the U.S. gained a higher level of postmaterialist values than most of the EU countries during the early 1990s. This is the same period that the U.S. surrendered their leadership role to the EU (Kelemen & Vogel, 2009, p. 433-434). So, the wealth and postmaterialism argument would therefore conclude that the U.S. should have remained the leader in environmental politics (Kelemen & Vogel, 2009, p. 433). Still, high levels of postmaterialist values and a solid economic growth clearly did not lead to stronger support for environmental agreements in the U.S.

The second theoretical approach argues as mentioned that support for environmental protection is socially constructed, and states behave in the way that is expected of them. Frank (1999, p. 534) states that countries that are more globally embedded in the world society, also ratify significantly more environmental agreements than those countries with weaker linkages to world society. So, similar to the previous theoretical approach, data confirm that the theory's arguments can hold ground. Still, the theory has trouble explaining the shift. The problem is that the U.S. and the EU are both deeply embedded in the world society, so the theory cannot differentiate between the two (Kelemen & Vogel, 2009, p. 434).

As discussed, the third theoretical approach argues that the EUs and the U.S. positions on environmental issues are determined on the fact that the U.S. tend to adhere mostly to unilateral agreements and the EU are embracing more multilateral agreements (Kelemen & Vogel, 2009, p. 435). The U.S. opposition to recent environmental agreements, like the Kyoto Protocol and the Paris Agreement, can be explained from this perspective. These are incidents that show how the U.S., in the post-cold war area, has been unwilling to support several multilateral agreements. During the Cold War, the U.S. was involved in many multilateral agreements, but in the last decades they have pulled away from signing and/or ratifying multilateral agreements (Kelemen & Vogel, 2009, p. 435).

There is one exception to this trend though, which is the U.S. involvement in trade liberalization. In that area they have indeed signed and ratified several multilateral agreements, for example the WTO and the North American Free Trade Agreement

(NAFTA) (Kelemen & Vogel, 2009, p. 435). That argument alone is enough to doubt the theory's explanatory power, however there is another factor adds to that. If one were to assume that U.S. opposition to multilateral agreements is explained by a growing adherence to unilateral agreements, one would expect them to pursue their environmental goals through unilateral agreements instead (Kelemen & Vogel, 2009, p. 435-436). Even though there are a few incidents where the U.S. took unilateral steps to expand climate protection, the efforts have been highly limited and in no way enough for the theory to be explanatory. Growing unilateralism may explain the U.S. choice not to follow the EUs lead by involving themselves in multilateral agreements, but it is not in itself enough to explain their environmental policy in recent history (Kelemen & Vogel, 2009, p. 436).

It is on the other hand plausible that the EUs commitment to climate protection can be rooted in the embrace of multilateral agreements (Kelemen & Vogel, 2009, p. 436). Since the 1990s the EU have increasingly supported multilateral environmental agreements. Sibylle Scheipers and Daniela Sicurelli (2007, p. 447-450) state in their article from 2007 that the EU indeed has a multilateral strategy towards tackling climate change, and this was also the case during the negotiations ahead of the Kyoto Protocol. (Scheipers & Sicurelli, 2007, p. 448). Still, even though the theory has some explanatory power, it does not account for other factors such as economic interests (Kelemen & Vogel, 2009, p. 437).

Kelemen and Vogel presented a fourth theoretical approach: a regulatory politics approach (Kelemen & Vogel, 2009, p. 437). As explained earlier, the theory focuses on how domestic politics and how international agreements affect the competitive position of domestic producers shape the views on environmental agreements (Kelemen & Vogel, 2009, p. 438 & 444).

Beginning with domestic politics, there were several factors that contributed to the U.S. becoming the leading actor in environmental politics. First, advocates of environmental regulation had considerable political power from the late 1960s through around the 1990s in the U.S. Second, the two main parties, the Democrats and the Republicans, were actually competing for the 'environmental vote' during the early 1970s. Third, public support for climate protection increased during the 1980s. (Kelemen & Vogel, 2009, p. 438). All these factors within domestic politics are consistent with the U.S. position on climate protection, and several important regulations were adopted during the 1970s-1990s period. The most important one was the first ever declaration on the climate: The Declaration on the Human Environment of 1972 (United Nations Audiovisual Library of International Law, 2012, p. 2-3). Even the American pressure for international restrictions on CFCs, that eventually led to the Montreal Protocol, was rooted in EPAs response to strong domestic concerns about ozone depletion (Kelemen & Vogel, 2009, p. 239).

After 1990 though, both international and domestic environmental politics in the U.S. began to shift. There was strong criticism from the business community, and a lack of support from the environmentalists. The political influence of environmental lobbies was greatly weakened, the Republicans emerged as the 'anti-environmental party', and public pressure and concern for climate protection decreased (Kelemen & Vogel, 2009, p. 439-441). These factors within domestic politics are also consistent with the U.S. position after 1990, as we see that they started to not be as involved in climate protection (Kelemen & Vogel, 2009, p. 439-441). Former President Trumps withdrawal from the

Paris Agreement can also be explained by factors from within domestic politics. Firstly, Donald Trump belong to the Republicans, and they were as mention by that period considered to be the `anti-environmental party`. Also, public support for climate protection were still low during the negotiations for the Paris Agreement (Carter, 2018, p. 135-136).

In Europe on the other hand, the matter of domestic politics was completely opposite from the U.S. While the U.S. during the early 1970s had environmentalists that wielded substantial political power, environmentalists in Europe were nowhere close to that amount of influence (Kelemen & Vogel, 2009, p. 431-432). During this time, regulations in the EU member states were far less strict than they were in the U.S. (Vogel, 2003, p. 557). Even though all of the treaties and agreements in this period eventually was signed and ratified, it was a slow process (Kelemen & Vogel, 2009, p. 432).

Around 1990 however, the domestic politics within the EU started to change. Environmentalists on the continent started gaining more influence, green parties started to emerge, the revelations regarding the `hole` in the ozone layer in the mid-1980s heightened the attention about environmental issues, and climate change was among the publics top-ranking political concerns by the late 1980s (Kelemen & Vogel, 2009, p. 432 & 442). In the same period when the EUs domestic politics started to change, there was also a clear shift in their position on environmental politics. This was made clear during the negotiations and ratification of the Montreal Protocol (Carter, 2018, p. 253). Around the turn of the millennium, the environment was one of the EUs most important political issues. Therefore, it is not surprising that the Europeans played such a big part in negotiating both the Kyoto Protocol and the Paris Agreement (Groenleer & Van Schaik, 2007, p. 971; Carter, 2018, p. 263).

Moving on, support for environmental agreements are dependent on how these affect the competitive interests of domestic firms, and as mentioned, one then can act in two manners: reactively or proactively (Kelemen & Vogel, 2009, p. 444). Starting with the U.S., they had the world's strictest regulations from the 1970s and until the 1990s (Kelemen & Vogel, 2009, p. 444). The Nixon Administration had concerns that their strict standards would put the American industry at a disadvantage compared to foreign competitors, and they had strong incentives for other countries to adopt the same standards in order to level the playing field (Kelemen & Vogel, 2009, p. 444-445). So, they acted reactively and tried to impose the same standards to other jurisdictions.

The EUs interests were inverse of those of the U.S. This is apparent when looking at the behaviour of the union. From around the 1970s until the 1990s the EU was reluctant to adopt commitments, but after that the EU became increasingly eager to develop and ratify stringent agreements and also export these to other jurisdictions (Kelemen & Vogel, 2009, p. 445). So, like the U.S. did before them, they acted reactively and wanted to impose similar standards to other countries to level the playing field (Kelemen & Vogel 2009, p. 445).

When looking at the Montreal Protocol and its focus on ozone-depleting substances, it is apparent that the EUs and the U.S. interests were at odds. Domestic pressures in the 1970s had imposed more restrictions on the producers of CFCs in the U.S. than on its European competitors (Kelemen & Vogel, 2009, p. 445). The U.S. had already faced costs that the EU member states had not, but the concern over CFCs in the U.S. continued to rise. U.S. politicians saw that further domestic restrictions of CFCs were inevitable, and therefore they supported the Protocol in order to not be put at a

disadvantage compared to foreign competitors (Kelemen & Vogel, 2009, p. 445). In this case, the U.S. acted proactively because they saw that further restrictions were inevitable. These international regulations levelled the playing field to the U.S. benefit, and it created export opportunities for their producers. Since the U.S. already had made restrictions on CFCs, they had experience in developing substitutes for these uses. The EU had no such experience, so because of the EU's former weak restrictions, the European producers were at a disadvantage (Kelemen & Vogel, 2009, p. 446).

As mentioned, the competitive impact is dependent on the current domestic politics in a country (Kelemen & Vogel, 2009, p. 437). In the U.S. there was no domestic pressure to reduce GHG emissions, and it was in the American industry's interest to oppose international agreements (Kelemen & Vogel, 2009, p. 447). In the EU on the other hand, there was substantial domestic pressures to reduce GHG emissions. Therefore, it was in their interest to support international agreements and also to impose these on their foreign competitors. (Kelemen & Vogel, 2009, p. 447).

These differences in interests clashed during the negotiations of the Kyoto Protocol. The Protocol required binding reductions on GHGs, and it became apparent that these would impose greater costs on the U.S. than on the EU. The Protocol used 1990 as a baseline year, and by 2012 the EU was to reduce emissions by 8% and the U.S. by 7% (Kelemen & Vogel, 2009, p. 447). However, during the 1990s there were several factors such as difference in economic growth and reductions already made that affected these percentages. This resulted in the actual reduction number for the U.S. being somewhere between 30% and 35%, and for the EU being between only 15% and 20% (Yandle & Buck, 2001, p. 54). In addition to the concerns surrounding competition with the EU, the U.S. was also worried about the impact the Protocol would have on the competitiveness with developing countries like China, since developing countries were exempted from binding reductions (Kelemen & Vogel, 2009, p. 447).

The status was different in the EU, with strong domestic pressures and concerns about the climate. Since the public in Europe would demand action on climate change, it was preferable for the EU to promote international action so that their competitors would have to undertake costly measures as well (Kelemen & Vogel, 2009, p. 448). Here the EU acted proactively, because they knew public pressure would compel them to cut emissions, and therefore they wanted competitors to follow in the same inevitable direction.

When looking at the evidence, the two first theories do not explain why the U.S. and the EU traded places. The third theory has components that can explain some of the actions taken by the two actors in the last five decades, but it does not account for other factors such as economic interests. The regulatory politics model does however cover the economic aspect, in addition to domestic factors such as environmentalist parties and public opinion, and one can argue that it is the most explanatory of the four theories. Moving on, it is interesting to see how these theoretical approaches may explain future environmental efforts based on recent political changes and changes in public opinion in the U.S.

5.2 Future environmental efforts

In recent years, there have been some changes in politics and also in public opinion that are worth mentioning in the discussion of leader and laggard. First of all, there have been some changes in U.S. public opinion. According to a survey done in January 2020 by the

Pew Research Center, there have been an increased support for prioritizing politics on climate change during the last decade (Funk & Kennedy, 2020). In 2020, 52% of U.S. adults said that dealing with global climate change should be a top priority. The number has risen substantially from 34% in 2015 and only 30% in 2009 (Funk & Kennedy, 2020). When looking at earlier evidence of the influence public opinion have on domestic environmental politics, it is not too far-fetched to assume that this number will affect U.S. position on environmental politics.

Another difference worth mentioning, is the change of presidency in the U.S. As mentioned in the empirical evidence, former President Donald Trump did not make protecting the climate a priority in his Administration (Carter, 2018, p. 133-134). According to EPA, they have for the first time in four years again a website to provide the public with information on climate change (EPA, n.d. b). Speculations surrounding the website's absence suggest that Trump removed the site as a part of a strategy to downplay global warming threats (Volcovici, 2021). With Joe Biden as current President of the U.S., the website is now active again. Biden have stated that "It is the policy of my Administration to organize and deploy the full capacity of its agencies to combat the climate crisis..." (EPA, n.d. b). Biden have expressed a more supportive view of international efforts to combat climate change, and a statement from the White House from 20th of January 2021 states that the President have seen and considered the Paris Agreement and plans to bring the U.S. back into the agreement (Biden Jr., 2021). This decision in addition to the rising public concern about the climate may lead to rising efforts and involvement from the U.S.

After the success with the Paris Agreement, the EU is considered a leader in international climate politics (Oberthür & Groen, 2017, p. 6). It will be exciting to see what their role will be if the U.S. steps forward to be more involved in climate protection. It's important to have in mind though, that even though these recent numbers and political changes may influence future environmental efforts from both the U.S. and the EU, these are only hypothetical thoughts – not facts.

6 Conclusion

This thesis' intention was to answer the research question: How can the shift between the U.S. and the EU as leader and laggard with regards to international efforts to reduce greenhouse gas emissions be explained? In order to answer, the thesis based itself on four main theoretical approaches. The first two theories, the one focusing on postmaterialist values and wealth, and the other one who argues that support for climate protection is socially constructed, do not have explanatory powers. Even though there are some evidence that proves the theories can hold ground, neither provides sufficient explanations to why the U.S. and the EU went through major changes in their environmental politics. The U.S. surpassed the EU in economic growth around the same time the EU surpassed the U.S. as a leading actor. Also, both actors are deeply imbedded in world society, so from that theory's approach it does not make sense that the EU is more involved in climate protection.

The third theory however, arguing for the EUs embrace of multilateralism and the U.S. growing unilateralism, do have some explanatory powers. It can explain the U.S. opposition to several recent multilateral environmental agreements such as the Kyoto Protocol and the Paris Agreement. Still, there are some exceptions in other political sectors, such as trade. The U.S. have signed and ratified WTO and NAFTA, both multilateral agreements. These two signings alone are enough to doubt the theory. Additionally, there is the argument that if the distaste of multilateral agreements is the only reason for the U.S.s lack of involvement, then one would assume that they wanted to pursue unilateral environmental agreements instead. This is not the case though, therefore the theory is not explanatory in the U.S. case. It can explain the EUs position though, since the union have since the 1990s increasingly supported multilateral environmental agreements.

The theory with highest explanatory power the regulatory politics approach. The changes in domestic politics in both the EU and the U.S. help explain the changes in environmental support and involvement. Environmentalists had major influence in the U.S. from the late 1960s until the 1990s, while green parties and actors in Europe were nowhere near that power in the same period. Around 1990s it shifted, and environmentalist in Europe gained political power while the ones in the U.S. lost power. Public support for climate protection went through the same spiral on both continents. It was first high in the U.S. and low in the EU, and then after the 1990s, it shifted. Another important factor that can be explained by the domestic politics argument of the theory, is that the Republican party in the U.S. evolved to become an 'anti-environmental party'. This became apparent with former President Donald Trump and his loud opposition of climate protection.

The second aspect of the theory is also explanatory to the U.S. and the EUs actions. The U.S. acted reactively when the Nixon Administration had concerns about how their own strict standards may put the American industry at a disadvantage compared to competitors. The EU did the same after the 1990s when they themselves became more eager to develop stringent international agreements. The U.S. acted proactively around the time of the Montreal Protocol negotiations, because they saw that further domestic restrictions on CFCs were inevitable, and therefore they supported similar restrictions

within the Protocol. The EU also acted proactively when promoting the Kyoto Protocol, because they recognized that domestic pressure would compel them to further cut emissions, and they wanted their competitors to follow the same inevitable direction.

To conclude, there are many factors that explain why the U.S. and the EU have traded places as leader and laggard, but the regulatory politics approach has the strongest explanatory power. Therefore, it will be interesting to see if any of the major changes happening in the U.S., with the election of Democrat Joe Biden as president and also the increase in public concern for climate change, may influence future environmental efforts. These are all domestic factors that according to the theory should affect the U.S. position on climate protection. A very exciting avenue for further research is indeed who will be leader and who will be laggard, as we see the U.S. possibly stepping forward to be more involved in environmental politics.

7 Bibliography

- Beron, K., J., Murdoch, J., C. & Vijverberg, W., P., M. (2003). Why Dooperate? Public Goods, Economic Power, and the Montreal Protocol. *The Review of Economics and Statistics*, volume 85 (number 2), pages 286-297. DOI: <https://doi.org/10.1162/003465303765299819>
- Biden Jr., J., R. (20th January 2021). Paris Climate Agreement. *The White House Government*. Downloaded 03.05.21 from <https://www.whitehouse.gov/briefing-room/statements-releases/2021/01/20/paris-climate-agreement/>
- Carter, N. (2018). *The Politics of the Environment* (3rd edition). Cambridge: Cambridge University Press.
- Cassia, R., Nocioni, M., Correa-Aragunde, N. & Lamattina, L. (2018). Climate Change and the Impact of Greenhouse Gasses: CO₂ and NO, Friend and Foes of Plant Oxidative Stress. *Frontiers in Plant Science*, volume 9 (number 273), pages 1-11. DOI: <https://doi.org/10.3389/fpls.2018.00273>
- Climateurope (n.d.). *What is climate? What is climate change?* Climateurope.eu. Downloaded 04.05.21 from <https://www.climateurope.eu/what-is-climate-and-climate-change/>
- Connelly, J. & Smith, G. (2003). *Politics and the Environment. From Theory to Practice* (2nd edition). London & New York: Routledge.
- Damro, C. & Méndez, P., L. (2003). Emissions trading at Kyoto: from EU resistance to Union innovation. *Environmental Politics*, volume 12 (number 2), pages 71-94. DOI: <https://doi.org/10.1080/09644010412331308194>
- Ecavo (n.d.). *Top 17 Environment Problems*. Ecavo.com. Downloaded 03.05.21 from <https://ecavo.com/top-environmental-problems/>
- (EPA) United States Environmental Protection Agency (last updated September 2020). *Greenhouse Gas Emissions, Overview of Greenhouse Gases*. Epa.gov. Downloaded 26.04.21 from <https://www.epa.gov/ghgemissions/overview-greenhouse-gases>
- (EPA) United States Environmental Protection Agency (n.d. a). *Greenhouse Gas Inventory Data Explorer*. Epub.epa.gov. Downloaded 26.04.21 from <https://cfpub.epa.gov/ghgdata/inventoryexplorer/#iallsectors/allsectors/allgas/gas/all>
- (EPA) United States Environmental Protection Agency (n.d. b). *U.S. Environmental Protection Agency*. Epa.gov. Downloaded 03.05.21 from <https://www.epa.gov>

- European Commission (n.d.). *International Issues*. Ec.europa.eu. Downloaded 09.04.21 from https://ec.europa.eu/environment/international_issues/agreements_en.htm
- European Parliament (n.d.). *History of the European Union*. Europarlamentti.info. Downloaded 05.05.21 from <https://europarlamentti.info/en/European-union/history/>
- Eurostat (last updated February 2021a). *Greenhouse gas emissions by source sector (source: EEA)*. Ec.europa.eu. Downloaded 26.04.21 from https://ec.europa.eu/eurostat/databrowser/view/env_air_gge/default/bar?lang=en
- Eurostat (last updated March 2021b). *Population on 1. January*. Ec.europa.eu. Downloaded 26.04.21 from <https://ec.europa.eu/eurostat/databrowser/view/TPS00001/bookmark/table?lang=en&bookmarkId=c0aa2b16-607c-4429-abb3-a4c8d74f7d1e>
- Frank, D., J. (1999). The Social Bases of Environmental Treaty Ratification, 1900-1990. *Sociological Inquiry*, volume 69 (number 4), pages 523-550. DOI: <https://doi.org/10.1111/j.1475-682X.1999.tb00885.x>
- Franzen, A. (2003). Environmental Attitudes in International Comparison: An Analysis of the ISSP Surveys 1993 and 2000*. *Social Science Quarterly*, volume 84 (number 2), pages 297-308. DOI: <https://doi.org/10.1111/1540-6237.8402005>
- Funk, C. & Kennedy, B. (April 21, 2020). *How Americans see climate change and the environment in 7 charts*. Pewresearch.org. Downloaded 03.05.21 from <https://www.pewresearch.org/fact-tank/2020/04/21/how-americans-see-climate-change-and-the-environment-in-7-charts/>
- Groenleer, M., L., P. & Can Schaik, L., G. (2007). United We Stand? The European Union's International Actorness in the Cases of the International Criminal Court and the Kyoto Protocol*. *Journal of Common Market Studies*, volume 45 (number 5), pages 969-998. DOI: <https://doi.org/10.1111/j.1468-5965.2007.00756.x>
- Hook, S., W. & Spanier, J. (2019). *American Foreign Policy Since World War II* (21st edition). United Kingdom: CQ Press.
- Hovi, J., Sprinz, D., F. & Bang, G. (2010). Why the United States did not become a party to the Kyoto Protocol: German, Norwegian and US perspectives. *European Journal of International Relations*, volume 18 (number 1), pages 129-150. DOI: <https://doi.org/10.1177/1354066110380964>
- Hu, L., Montzka, S., A., Lehman, S., J., Godwin, D., S., Miller, B., R., Andrews, A., E., Thoning, K., Miller, J., B., Sweeney, C., Siso, C., Elkins, J., W., Hall, B., D., Mondeel, D., J., Nance, D., Nehrkorn, T., Mountain, M., Fischer, M., L., Biraud, S.,

- C., Chen, H. & Tans, P., P. (2017). Considerable contribution of the Montreal Protocol to declining greenhouse gas emissions from the United States. *Geophysical Research Letters*, volume 22 (number 15), pages 8075-8083. DOI: <https://doi.org/10.1002/2017GL074388>
- Ikenberry, G., J. (2003). Is American Multilateralism in Decline? *Perspectives on Politics*, volume 1 (number 3), pages 533-550.
- Kelemen, R., D. & Vogel, D. (2009). Trading Places: The Role of the United States and the European Union in International Environmental Politics. *Comparative Political Studies*, volume 43 (number 4), pages 427-456. DOI: <https://doi.org/10.1177/0010414009355265>
- Knutsen, O. (1990). Materialist and Postmaterialist Values and Social Structure in the Nordic Countries. *Comparative Politics*, volume 23 (number 1), pages 85-104.
- Lisowski, M. (2002). Playing the Two-level Game: Us President Bush's Decision to Repudiate the Kyoto Protocol. *Environmental Politics*, volume 11 (number 4), pages 101-119. DOI: <https://doi.org/10.1080/714000641>
- Meyer, J., W., Frank, D., J., Hironaka, A., Schofer, E. & Tuma, N., B. (1997). The Structuring of a World Environmental Regime, 1870-1990. *International Organization*, volume 51 (number 4), pages 623-651.
- NASA Global Climate Change (last updated April 5th, 2021). *Overview: Weather, Global Warming and Climate Change*. Climate.nasa.gov. Downloaded 26.04.21 from <https://climate.nasa.gov/resources/global-warming-vs-climate-change/>
- National Geographic (n.d.). *Human Impacts on the Environment*. Nationalgeographic.org. Downloaded 04.05.21 from https://www.nationalgeographic.org/topics/resource-library-human-impacts-environment/?q=&page=1&per_page=25
- Oberthür, S. & Groen, L. (2017). The European Union and the Paris Agreement: leader, mediator, or bystander? *WIREs Climate Change*, volume 8 (number 1), pages 1-8. DOI: <https://doi.org/10.1002/wcc.445>
- Recchia, S., P. (2002). International Environmental Treaty Engagement in 19 Democracies. *Policy Studies Journal*, volume 30 (number 4), pages 470-494. DOI: <https://doi.org/10.1111/j.1541-0072.2002.tb02159.x>
- Scheipers, S. & Sicurelli, D. (2007). Normative Power Europe: A Credible Utopia? *. *Journal of Common Market Studies*, volume 45 (number 2), pages 435-457. DOI: <https://doi.org/10.1111/j.1468-5965.2007.00717.x>
- School of International Service (December 2018). *A Beginner's Guide to Environmental Agreements*. Ironline.american.edu. Downloaded 20.04.21 from <https://ironline.american.edu/blog/beginners-guide-environmental-agreements/>
- The World Bank (n.d.). *Land area (sq.km) – European Union, United States*.

- Data.worldbank.org. Downloaded 26.04.21 from <https://data.worldbank.org/indicator/AG.LND.TOTL.K2?end=2018&locations=EU-US&start=2018&view=bar>
- United Nations Framework Convention on Climate Change (UNFCCC) (n.d. a). *What is the Kyoto Protocol?* Unfccc.int. Downloaded 20.04.21 from https://unfccc.int/kyoto_protocol
- United Nations Framework Convention on Climate Change (UNFCCC) (n.d. b). *UNFCCC Process Parties*. Unfccc.int. Downloaded 21.04.21 from https://unfccc.int/process/parties-non-party-stakeholders/parties-convention-and-observer-states?field_partys_partyto_target_id%5B512%5D=512
- United Nations Framework Convention on Climate Change (UNFCCC) (n.d. c). *What is the Paris Agreement?* Unfccc.int. Downloaded 27.04.21 from <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>
- United Nations (n.d.). *United Nations Conference on the Environment, 5-16 June 1972, Stockholm*. Un.org. Downloaded 10.04.21 from <https://www.un.org/en/conferences/environment/stockholm1972>
- United Nations Audiovisual Library of International Law (2012). *Declaration of the United Nations Conference on the Human Environment*. Legal.un.org. Downloaded 20.04.21 from https://legal.un.org/avl/pdf/ha/dunche/dunche_ph_e.pdf
- Vogel, D. (2003). The Hare and the Tortoise Revisited: The New Politics of Consumer and Environmental Regulation in Europe. *British Journal of Political Science*, volume 33 (number 4), pages 557-580.
- Volcovici, V. (last updated March 2021). Biden restores climate change page to EPA website, reversing Trump. *Reuters*. Downloaded 03.05.21 from <https://www.reuters.com/article/us-usa-epa-climate-website-idUSKBN2BA2GX>
- Worldometer (26.04.2021). *United States Population (LIVE)*. Worldometers.info. Downloaded 26.04.21 from <https://www.worldometers.info/world-population/us-population/>
- Yandle, B. & Buck, S. (2001). *Bootleggers, Baptists, and the Global Warming Battle*. Downloaded 03.05.21 from SSRN: <http://dx.doi.org/10.2139/ssrn.279914>

