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The impact of the Russian invasion of Ukraine on the US-EU diplomatic negotiations towards the green energy transition

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Master's in International Studies

Supervisor:
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SOCIOLOGIA
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Aos meus pais que me ajudaram e me ensinaram e amaram a vida toda, e a Rita, o meu amor, pela paciência e apoio.

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Abstract

This dissertation examines the impact of Russia's invasion of Ukraine on high-level diplomatic negotiations between the United States and the European Union regarding the green energy transition. In a tense global environment, the energy relationship between these two blocs has grown more complex, requiring a delicate balance between environmental goals and urgent energy security needs. Using qualitative content analysis of key EU and U.S. leaders' speeches and statements from before and after the invasion, the study finds that the war has not only strongly reinforced a unified stance on reducing reliance on Russian fossil fuels but has also highlighted areas of divergence, particularly in trade-related climate policies like the U.S.'s IRA and the EU's Carbon Border Adjustment Mechanism. It also finds that high-level rhetoric has changed gradually, except, of course, after the invasion of Ukraine. The rhetoric by both sides is also always positive and looks to promote cooperation rather than confrontation. The research demonstrates how cooperation and competition between the two blocs shape a complex relationship of mutual support and persistent challenges as they each seek to lead a global transition to green energy.

Resumo

Esta dissertação examina o impacto da invasão da Ucrânia pela Rússia nas negociações diplomáticas de alto nível entre os Estados Unidos e a União Europeia em relação à transição para a energia verde. Num ambiente global tenso, a relação energética entre esses dois blocos tornou-se mais complexa, exigindo um equilíbrio delicado entre metas ambientais e necessidades urgentes de segurança energética. Usando uma análise qualitativa do conteúdo de discursos e declarações de líderes da UE e dos EUA antes e depois da invasão, o estudo constata que a guerra não só reforçou fortemente uma posição unificada para reduzir a dependência de combustíveis fósseis russos, como também destacou áreas de divergência, especialmente nas políticas climáticas relacionadas ao comércio, como o IRA dos EUA e o Mecanismo de Ajuste de Carbono na Fronteira da UE. Também conclui que a retórica de alto nível mudou gradualmente, exceto, naturalmente, após a invasão da Ucrânia. A retórica de ambos os lados é sempre positiva e busca promover a cooperação, em vez do confronto. A pesquisa demonstra como a cooperação e a competição entre os dois blocos moldam uma relação complexa de apoio mútuo e desafios persistentes, enquanto ambos procuram liderar uma transição global para a energia verde.

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List of abbreviations

CCUS - Carbon Capture, Utilization, and Storage

CIA - Central Intelligence Agency (US)

COP - Conference of the Parties (e.g., COP26)

DG – Directorate-General

EC – European Commission

EEA - European Environment Agency

EC – European Council

EP – European Parliement

EPA - Environmental Protection Agency (US)

ESG - Environmental, Social, and Governance

ETS - Emissions Trading System (e.g., EU ETS)

EU - European Union

EV - Electric Vehicle

FERC - Federal Energy Regulatory Commission (US)

GDP - Gross Domestic Product

GHG - Greenhouse Gases

GND - Green New Deal

IEA - International Energy Agency

IPCC - Intergovernmental Panel on Climate Change

IRA - Inflation Reduction Act (US)

IRENA - International Renewable Energy Agency

LNG - Liquefied Natural Gas

NATO - North Atlantic Treaty Organization

R&D - Research and Development

RE - Renewable Energy

RES - Renewable Energy Sources

SDGs - Sustainable Development Goals (UN)

UN - United Nations

US - United States

1- Introduction

The world is facing the major challenge of climate change, as humans burn fossil fuels, they emit greenhouse gases into the atmosphere that warm the planet, and this is the main cause of the 1.1-degree Celsius increase in global average temperatures since pre-industrial times, according to the most recent report by the IPCC[1]. This temperature rise is already affecting weather and climate extremes across the world, disproportionately impacting vulnerable communities, often the least responsible for climate change. If these changes keep intensifying, they risk the continued prosperity and well-being of humankind. (Intergovernmental Panel on Climate Change, 2023)

Finding a way to adapt and shifting the world's energy system is at the core of this climate challenge, a challenge that affects both the great powers and the medium and small nations. To achieve the 2015 landmark Paris Agreement goal of limiting global warming to 1.5ºC requires a rapid and comprehensive transformation of global energy systems, and a transition away from fossil fuels towards cleaner, much lower emissions, forms of energy. Using energy – the driving force behind civilization - therefore needs to be made sustainable and compatible with the Earth's climate and environmental systems, as well as with its limited resources. (Smil, 2017) At the same time, transitioning away from polluting and limited fossil fuels is a challenging task and particularly difficult to execute quickly without major sacrifices in the next decades. (Smil, 2024)

Even limiting global warming to the less ambitious goal of 2ºC, a level from which changes to the climate system start to become very dangerous and harder to predict, is a very difficult task. Achieving net-zero greenhouse gas emissions until 2050 is key to being able to limit temperature increases to manageable levels, which we, humanity, and natural ecosystems can more easily adapt to (International Energy Agency, 2023).

Notably, two major emitters, both currently and historically, have pledged to lower greenhouse gas emissions to net-zero in 2050, meaning they won't emit more gases than they take out. They are the United States of America and the European Union, and their energy relationship and common work towards the energy transition is the topic of this dissertation. Over the last few years, they have launched big industrial plans to decarbonize their economies

[1] The IPCC report compares the 2011-2020 average to the 1850-1900 average. It is likely that in 2024, the average temperature increase is already at 1.2ºC at least.

and lead the world in the green energy transition by expanding renewable sources of energy, electrifying their economies and improving energy efficiency.

The US and the EU are historical allies and partners, and their most recent leaderships, Joe Biden's Administration and the Von der Leyen European Commission, have shown quite similar priorities on climate and energy policy such as decarbonizing their economies, improving energy efficiency, boosting energy production and avoiding importing energy from rival countries. Furthermore, they share much in terms of overall outlook on global issues and challenges, such as climate change and the war in Ukraine, and have strived to work as close partners on the global stage. In a world increasingly tense, with growing geopolitical rivalry, a rising China and an aggressive Russia, understanding the relation between the US and the EU on the approach towards the current energy transition is paramount to understanding how the world works, and how it can be led in a better direction.

Since our energy systems are still mostly based on fossil fuels (81.5% of our primary energy comes from fossil fuels in 2022 (Ritchie & Rosado, 2020), and fossil fuels are over 75% of global greenhouse gas emissions (United Nations, n.d.) it means there needs to be an energy transition towards low-carbon sources to drastically reduce greenhouse gases emissions and be able to limit the current trend of a rapid increase in global temperatures. This energy transition is currently on course, and it is gaining pace. (IEA, 2024)

If this was not enough of a challenge for humankind, the world is also facing a period of increased geopolitical instability and outright conflict in eastern Europe, dramatically increased since the Russian Federation, led by Vladimir Putin, decided to invade Ukraine, led by Volodymyr Zelensky, on February 24th of 2022, in what the Russian government called a Special Military Operation with the stated goals of "demilitarizing and denazifying" Ukraine (Porter, 2023). This invasion sparked many other related crises in the world, chiefly an energy crisis which was exacerbated by the support the European Union and the United States, two allies, decided to give the Ukrainian side of the war through condemnation of Russia's acts, sanctions, military and humanitarian support, and diplomatic pressure. (Fahey, 2023; Ruan, 2023; Cui et al, 2023)

Energy is a major factor in this war since Russia is one of the biggest energy producers in the world, the second in oil production, at over 10 million barrels a day in late 2023, surpassed only by the United States, another big player in this war, the second in natural gas production, again, only surpassed by the United States, and sixth in coal production. (Energy Institute, 2024)

Russia is, therefore, one of the key players in fossil fuels, exporting most of its production, particularly to the European Union. If this was not enough of an issue for those trying to avoid funding the Russian regime, Russia is also an important exporter of uranium, necessary to produce nuclear power, and minerals necessary for the energy transition towards renewables such as cobalt, cooper, nickel platinum and iridium. (Skalamera, 2023; IEA, 2023)

Considering how natural gas has been key to reducing pollution and CO2 emissions in western countries, and how for example EU has very internal production of it, but has of coal, there were fears of increase in CO2 emissions due to the very strained energy relationship with Russia due to the war in Ukraine (Le Monde, 2022), but that ended up not happening, thanks to increased renewable generation (Sky News, 2023). Natural gas has also been essential as backing and complimentary fuel to renewable sources, which are intermittent, so in the short-term this war was negative to the European goals of lowering emissions and transitioning the energy systems, particularly away from coal towards other lower carbon sources. However, it also gave a bigger impetus to move away from fossil fuels both in EU and the US, and reduce the dependency on autocratic, aggressive regimes like Russia who are major exporters of them.

This thesis will focus on a particular aspect of this relationship and how it was affected by a specific variable. That is: How has the Russian invasion of Ukraine in 2022 impacted the high-level diplomatic negotiations toward a green energy transition between the European Union and United States? This thesis will aim to explore the top levels of the EU administration's, relationship with the Biden Administration on the topics of energy and climate transition, particularly how they are negotiating the energy transition in the context of a major war in eastern Europe, caused by Russia, that has been a major fossil fuels producer and exporter, to the world, the US, and to the European Union in particular. Some of the major areas of commonality and negotiation between the two when it comes to the energy transition are the alignment of investments in renewable energy, ensuring fair trade in green technologies, balancing fossil fuel trade, such as US exports of LNG to the EU, with long-term decarbonization, harmonizing regulations, policies that impact trade the EU's Carbon Border Adjustment Mechanism, leading global climate diplomacy, supporting a just transition for affected workers, securing access to critical minerals and green hydrogen, and maintaining energy security in the wake of the Ukraine war (Fahey, 2023). The EU and the US are two key pillars of the transatlantic alliance, in a broader sense, sharing similar values of promoting democracy, maintaining international order, and responding to global challenges like climate change, particularly under their current leaderships. Faced with the Russian invasion of

Ukraine, they were forced to revitalize their alliance and work together to counter it, in the framework of NATO, without getting into a direct war with Russia, and in the mean-term deal with the consequences of the invasion directly and the response (Singh, 2023). The disruption to the energy market has been one such consequence. How this disruption has affected the energy relationship between the EU and US in general, but more specifically their diplomatic relationship and the rhetoric towards the energy transition and the cooperation and competition dynamics between the two are our key questions.

Chapter 1: Literature Review

Energy transitions change geopolitics and geopolitics, in turn, shape energy transitions. (Sachs, 2020). This reciprocal relationship between geopolitics and energy transitions is one key conclusion emerging from literature. It is a fact that is mentioned and a conclusion that is in several books, articles and reports. Whether the focus is on international relationships and great power politics, (Oztrak, 2023; Scott & Rosati, 2023; Keukeleire & Delreux, 2022) or from energy and climate studies (Ruan, 2023; Sanderson, 2022; IEA, 2023) or, of course, on the intersection between energy, great powers and IR (Hafner & Tagliapietra, 2020; Yergin, 2020; Ozawa, 2023; Skalamera, 2023), scholars agree these two forces influence each other**.**

This idea of a mutual interrelationship energy shifts and geopolitical changes is particularly evident in the impact the Russian Invasion of Ukraine had on international relations chiefly the relationship between the United States, the European Union and Russia, (Solty, 2023; Riddervold et al., 2024) and on energy markets and the energy transition (Eyl-Mazzega, 2023; Skalamera, 2023; Crawford, 2023) as well as on climate diplomacy (Crawford, 2023).

The scholars also agree that the Ukraine War resulted in changes in the trade, energy, tech and climate policies and trends of the United States and the European Union. (Dekeyrel, 2024; Ruan, 2023, Anghelache et al., 2023; Martínez-García et al., 2023; Jørgensen, 2023; Ozawa, 2022 ; EIA, 2023). Their mutual relationship also changed because of the war, as both were aligned on the need to counter Russian aggression and the Russian threat, defend the liberal rules-based order, and reduce the dependency and links with Russia, notably on energy and critical minerals (Oztrak, 2023; Dennison & Engström, 2023). Scholars agree the invasion of Ukraine was a key moment that altered the transatlantic relationship in general, and the US-EU relationship in particular (Riddervold et al., 2024; Solty, 2023). The substitution by the EU

of a large share of Russian gas imports for North American liquefied natural gas (LNG) is one of the biggest examples of the impact the war had on the energy system and the transatlantic relationship (Energy Institute, 2024; Dekeyrekel, 2024; Eyl-Mazzega, 2023; Jorgensen, 2023). At the same time, climate diplomacy efforts by the EU and the US had to be adapted to a world where Russia, one of the biggest polluters and energy producers globally, was involved in a major war with another European country, Ukraine ((Dennison & Engström, 2023; Jain et al., 2023; Herranz-Surrales, 2024). The war affected the world economy and exacerbated the covid related inflation, with both Ukraine and Russia looking internationally for support for their cause and war effort, this resulted in shifted priorities for third countries and exacerbated tensions between nations and blocs with different perspectives and approaches towards the conflict. A proof of this is that most western countries and western allies, such as Japan and South Korea, took Ukraine's side, and worsened their relations with Russia. (IfW Kiel, 2023) Others, tried to stay neutral, or even took Russia's side, like Iran, seeing the invasion as justified (Savoy, 2023).

In fact, it is not surprising to see petrostates (major oil and gas exports based countries) getting closer as the long-term shift to renewables threatens their source of income and influence. (Skalamera, 2023) On the other hand major countries like India, and above all People's Republic of China, who are importers of gas and oil, have stayed neutral or even deepened their relationship with Russia, particularly on energy (Skalamera, 2023). With such different strategical priorities and varying views and approaches towards the war, it is normal global cooperation on major issues, such as fighting climate change by decarbonizing economies and transitioning away from fossil fuels would get more difficult ((Dennison & Engström, 2023; Bremberg & Michalski, 2024). Nevertheless, US and EU leaders did not back down from promoting the green transition domestically and internationally. The war and its impacts even served as motivation to work harder towards decarbonizing their economies (Ruan, 2023).

A major share of the literature reviewed studied the impact of the Russian-Ukraine war on the green transition and/or the US-EU relationship, with many articles intersecting these different topics. (Dekeyrel, 2024; Oztrak, 2023; Marconi et al., 2024; Jørgensen, 2023; Crawford, 2023; Skalamera, 2023,; Eyl-Mazzega, 2023)

Chapter 1.1 – Context – What is energy and energy transitions and what is their geopolitical impact?

What is energy is explained in two books by Vaclav Smil, a scientist and policy analyst, and an expert on the intersection of energy and society. These are *Energy – A beginner's guide* (Smil, 2006) and, more historical, *Energy and Civilization – A History* (Smil 2017)). Smil's work is excellent for the history and the historical data related to energy. The famous the data visualizer and aggregator Our World in Data uses Smil data on its energy pages.

(Smil, 2017) says "Energy is the only universal currency: one of its many forms must be transformed to get anything done." (Smil, 2017, pp 1) Energy is hard to define, though it can be measured, and it has many main forms, thermal, kinetic, nuclear, electric, electromagnetic, chemical. Many of these can be converted into each other. Humans have always been dependent on flows of energy, and traditionally they used their own power, manpower, and then animal power, the wind, the sun, water and biomass. Starting in the 18th century humans would increasingly master fossil fuels and over the next centuries they would almost totally replace other sources of energy. (Smil, 2017)

(Smil, 2024, pp 1) considers that the expressions and terms *energy transition, decarbonization,* and *net-zero* by 2050 all convey the same meaning:

> (…) energy transition, decarbonization, and net zero by 2050, all conveying the grand global goal of eliminating fossil fuel combustion—and the attendant emissions of CO2—by the middle of the 21st century, and hence preventing further undesirable increases of tropospheric temperature.1 "Net," the zero qualifier, is a hedge that considers the possibility of continued reliance on some fossil inputs whose emissions would be captured from the atmosphere and sequestered, resulting in no additions of anthropogenic CO2.

Another expression used to refer to this current energy transition is green transition, as green is the color associated with nature, ecology and environmental sustainability, an expression that often includes concerns over fairness. (European Training Foundation, 2022) or climate transition. The Intergovernmental Panel on Climate Change emphasizes the importance of immediate global action to mitigate warming, highlighting how climate risks will intensify unless emissions are drastically reduced. The link between energy, emissions, and global warming reinforces the urgency for the energy transition. (IPCC, 2023) However, while currently the expression energy transition is often used to mean the shift away from fossil fuels

towards low-carbon and low-greenhouse gases emitting sources, an energy transition is more broadly defined and often defined as «change in the composition (structure) of primary energy supply, the gradual shift from a specific pattern of energy provision to a new state of an energy system.» (Smil, 2010 p. vii) For Smil, the shift from a pattern of mostly human and animal based power, along with biomass and other traditional sources of energy, like water and wind, to a system based on fossil fuels, starting with coal, then also oil and gas, and more recently increasingly a system based on low-carbon power sources such as nuclear, hydro, solar, wind power and other renewable forms of energy are all examples of energy transitions. In his works, (Smil, 2010; 2017; 2021; 2024) always mentions the enormous scale of energy transitions and therefore their typical gradualness, therefore, Smil, despite desiring on the long run a transition away from fossil fuel combustion is skeptical of a greatly accelerated transition towards renewable energies, because of the costs and sacrifices it would impose. As we will see on the quantitative analysis section of this thesis, we are still in the relatively early phase of the energy transition, and it is becoming harder to reach net-zero quickly enough until mid-century or before to be able to limit global warming to 1.5 degrees Celsius or at least 2 degrees. (IEA, 2023)

Scholars agree and often mention the role of energy in economic and societal development, and ultimately power. Rich and powerful countries use lots of energy. To paraphrase the expert on energy geopolitics Daniel Yergin, to have power you need power. To have political, economic and military power you need physical power. (Yergin, 2020, p. 1). This is an idea also shared by Jeffrey Sachs (Sachs, 2020) on his foreword to the book *The Geopolitics of the Global Energy Transition,* as well as by the authors of the book itself who write in the introduction:

> "Energy has long shaped global geopolitics, determining great powers, alliances and outcomes of wars. Every international order in modern history has been based on an energy resource: coal was the backdrop for the British Empire in the nineteenth
> century, oil has been at the core of the subsequent 'American Century', and today
> many expect China to become the twenty-first century's world renewable energy
> superpower." ((Hafner & Tagliapietra, 2020, p. 15)

In fact, the 19th century was marked by the ascendance of coal as fuel powering the industrial revolution and British ascendance as the major superpower. In the early 20th century oil began to be used on a large scale and since WW1 has been the cornerstone of global energy politics (Hafner & Tagliapietra, 2020) Oil grew in importance as an energy source, not only for transportation but also for electricity production, reaching a 42.65% share in 1973 (Smil, 2017), the year of the first oil crisis.

This first oil crisis was a pivotal moment in the history of energy trends and energy politics. In fact, the 1970s overall were a transformative decade regarding the in particular the energy trends of EU and the US, some of the highest energy consumers and importers at the time, as well as the energy relationship between EU member states and Russia. This is due to two major energy shocks, two oil crisis, the first in 1973 due to the OPEC embargo to countries supporting Israel in the Yom Kippur war, after which oil prices, both in real and nominal terms never really went down to the old levels and from and a second one in 1979, after the Iranian Revolution toppled the pro-western Shah regime in Iran. (Hafner & Tagliapietra, 2020)

These crises meant a first shift toward emphasis on energy-saving, particularly of oil, and a search for new petroleum sources outside the Middle East and OPEC and for new energy sources to replace. These crises also showed the power of energy exporters vis-à-vis importers.

Therefore, the oil crisis of the 1970s also impacted other energy sources. Those who proposed other energy sources, despite concerns about how turbulence in the energy markets might affect them, were mostly excited about their prospects. Natural gas was one of the most important alternatives. Gas is normally extracted in the same sites as oil; however it requires much more complex infrastructure to be used, which meant it only gained in popularity much later. However, the 1970s oil crises were a turning point for natural gas, particularly in Europe. Natural gas could be seen as either part of the problem, since it was necessary to import it or part of a solution, allowing for diversification away from oil. (Hogselius, 2013) Natural gas was not, in 1971 a major part of the European community energy system, as it was only 8% of the primary energy supply. (Smil, 201)

The literature confirms the 1970s as the pivotal decade when European Community members, France, Italy and West Germany, started depending on Russian natural gas, or at this time, Soviet Union natural gas. These states, three of the biggest in the European community, aimed to diversify their energy supply, and find alternatives to middle eastern and OPEC controlled. Despite being a supposed enemy, relying on Soviet Union gas seemed to be lesser evil. The great increase in oil in the energy mix started creating serious problems for the mostly

devoid of oil reserves Western European countries. Unlike the vengeful Arab countries, the Soviets showed to be reliable partners, and at the beginning this increased European energy security. The USSR even sometimes prioritized western European customers to their domestic needs. Unlike today, at that time, the trans-European gas trade brought rapprochement. (Hogselius, 2013; Dekeyrel, 2024)

Of course, the American vision was different, skeptical of European's increasing dependency on Soviet gas. When Cold War tensions increased again in the 1980s, the Yamal pipeline project, proposed in the later part of the previous decade, was a big source of contention that lead to sanctions on French and German companies involved in the construction of the pipeline ((Hafner & Tagliapietra, 2020), since Yamal would double Soviet natural-gas exports to Europe, and make Western Europe very dependent on the USSR. It should be noted that the US also considered importing Soviet gas in the 1970s to deal with its own shortages, but it could not reach a deal with the US, and as relations worsened those plans were scrapped. Despite the US president Ronald Reagan's warnings, western European governments moved ahead with the project, and even complained about its limited capacity. In their view, it would contribute to the security and diversification of energy supply, not undermine it. This was the first big point of contention between US and EU countries when it comes to Russian gas, the US even embargoed technology and equipment needed for the construction of the pipeline, drawing condemnation from western Europe. Yamal opened in 1983. Until the late 2000s, with the second Russo-Ukrainian gas crisis, the US would remain the only country concerned about the growing European dependency on Soviet or Russian gas. (Dekeyrel, 2024)

However, it is clear as (Hodgeslius, 2013). puts it that the ultimate consequences of these western-soviet deals would become only clear in the early 21st century. (Dekeyrel, 2024; Hafner & Tagliapietra, 2020) agree that the overreliance on natural gas from Russia started to become a major geopolitical threat in second half of the 2000s, first in January 2006, and then in January in 2009, both times because of natural gas pricing disputes between Russia and Ukraine, which in both occasions resulted in Russia halting supplies to Europe via Ukraine, the main transit route for gas. The relation of Russia with Ukraine, and of Ukraine to the EU and West more broadly has been at the main point of energy geopolitics since the 2000s, with the war that started in Ukraine in 2014 after a pro-EU coup and the annexation of Crimea by Russia and civil war in separatist eastern regions of Ukraine would lead to a increased importance of reducing the European gas dependence on Russia. (Dekeyrel, 2023; Hafner & Tagliapietra, 2020; Bocse, 2020)

During the 1970s and 1980s the world also saw the rise of the environmentalist movement. Modern environmentalism appeared in the 1960s, and is considered by (Lakkokone et al, 2016), a product of the Cold War, and the apocalyptic spirit of the time as evidenced by the power of nuclear weapons. The first decades of the Cold War were also decades when environmental pollution reached new heights and were very evident. As population growth in the world exploded with better access to nutrition, sanitation, and healthcare, people in western countries started worrying about the consequences of humans on the environment and the own fate of a civilization dependent on ever higher increasing amounts of natural resources and ever more polluting. (Laakkonen, 2016) As a response to these issues, environmental regulations were passed in both EU and US and the first environmental international agreements were made. (Laakonen, 2016; Brain, 2016) Concerns over pollution, plus depredation of natural resources and high-prices and shortages as a result of frequent oil crisis led western countries to be more careful with how they managed the environment and their energy resources, focusing on less consumption, efficiency and the search for cleaner energy sources. At first, nuclear energy, which rose in prominence in the 70s and 80s until a peak of 6% of the global primary energy consumption around the turn of the century. Hydropower also grew its relevance, but modern renewables such as solar photovoltaics and wind power would become relevant in the 21st century, even if the US president Jimmy Carter did install solar panels in the White House roof. (Smil, 2017)

These regulations and international agreements in the 70s and 80s did not focus on the issue of greenhouse gas emissions. They were, nevertheless very important, with the Montreal Protocol in 1987, a global agreement with the goal of protecting the ozone layer by phasing out the production and consumption of ozone.-depleting substances stands out as proof that international cooperation can be successful, and that the US can lead international environmental cooperation (Brain, 2016).

CO2 and other greenhouse gas emissions were however on the rise, with annual CO2 emissions which were only 5.18 billion tons in 1949, reaching 10 billion tons in 1963, 15 billion in 1971 and 20 billion in 1985, an increase that became more and more due to fossil fuel use. Along with the Soviet Union and the United Kingdom, the countries that now comprise the European Union and the United States were the biggest responsible for this increase in C02 emissions, (Global Carbon Budget 2023) and consequently global temperatures, which surpassed 0.6 degrees increase compared to the 1850-1900 average in the late 1980s. (IPCCC, 2023)

It was in the late 1980s and 1990s that the issue of greenhouse gases and global warming came to fore, both to politicians, the media and the public. From a focus on destruction of local environments, the dangers posed by the ozone layer and global warming were recognized and environmentalism started to understand the global impact of humanity. The Intergovernmental Panel on Climate Change was formed in 1988, publishing its first report in 1990. In 1992 the first Earth Summit happened in Rio de Janeiro and the UN Framework Convention on Climate Change (UNFCCC) was established and came into force in 1994 (Maslin et al., 2023). Throughout the 1990s both the US and EU agreed to reduce CO2 emissions, but President Bill Clinton faced though opposition in the Senate on his support for the Kyoto Protocol, impending the Protocol from being followed in the US. In the 2000s, a new president, the Republican George W. Bush would pull the US out Kyoto entirely (Brain, 2016). Meanwhile the EU did its first baby steps towards moving away from fossil fuels, with Renewable Energy Directive in 2001 aiming to increase the share of renewable energy in the EU's energy mix and in 2005 it launched the EU Emissions Trading System, the world's first and largest carbon market, while the Bush administration did more modest measures, because it promoted fossil fuels at the same time.

After years of relatively minor advances in climate conferences particularly due to the dichotomy between rich countries and poor countries, and what high-polluting but not part of the global south countries should do, such as China, the highest CO2 emitter since 2006 (Smil, 2017) (Maslin et al., 2023) the COP21 and the resulting Paris Agreement brought major progress on climate negotiations with 196 countries, including all the countries in the European Union and the United States, agreeing to they would limit global temperatures to well below 2°C above pre-industrial levels and would pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels.

The current energy transition from fossil fuels to low-carbon energy sources means energy geopolitics are shifting towards new sources of conflicts from struggles over fossil fuels to struggles over renewable energy, critical minerals and instability in countries with economies based on fossil-fuel production and exporting them. (Haffner and Tagliapietra, 2020; Sanderson, 2022; Sovacool et al., 2020)

Smil and Yergin agree this current energy transition is happening for different reasons than previous ones. While previous energy transitions were driven by technology, economics, environmental considerations, and convenience and ease, the current one is more motivated by politics, policy and activism (Yergin, 2020)

This Ukraine war means a changed energy geopolitics as (Skalamera, 2023) explains. Although a change that is combined with the changes already occurring with the hastening of the pace of global decarbonization. Countries that that get a great share of their strength and international power projection from their fossil fuel reserves are seeing their power threatened in the long term by the appearance since the middle of the 2010s of cost competitive sources of energy, such as solar photovoltaic panels, wind turbines, and electric car batteries. Instead of trying to expand fossil fuels production, many researchers, activists and countries try to keep them in the ground. As mentioned above, Skalamera agrees that new tensions are arising in the geopolitics of energy over critical energy materials. Skalamera expects that the energy transition will decrease the power projection capability of petrostates as their sources of revenue are less and less demanded. On the other hand, in the short term (10 to 20 years) petrostates are expected to band together, improve their relationships as petroleum and natural gas remain needed and more climate-minded countries avoid increasing production and energy companies avoid new investments as well. This is of particular relevance to Russia.

Therefore, how does the war in Ukraine affect energy geopolitics? Skalamera posits three significant political effects that come as a result of the combination of the war and the preexisting energy trends:

> The reframing of energy interdependence; "homegrown" clean energy becoming a tool of energy security; and China's sharpening energy alignment with Russia amid Moscow's loss of the European oil and gas market and increasing isolation from the West. (Skalamera, 2023, p. 8)

She reminds readers that there were already widespread shortages as the economy recovered from Covid and there were insufficient investments in energy efficiency and renewable generation. This was particularly evident in Europe in 2021 as sale prices of gas rose more than 400%. This boosted Russian revenues and its power. Russia has also worked with other petrostates such as Saudi Arabia, a traditional US ally, to keep oil prices high. Therefore, Russia kept getting large funds from the EU importers, even as volumes of gas and oil exported decreased. (Ruan, 2023) agrees with (Skalamera, 2023) that the war shaped the global energy leading to a new geopolitical energy order and that it causes higher energy prices and energy insecurity as the EU's embargo on Russian and oil gas led to much higher prices ((Xin & Zhang, 2023; (Chen et al., 2023) and forced the EU to launch new policies such as the Repower EU to save energy (Martínez-García et al., 2023; Mišík & Nosko, 2023). However, at the same time it accelerated renewable energy development in the EU. (Ruan, 2023; Martinez-Garcia et al,

2023) (Dennison & Engström, 2023) also thinks that decarbonization is crucial for EU's economic security and it should secure international partnerships to guarantee the energy transition. For them decarbonization should be integrated into broader diplomatic and economic strategies to maintain leadership and competitiveness. (Kucharski, 2023) thinks the energy crisis, exacerbated by the war in Ukraine, has disrupted European energy markets, increased prices and driven a shift in policy toward energy security over idealistic climate goals. He says Europe faces a "triple crisis" of energy, geopolitics, and climate. I agree and (Ozawa, 2022) does as well. (Aitken & Ersoy, 2022) stresses the difficulties in using LNG due to infrastructure challenges and the importance of balancing energy security with climate goals, as fossil fuel reliance continues to challenge Europe's climate commitments.

Chapter 1.2 - Climate diplomacy and climate international politics in the EU

Many authors agree that climate and energy diplomacy, (Kinley, 2022) (Alkyana & Kartini, 2023; Cohan, 2022; (Sharpe, 2023)) particularly by the EU. (Pastukhova et al., 2020), should be strengthened, even if it is already being strengthened to fulfill the climate goals of a limited temperature increase and an energy transition away from fossil fuels, and promote sustainable development. Others like (Celik, 2022) point to the contradictions between its goal and actions, particularly on energy trade and support for fossil fuel industries, even as it portrays itself as a progressive leader in environmental policy. Or that it should its climate diplomacy beyond the Green Deal to achieve more effective results.

(Cohan, 2022) explores the challenges facing global climate diplomacy, particularly how technological advancements and international policies are misaligned, and critiques the current international frameworks for their inability to adequately address the urgent need for decarbonization. Instead of the EU he emphasizes the U.S.'s pivotal role in driving technological change and forging diplomatic solutions.

As mentioned above, the EU has aimed to take a leadership role in global climate politics, even when facing geopolitical challenges. The EU has a particular interest in promoting a transition to renewable energy away from fossil fuels, as, except for coal, the most polluting of all fossil fuels, it has relatively few reserves. (Keukeleire & Delreux, 2022)

The European Commission (EC) is the main body responsible for proposing and implementing decisions related to energy, climate, and international policies. It develops the overall policy framework, including the European Green Deal, which is a cornerstone of the EU's climate strategy. (Burgin, 2023) portrays the European Commission as a climate policy entrepreneur, concluding that the EU plays a crucial rule in EU's climate policy in three ways: First - it initiates policy proposals, hence the description as a climate policy entrepreneur. It has promoted ever higher and more ambitious greenhouse gas emissions targets, that then function as the basis for its legislative initiatives. Second, it monitors the compliance of EU countries with the adopted legislation. Third, the Commission is the biggest voice and actor in EU international climate policy. The EC coordinates bilateral and multilateral partnerships on climate as well.

The Commission sees ambitious climate policy as a tool to regain public trust and strengthen the EU's global role and under the presidency of Ursula Von der Leyen it has increased its focus on climate policy with the Green Deal, presented in 2019 as she began her mandate. The EC's climate policy is primarily managed by DG CLIMA, DG ENER, and DG ENV, which collectively handle climate action, energy efficiency, and environment-related policies. (Burgin, 2023)

(Herranz-Surrallés, 2024; Bremberg & Michalski, 2024) agree with (Burgin, 2023) that EU is incorporating climate and energy policies into its broader geopolitical strategy. They see this integration as essential for the EU to maintain influence globally. It is also clear in all three articles how the EU has moved from a leadership model based on values and norms to a more pragmatic, strategic approach, adapting to geopolitical realities and building alliances. All agree that coordination is vital inside the EU's different political organs and member-states and that diplomacy is vital to achieve both climate and energy objectives.

Bremberg & Michalski have a key different view of EU's climate diplomacy from Herranz-Surrallés in that the first stresses multilateralism and coalition-building and the first highlights the concept of *geopoliticization,* emphasizing the need for the EU to protect strategic interests and reduce external dependencies, particularly following the war in Ukraine. This concept bridges the gap between the concept of *politicization* and that of *securitization*. The war in Ukraine intensified the securitization of EU climate and energy policies. Brember & Michalski (Griffiths, 2019) (O'Sullivan, 2023) agrees that the EU now plays a growing role in shaping global climate policy, the same way it is increasingly important for handling new global challenges. It also remind us that «the EU is an unusual political animal in international

relations.» (O'Sullivan, 2023, p. 31) because it is neither a country nor a mere international organization. It has real powers in trade and market regulation, and it can have tremendous influence when it speaks in a single voice. However, it does not always do, and when that happens it confuses friends and adversaries (Propp, 2023).

Overall, all authors agree that the EU's ambition for global leadership in climate policy and its strategic shift from purely normative approaches to more adaptable, pragmatic diplomacy. They agree on the critical role of coalition-building and the EU's integration of climate goals with broader foreign policy concerns like security and autonomy. (Keukeleire & Delreux, 2022) emphasize the "Brussels Effect" and how EU internal standards influence global markets. (Griffiths, 2019) highlights the EU's engagement with major global players like the US, China, and developing nations to create frameworks for sustainable energy transitions. The chapter also emphasizes the importance of economic interests, technological leadership, and market influence in shaping the EU's climate diplomacy. It concludes that while the EU is seen as a leader in climate talks, internal political challenges and external competition, particularly from China, may limit its long-term effectiveness.

Chapter 1.2 - The climate diplomacy and foreign policy of the US

Besides the US president there are some key Department where policy related to energy, climate policy and foreign relations are done. There is always a Secretary of State, as of 2024 he is Anthony Blinken, who serves since the beginning of Biden's administration. A Secretary of Energy, Jennifer Granholm, also serving since the first months of the current administration. The Secretary of Commerce is Gina Raimondo. Under Joe Biden's there's also been the post of US Special Presidential Envoy for Climate, a position which was filled by former Secretary of State, John Kerry, and is since early 2024 done by John Podesta. These people are some of the most important in the Executive Branch for designing the US policies for energy transition cooperation. (Axios, 2021; US Government, 2024)

The United States government approach to Climate Change and, therefore, its energy and climate policy and diplomacy, has varies dramatically depending on the party holding the presidential office since the 90s. If is the Democratic Party, such as currently with Joe Biden, climate change and environmental pollution is taken much more significantly as a threat to national security and national interests overall, and policies designed to mitigate and adapt to climate change are much more likely. Similarly, the US becomes much more cooperative

internationally on matters regarding climate. If, on the other hand, the party holding the White House is the Republican Party, both its domestic and foreign policies become much less worried about climate change mitigation and adaption, and sometimes outright hostile to them, as it was under Donald Trump presidency, who took the US out of the Paris Accords. (Cameron, 2023; Scott, J. M., & Rosati, J. A. 2023).

When Joe Biden was inaugurated, he set to reshape the executive branch of American politics and key agencies in a much more climate-minded fashion. On the Department State, equivalent to the Ministries of Foreign Affairs in other countries, the Department responsible for managing foreign policy he nominated Antony Blinken, who would be responsible for overseeing U.S. foreign policy, including international climate agreements and diplomatic relations with the EU. He also created a new position, the Special Presidential Envoy for Climate, tapping the former secretary of State under Barack Obama, John Kerry. Kerry was tasked with leading U.S. international climate diplomacy efforts, especially in negotiations with the EU and other international organizations. (Axios, 2021)

For the U.S. Department of Energy, a key department that oversees national energy policies, Biden appointed the former governor, Jennifer Granholm as its secretary, leading the Department in overseeing the transition to renewable energy sources. (Axios, 2021)

Under the Department of Energy there is the Office of Fossil Energy and Carbon Management, which manages fossil energy resources and carbon management strategies and the Office of Energy Efficiency and Renewable Energy, which focuses on accelerating the development and deployment of renewable energy technologies and promoting energy efficiency. (Axios, 2021)

For the Environmental Protection Agency, a key agency for climate policy, Michael S Regan was chosen. The EPA is responsible for enforcing environmental regulations, including those that affect climate change and pollution. (Axios, 2021)

Other important offices, are the Department of Commerce, led by Gina Raimondo, which is involved in trade policies that affect energy technology exchanges between the U.S. and the EU, Katherine Tai, the U.S. Trade representative, crucial for negotiating trade deals related to energy and environmental technologies. (Axios, 2021)

Biden also recreated the White House National Climate advisors, hiring Gina McCarthy and Ali Zaidi for the roles. (Axios, 2021)

2.2. The Transatlantic relationship – Why the US-EU have a close relationship and why it matters

The literature is unanimous in that the EU and US have a close relationship. (Fahey, 2023; Nolan, 2012; Sebastião, 2020; Keukeleire & Delreux, 2022; Hanhimäki et al., 2012)) emphasizes the importance of the US-EU relations considering them «the foundation of the theoretical 'West' and the North American role in actively promoting the European integration. For Fahey it is a landmark relationship that is complex and multifaceted, and that its « Relations are variously depicted as cyclical, intergovernmental and fundamental to multilateralism and crisis-driven.» «The transatlantic partnership was central to global events through the building of the Western liberal order and all the institutions that went with it.» (Fahey, 2020, pp 1). (Sebastião, 2020) and (O'Sullivan, 2023) agree that the US has an important role promoting European integration.

Fahey also states that this relationship was marked by a power unbalance, with the US having the upper hand due to its bigger economic strength, but above, military power that ensured Europe's security. EU and US are at least until recently «bulwarks of the liberal global legal order post-WW2». The EU has often followed US lead in multiple subjects, such as the «US pivot to mega-regionals to exclude China and pivot away from the World Trade Organization (WTO) framework» however Fahey also stresses the frequency of high-profile experiments in transnational governance, mainly failed one. (Fahey, 2020, pp 2) Are experiments in transnational governance in the field of energy and the climate transition also following the same path?

(Keukeleire & Delreux, 2022) remind us of the size of the EU and US economies together, more than 40% of the world's GDP and around 30% of the world trade. They share many goals, as the authors put it:

> . Domestically, they share the same values of democracy, the rule of law, human rights and individual freedoms, free market economies and so on. On the trade front, both parties support a global free market economy, prioritizing stability and trade growth to ensure their continued economic prosperity. Together, the EU and United States largely regulate the global economy. They also face similar challenges, such as energy import dependency and competition from other major powers, both on the trade and the security front. Common concerns EU Foreign Policy towards Major Powers 307 and goals are shared on both sides of the Atlantic in terms of declining natural resources, fighting

> international terrorism and international crime, resolving conflicts and promoting functioning democratic government. (Keukeleire & Delreux, 2022), p. 306-307)

Nevertheless, they also have significant divergences, such as how to tackle climate change, on energy security, and on the relationship between the state and the market. The EU is also more committed to multilateralism, and the US more open to unilateral action and use of military force.

Chapter 1.3 - Are the EU and US working together, should they, why are they?

The literature analyzed is mostly unanimous that the US-EU relationship improved tremendously after the Joe Biden was elected president of the United States and inaugurated in January 2021 (Latici et al., 2021). The Donald Trump presidency was particularly difficult for the transatlantic relation, in particular the US-EU relationship even more than direct bilateral relationships. (Fahey, 2023); O'Sullivan, 2023, Keukeleire & Delreux, 2022) Donald Trump was skeptic of NATO, constantly harassing European countries for more investment in defense. On the other hand, he and his administration did warn Europeans, particularly about depending too much on Russia and increasing that dependence with the building of new gas pipelines like Nordstream 2 (PBS NewsHour, 2018). Even worse than Trump's view of NATO was Trump's view of the EU as a foe, particularly on trade. (O'Sullivan, 2023).

On climate and energy policy Trump's administration policies couldn't have been more different than EU's. In his first year in office, he pulled out of the Paris Accords and his administration did not push for renewables and a green transition either domestically or internationally. The EU on the other hand kept pushing for more renewable generation and an energy transition overall aiming to reach net zero emissions globally somewhere around mid-century. Even if Trump did impose some strict sanctions on Russia and somewhat supported Ukraine, his view on the danger imposed by Russia was very different from Europe's. (O'Sullivan, 2023) Trump ultimately lost his reelection bid to Joe Biden

A conclusion that is frequent in many of the chapters of Fahey's book, as well as other articles such (Scott-Smith, 2023) is that the years of the Donald Trump administration in the US, from 2017 to 2021 brought great damage to the transatlantic relationship, and made its future uncertain. Climate and energy strategies were areas that the EU and Trump particularly disagreed, as Trump denied anthropogenic global warming and the need to combat it, being pro-fossil fuels and anti-renewables, and notably pulling out the US from the Paris Accords

right in the first year of his mandate. Overall, Trump even questioned whether the EU was a partner or a foe. Trade wars also plagued the EU-US relations during the Trump years, as Trump sought to improve the trade terms for the US. Curiously, many of these protectionist trade measures would remain with the following president, the democrat Joe Biden or would at least take some time to be reversed. This was a disappointment, after his arrival had been a very welcome relief. A relief because Biden changed the messaging about his European allies, rejoined the Paris Accord immediately, reaffirmed his commitment to NATO and renewed strong links between his administration and the EU, as Sullivan describes. Some of the key people in his administration taking care of foreign policy were experts in European affairs such as the Secretary of State Anthony Blinken and other key officials. (Sullivan, 2023)

2021 was thus, for many reasons, a disappointing year for expectations that the US-EU relations would improve dramatically under Biden. There were some successes however on the trade front, such as a deal on steel tariffs, and an agreement to create a new consultative forum, the Trade and Technology Council on June 15th, not really a negotiation forum but instead a platform for consultative practice. (Sullivan, 2023) (Van der Loo et al., 2021) who write to how the EU and US can work together on carbon pricing, green technologies, and supply chains for the energy transition. Van der Loo however, highlighted the difficulties in aligning EU and US trade and climate strategies.

For the transatlantic relationship, the invasion of Ukraine in 2022 was a game-changer as (Sullivan, 2023) puts it. Some, like (Scott-Smith, 2023) are skeptical of the long-term strength of Western unity and solidarity after it appeared to be revitalized by the Russian invasion of Ukraine and the support to Ukrainian refugees and to Ukraine war effort as it highlights the political gridlock in the US congress and the growing skepticism among electorates from both sides on the need for a long-term conflict with Russia. He concludes, a trend that (Nolan, 2012) already pointed out, towards fragmentation and divergence.

Even before the Russian Invasion of Ukraine, relations between the West and Russia were tense. In particular the March 2014 annexation of Crimea by Russia, which was condemned by both the EU and US and «followed by coordinated economic and diplomatic sanctions imposed on Russia by both the EU and the US constituted an important fracture in the relations between the West and Russia. » (Bocse, 2020, p.1) This crisis led to increased attention of the US on the EU energy supply concerns, and there was an increase in strategic thinking regarding energy security, in a process of securitization, in both sides of the Atlantic. Bocse writes that there are many definitions of energy security, but he cites the one adopted by

the EU-US Energy Council of May 2016, when Obama was US president and Juncker the president of the EU Commission (Bocse, 2020).

Bocse also stresses the importance of speeches in the securitization process. For Bocse, speeches that include language indicating urgency of response, that refer to energy supply dependence and potential interruptions as weapons, and link energy security with national security are indicators of a securitization process. She bases her study on the Copenhagen school of securitization and many studies done with that school of thought. She concludes that because of the 2014 Ukraine crisis the US urged the EU to reduce reliance on Russian energy, framing it as a national security issue. Shale gas, production of which the US expanded massively in the late 2000s and 2010s, and LNG exports from the US became strategic tools for countering Russian energy dominance. The EU-US Energy Council was used to strengthen cooperation, the US supported key gas infrastructure to diversify away from Russian gas, while Nord Stream 2 increased concerns over EU dependency, both during the Obama and Trump presidencies. The author concludes that securitization prompted new transatlantic cooperation in energy policy. (Bocse, 2020)

A game-changer for EU-US relationships - Russian aggression on Ukraine led to a revival of the Transatlantic partnership on sanctions, coordinated between both. (Van Elsuwege & Szép, 2024)

Authors agree that the EU and the US are cooperating on climate change and the promotion of energy transition. Others think it should be boosted to strengthen both economies and improve global energy security and addressed trade concerns over the Inflation Reduction Act (Held & Pastukhova, 2023). For example (Jain et al., 2023) thinks the World Trade Organization should be reformed to accommodate climate goals, including green subsidies, carbon border tariffs, and import/export controls and Emphasizes create a new trade paradigm for climate action which could improve EU-US EU diplomatic efforts to manage tensions from policies like the Inflation Reduction Act (IRA) and the Carbon Border Adjustment Mechanism (CBAM). Others, like (Crawford, 2023) are not as worried about the IRA, even though its protectionist measures cause concerns about a potential trade war. Crawford argues the impact of the IRA on Europe's industry may not be as severe as feared, and increased cooperation in clean energy industries could ultimately benefit both regions. For (Solty, 2023) triggered a new "Asymmetrical Trans-Atlanticism," with Europe becoming more dependent on the US for energy, military, and geopolitical support. He also frames this shift as part of a larger global confrontation between the US and China. He also suggests that the US is the primary

beneficiary of the war, reinforcing its geopolitical influence over Europe while limiting the EU's strategic autonomy.

Chapter 1.4 - What is there left to study on this topic?

The review of the literature on the topic of EU-US energy relations, climate diplomacy, energy geopolitics, etc, has shown that due to the constantly changing nature of the relationship between the EU and US and the dynamics of the Russia-Ukraine conflict and surrounding geopolitics that is useful to do a updated study of the topic that goes on until September 2024 and practically includes the whole of the Joe Biden presidency, but its last months, as Biden dropped out of the election and nearly the entirety of the first Ursula Von der Leyen Commission and Charles Michel presidency of the European council. (Burgin, 2020; Scott & Rosati 2023; (Keukeleire and Delreux, 2022)) also shown how the executive branch, and in particular the president has the main powers in foreign policy. In the case of the EU, the Commission is seen as a climate policy entrepreneur, and while not having power nowhere comparable to the president of United States as the EU is not a country, it, is one of most powerful entities in the matter of Eu foreign policy with Ursula wanting to have a geopolitical commission. The European Council is also very important, and it represents the member-states. As the EU holds most of the population of Europe, particularly if we do not include Russia, almost all its countries are in NATO, we can use it as a representative of Europe in the Transatlantic relationship.

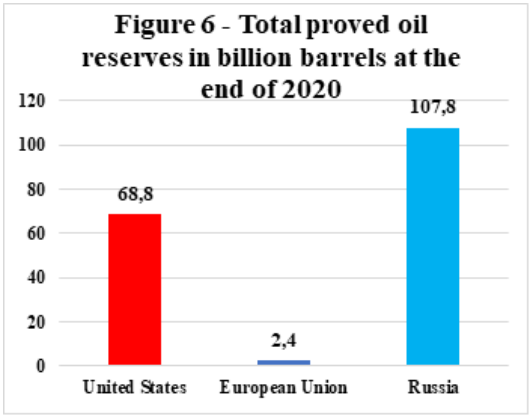
Looking at the vast literature reviewed above one notices how there is a paucity of analysis of speeches by top US and EU leaders on the energy transition topics particularly the ones that intersect two or more of the following issues: the energy transition, transatlantic relationship, relation with Ukraine and Russia. And as we reviewed above, speeches are a very important part of geopolitics and give us insight into strategies and policies. Therefore as main leaders and representatives of the US and the EU, it makes sense to study speeches by Joe Biden, Anthony Blinken and John Kerry, on the US side, along with speeches by Ursula Von der Leyen and Charles Michel, plus some joint statements and other documents to see how strategies, relationships, and policies have changed over the Biden/Leyen period, and the impact the invasion of Ukraine had on the joint promotion of the energy transition by them.

Chapter 2 - A comparison of EU and US on energy and emissions – and how it evolved.

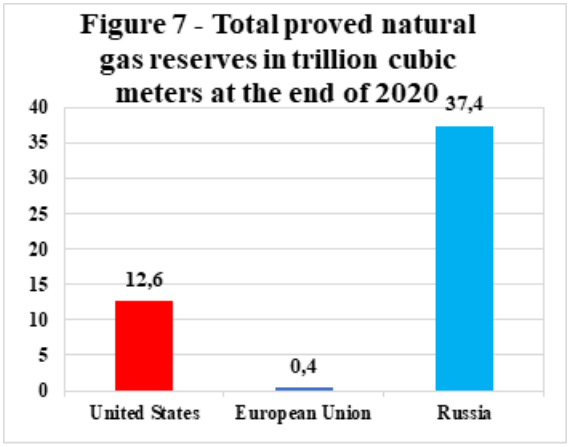
On this chapter we will analyze the energy situation of the US and European Union in just before the Russian invasion of Ukraine, what their main energy policies, goals and plans were, and how their clean energy transition was going. We will also study how US and EU strategies changed with the election of Ursula Von der Leyen to the presidency of the EU Commission, and the election of Joe Biden to replace Donald Trump. Of course, we will also take a brief look at how the Covid 19 pandemic affected the energy markets and the energy transition, and how the recovery began, and what impacts it caused on the transition cooperation between the two sides.

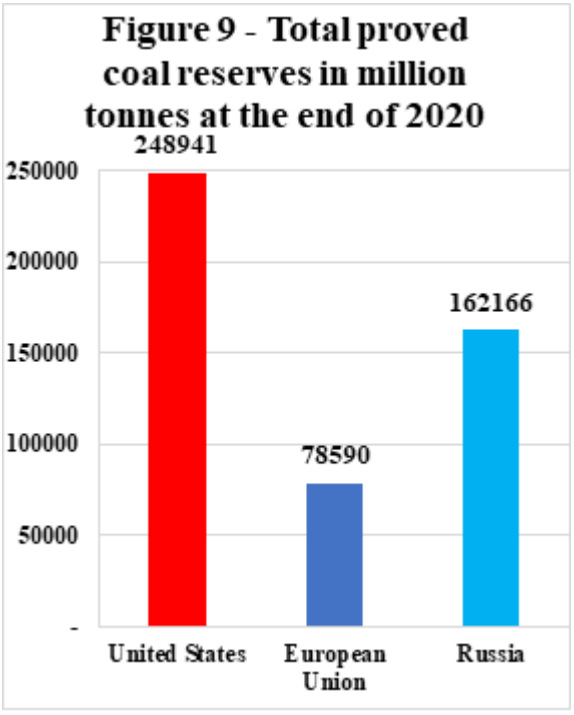
Chapter 2.1 The energy reserves and potential of the US and the EU compared

The United States is blessed with various energy sources, both fossil fuels, renewables and nuclear. It has the highest proved coal reserves in the world in tons (248.94 billion tons), standing clearly above Russia (162.2 billion tons), Australia, China and India. It has the fifth highest proved gas reserves in the world, 12.6 trillion cubic meters, with Turkmenistan slightly higher, and then Qatar, Iran and Russia clearly above, in that order. And on oil it is in ninth place with around 9.4 billion tons of oil. (Energy Institute, 2024)



Source: Energy Institute Statistical Review of World Energy (2023)



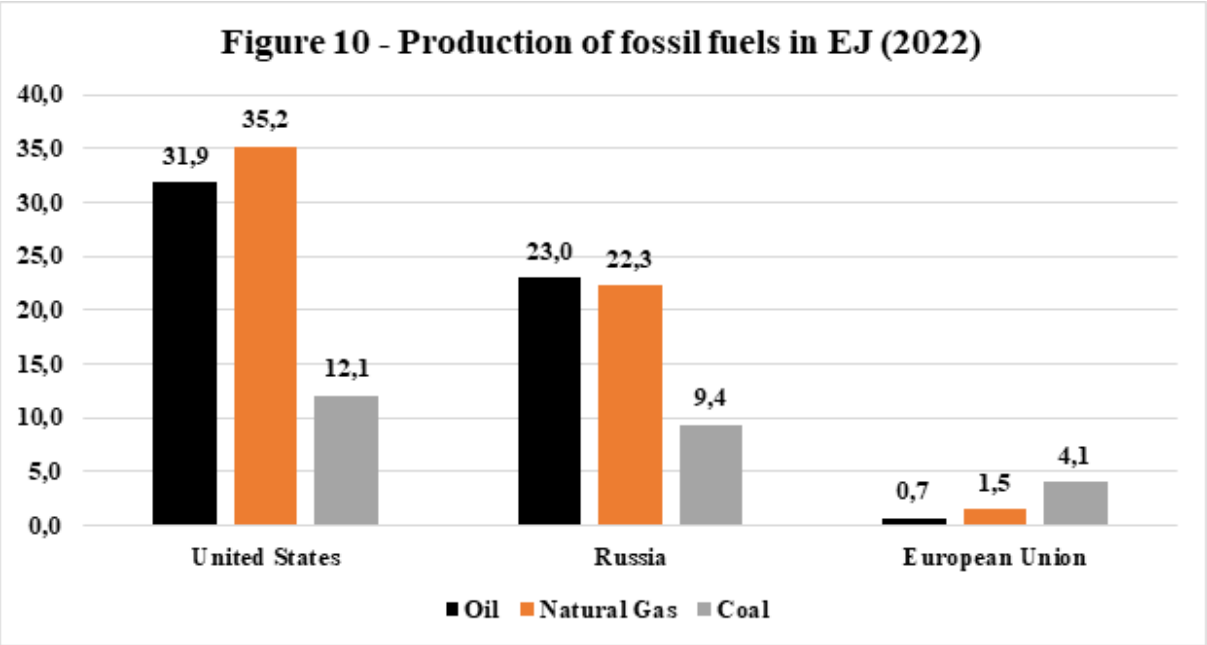


Source: Energy Institute Statistical Review of World Energy (2023)

In barrels of oil the situation is shown in Figure 6. The US has an outstanding 29 times mores proven reserves of oil than the EU and has a 4% share of total global oil reserves, the EU has only around 0,1%. With both Romania and Italy at around 0.6 billion barrels and Denmark at 0.4 billion, these three countries account for about two-third of the EU's total reserves. The UK alone, which left the EU in the beginning of 2020 had more than the whole EU-27, with 2.5 billion barrels. Furthermore, the US has been increasing its proven reserves, discovering oil faster than it consumes, increasing from 30.4 billion barrels in 2000, to 35 billion in 2010 and then almost doubling to the late 2020's 68.8 billion, thanks to the discovery and better extraction of shale gas and shale oil (Energy Institute, 2023). On the other hand, the diminutive European

reserves have been decreasing from 3.9 billion in 2000, to 3.2 billion in 2010 and 2.4 billion in 2020. At this pace the EU would be out of oil reserves by mid-century. The world in total has 1732,4 billion barrels, of which 70.1% belongs to the OPEC (Organization of the Petroleum Exporting Countries) members. Russia, which is not a member of OPEC, has 107,8 billion barrels, about one and a half more than the US, 6,2% of the world's total. Russia unlike the US has been slowly eroding its proven reserves, pumping out more oil than it discovers. If no new proven reserves were to be discovered and would production remain the same (the R/P ratio), the US would run out of oil in 11.4 years and Russia in 58.6 years. In natural gas, as shown in figure 8, the story is the same, the US has many more reserves than the EU, it has 6.7% of the world's total proven reserves, while the EU has 30 times less, only 0,2%. The world in total has 188,1 billion cubic meters of natural gas reserves, Russia has 162 billion (Energy Institute, 2023). It shows figures, in 2020, more that 41% dependence on Russia, 30% for oil and 46% for coal (Ruan, 2023).

Now let's look at the production of each of these resources. In coal the difference between both sides of the Atlantic is less stark. The US has less than four times as much coal as the EU countries, 23,9% of the world's and 7,3% respectively. This abundance of coal in the EU is one of the reasons why when times are tight, and coal and oil are too expensive or unavailable, European countries restart their coal mines and turn back their coal electrical power plants, despite its enormous pollution, such as these last two years since the Russian invasion. The massive EU dependence on Russian natural gas, oil and coal, can be see in the following figures.



Source: Energy Institute Statistical Review of World Energy (2023)

It is again clear the weakness of the EU in fossil fuels, and obvious the enormous production of Russia and the US, the US may produce more but it also consumes significantly more than Russia, making it less of an exporter.

Chapter 2.2 - The EU energy situation before the War

The 2020 to late 2021 were a wild ride in terms of the energy situation in the EU. First the Covid-19 pandemic forced governments to reduce their people's movement and activities, and to an environment of generalized anxiety regarding social interaction and travelling, particularly when border could be suddenly closed, as well as lockdowns. Depressed travel and economic activity, not just in the EU, but around the world, led to much lower energy prices, particularly oil, mostly used in transportation, with oil prices that hovered around 60 dollars a barrel in late 2020, dropping to around 40 dollars. (Oilprice, 2024)

However, in late 2020 prices of oil started to increase worldwide, quickly surpassing the pre-pandemic values. Oil prices continued to escalate, with only a brief with not even the omicron covid variant that brought back some restrictions and increased caution, not leading to lower prices for long, prices rebounded quickly and before the war they were already around the $90 a barrel. (Oilprices, 2024)

The natural gas situation was much worse. Unlike oil, natural gas is much harder to transport, and its prices vary significantly around the world. Prices in the EU and in the US were both low in 2019, becoming extremely low in 2020 due to the pandemic, prices in the EU were about two thirds of American prices during this period. This situation changed dramatically from April 2021 onwards. Prices per MWh in the Dutch TTF index, used for Europe, went above $20 dollars in September 2021 and didn't fall low that until January of 2023, and sudden spikes in gas prices, before the war meant natural gas occasionally reached 40 and 60 dollars a MWh. (Oilprices, 2024)

Most of this natural gas was of Russian origin. In 2021 the EU imported 155 billion cubic meters of Russian Gas, 45% of total imports. Russia was the largest supplier of coal and oil to the EU as well. Of the major EU companies Germany was the most dependent on Russia, with 30% of its oil, 50% of its coal and over half its gas coming from Russia. France, on the other hand, was much less dependent thanks to its strong nuclear sector and diversified supply strategy. (Gonand, 2024)

Chapter 3: Methodology

This dissertation employs qualitative content analysis. To explore how the Russian invasion of Ukraine has influenced diplomatic negotiations on the promotion of the energy transition between the U.S. and EU key documents of before and after the invasion will be selected and studied. Diplomacy is mostly done behind closed doors, which means it is often very difficult to access information about its processes. Particularly, when we are talking about a very recent subject under which diplomatic communications are still outside public access. Nevertheless, this does not mean studying a topic such as that of this dissertation is impossible, as diplomacy has always had, and recently increasingly so, a public facet. This is called public diplomacy. Additionally, policies and national and foreign strategies are commonly presented to the public in form of simplified policy guides and press releases, available online. And above all, in the form of speeches. Official speeches and statements are a very interesting way to study the evolution of EU and US approaches to the Ukraine War, Russia, the energy transition, and their relationship on these issues.

It is impossible to really study the negotiations that happened privately between the EU and the US in reaction to an event as historically recent as the invasion of Ukraine. Documents have not been declassified. Memories have not been written yet. On the other hand, speeches

and statements have been made. Through public speeches done by key leaders and officials from the US and the European Union we can understand the evolving dynamics and priorities of both the US and EU when it comes to the energy transition and its intersection with the transatlantic relationship on energy, environmental and climate issues. And significantly, how those priorities, dynamic and decisions have been presented to the public, internal and external audiences, the latter often leaders and public officials of foreign countries, which almost certainly have an interest in the state of the transatlantic relationship and the US and the EU energy, climate and foreign policies.

This involves an examination of official public statements, notably speeches, from both the U.S. and the EU since the beginning of the first Ursula Von der Leyen commission in late 2019, and particularly since the beginning of the Joe Biden presidency. Public statements from before the war started will be compared to those after the war, both the statements made in the days, weeks, and first months after the war started, and those done after August 2023 and current years after the initial invasion.

We can separate the type of documents that will be analyzed:

First of all, there will be an analysis of speeches by both top EU and US officials, with a focus on speeches done Joe Biden and Ursula Von der Leyen, as well as top public official from both blocs on foreign policy, energy and climate policy. These mean speeches by officials such as Anthony Blinken, US Secretary of State, and John Kerry, the US Presidential Special Envoy for Climate for most of Biden's tenure, and on the EU side, also Charles Michel, the president of the European Council, Frans Timmermans, the Executive Vice- President for the European Green Deal, and also, of course, Josep Borrell the High Representative of the Union for Foreign Affairs and Security Policy.

Then, to compliment speeches analysis I will look at some press releases and public official documents that present landmark policies and key meetings and decisions regarding energy, climate and foreign policy of the EU and the US.

The speeches and documents that will be analyzed and compared are from four different phases. The first is before the war, starting the late 2019 Green New Deal Speech from Ursula Von der Leyen and going until late 2021 and very early 2022 before the Russian invasion of Ukraine. The speeches and documents from this period reflect a world before the invasion and allow us to see how the EU and the US under Biden positioned themselves on the issue of climate change and the energy transition, as well as how they think their cooperation on the issue should be. 2020 and 2021 are years marked by the covid pandemic, supply chain issues,

a worsening in relations with China, and crucially the victory over President Donald Trump by Joe Biden and their completely contrasting views on international cooperation, climate change and the transatlantic relationship, in this case very important, the relation with the European Union.

The final aim is a mix of speeches and documents, some more specifically related to this dissertation topics and others more broad, but very relevant overall, to see how much these issues matter on the big picture and strategic goals of each entity. I choose speeches from executive branches of government, and their figure heads mostly, Joe Biden on the US side, and Ursula Von der Leyen on the EU side. This is because this thesis wants to do a study on macro trends of the impacts of the war on the transatlantic cooperation on the energy transition, more than it wants to study details of policies. Many studies have been done on the impact of smaller measures, but relatively few have analyzed the evolution in rhetoric of the leaders of both sides of Atlantic throughout these turbulent times marked by the invasion of Ukraine and subsequent war.

Chapter 4 – EU and US alignments and only a few divergences

Chapter 4.1 - Before the war

As President-Elect, Ursula Von der Leyen addressed the European Parliament on the November 27th 2019, 30 years after an historic general strike amidst the Velvet Revolution in Czechoslovakia and quoted Vaclav Havel, who lead the country revolt against the socialist regime:

"Work for something because it is good, not just because it stands a chance to succeed."

She said this to introduce her plans for the most ambitious European Commission yet, one that would be a geopolitical commission. Von der Leyen emphasized the need for boldness. The European Green Deal her commission would propose would indeed be bold, and in the view of the Commission and Von der Leyen, good as well. If it stood a chance to succeed was more unclear, particularly when this speech was said before the deadliest pandemic in a hundred years, Covid-19, and the invasion of Ukraine by Russia. Back in late 2019, Ursula Von der Leyen presented the European Green deal as the new growth strategy of the EU, underscoring achieving climate neutrality by 2050 and that this transition was not only for the planet but also a strategic advantage for the EU in global leadership. We see both a somewhat altruistic, do

your part, idealist type, motivation and reasoning for the project, and a more realist desire to give the EU a strategic advantage in global leadership.

For Von der Leyen, the European Union must lead the world and shape the world order for the better, using multilateral tools and setting an example to the rest of the globe. This was her titling of her commission as geopolitical meant. The European Green Deal would be the centerpiece of this strategy.

In her speech she also mentioned countries, or California, as the US under Donald Trump did not have the federal government working against climate change. But it did have individual states, and California is the wealthiest, richest and the state with the second most carbon emissions.

Von der Leyen noted how the Green Deal was also a must for EU's economy, combining once again, more long-term goals of limiting global warming with more immediate goals of boosting EU's economy and competitiveness, particularly industrially.

The rest of the speech was on other topics. Nevertheless, the emphasis given to climate change through the promotion of the European Green Deal was notable and showed what her key priorities and ideology were.

Two weeks after, in one of her first addresses to Parliament after she was inaugurated was also on the Green Deal where she once again stressed the centrality of the Deal on her political program. She once again showed her support for a multilateral approach, in preparation of the COP26 in Glasgow. Von der Leyen gave a little bit more information on what the Deal would entail, such as the very first European Climate Law and how she would present a plan to increase the EU's ambition in cutting emissions until 2030 in the months afterwards. And she said the EU would apply a Carbon Border Adjustment Mechanism, in full compliance with WTO rules to foreign companies who were competing unfairly with EU's companies.

The arrival of the Covid 19 pandemic to Europe in the late winter of 2020 forced however significant adaptions to EU energy and climate policies. Instead of completely neglecting the climate crisis, the Von Der Leyen Commission put instead the European green deal as a center program to recover the EU's economy from the effects of the pandemic. Agreed on 21 July 2020 and adopted on 14th of December 2020 Next Generation EU, also called the European Union Recovery Instrument is a 750 billion euros package planned to operate from 2021 to 2026. Together with the Multiannual Financial framework (MFF) of 2021-2027 it is projected to reach 1824 billion euros. 37% of the 672 billion euros Recovery and Resilience Facility would have to contribute to climate objectives, the Just Transition Fund has a budget of €17.5

billion euros for investments in energy efficiency, renewable energy, clean transport, and social inclusion. The InvestEU and the Horizon Europe Program would also have 30 and 35% of the spending, respectively to contribute to climate objectives. Overall, it is estimated that at least 298 billion euros would be spent on climate related objectives (The 2021-2027 EU budget – What's new?, 2020).

On the other side of the Atlantic, Joe Biden was still campaign to first, become the Democratic Party nominee for President, and then to beat the republican incumbent, Donald Trump. His first plan as a candidate was drafted in June 2019, amidst fierce competition among democratic candidates for the nomination, and specifically, for being the biggest champion of the green transition. It was period where leftwing politics in the US were animated by proposals for a Green New Deal in a callback to the social-democratic policies of Franklin Roosevelt, aiming to combine social-democrat, progressive proposal with environmental and climate concerns.

Albeit more moderate than most of his peers in the nomination race, Biden did propose a 1.7-billion-dollar climate plan, to be applied over ten years, that among other things called for immediately rejoining the Paris Agreements and leverage US influence to encourage other nations to strengthen their climate commitments. It is also aimed at carbon neutrality by 2050, and a carbon-free power sector by 2035, goals who stand to this day in Biden's administration policies and ambitions. (IRA Guidebook, 2022)

Similarly to Von der Leyen plan his plan reflected a strong belief in multilateralism, reinforcing U.S.-EU alliances by re-engaging with global climate efforts and setting the example to other countries.

In the summer of 2020, already after the start of the covid pandemic in the US, Biden once again showed his vision for the US climate policy and diplomacy where he promised up to 4 billion dollars of spending over the course of 4 years in public investment, tax incentives, etc. And very importantly once again stressed how he would put the US leading the world on climate efforts and the energy transition, while creating jobs and reindustrializing America. For Biden a successful climate diplomacy depends on bold, large domestic reforms that bring international credibility and thus inspire global action. These campaign speeches however, rarely mentioned Russia or even the European Union. Only very indirectly were other countries mentioned, and in broad terms. However, China, was mentioned in a speech announcing the plan saying that the US auto industry would step up its capacity and lead the world in clean vehicle production. China, the biggest carbon emitter worldwide by far since the 2000s, was in 2020 establishing

itself already as major battery producer, along with solar panels and increasingly Electric vehicles.

In November of 2020 Biden won the presidential election against Trump. While he was still only president-elect the European Union took immediate steps to begin a working relationship with him, to move beyond the conflicts and difficulties of the Trump years and start working to solve global issues, the pandemic, in the short-term, while also preparing to tackle climate change and accelerate the energy transition. Both Von der Leyen commission and Joe Biden campaign had shown how they viewed big programs to accelerate the energy transition as big, if not central parts of the covid-recovery.

That is why on December 2nd of 2020, the High Representative of the Union for Foreign Affairs and Security Policy, since 1 December 2019, Josep Borrel Fontelles, issued a joint communication to European Parliament, the European Council and the Council called *A new EU-US agenda for global challenge.*

In its introduction it says:

> The relationship between the European Union and the United States is unique and built on shared history, shared values and shared interests. The transatlantic partnership was born of a promise of collective peace, progress and prosperity.

This a vision of the transatlantic relationship that Joe Biden shares. The High Representative mentions the Marshal Plan, NATO and how Europe and the US «helped design and build the multilateral rules-based system to tackle global challenges.» (A new EU-US agenda for global change, p.1) Climate change and the requisite energy transition to limit is one of those challenges, and a challenge that Donald Trump did not care about and certainly did not work together with the EU to tackle it.

Borrell then reminds the audience of the combined power and influence of the EU and the US together and how it is essential to organize global cooperation in a world destabilized by authoritarian regimes. It is certainly a reference to regimes such as that of the People Republic of China, Iran or very importantly, Russia. After mentioning the difficulties of the previous few years, the introduction of this Joint Communication ends with a call for renewed cooperation and taking «the once in a generation opportunity to design transatlantic agenda for global cooperation – based on our common values, interests and global influence. » (p.1) Here are the guiding principles. Will the Joe Biden administration share the same principles, and will they be followed on the challenges of the energy transition, and from 2022 on the war on Ukraine, we will check that on the next documents and during the discussion:

The guiding principles of a new transatlantic agenda

- The transatlantic partnership should work to advance global common goods, providing a solid base for stronger multilateral action and institutions. It will support all like-minded partners to join.
- The EU and the US should pursue common interests and leverage our collective strength to deliver results on our strategic priorities.
- We should always look for solutions that respect our common values of fairness, openness and competition – including where there are bilateral differences. (p.2)

After a chapter on health and pandemic recovery, which is natural since this statement was produced amidst an intense period of the COVID pandemic, the subsequent three chapters are particularly useful for this analysis. Specially the first one about « Working together to protect our planet and prosperity». In this chapter the communication describes climate change along with biodiversity loss, the defining challenges of our time. For the EU «they require systemic change across economies and global cooperation across the Atlantic and the world.». With Biden's election, the EU showed optimism that a shared transatlantic commitment to net-zero emissions by 2050 would increase the rest of the world's ambition on the energy transition and decarbonization as well, improving the odds of an ambitious COP that sees the world promise carbon neutrality for the first time. It then states some issues it wants to see addressed such as the upcoming WTO-compatible EU Carbon Border Adjustment Mechanism, that it considers part of a wider transatlantic green trade agenda, which the Commission proposed launching in mid-2021. This document also showed how the Commission wants to increase support for climate action in developing countries.

First steps:

- Coordinate positions and lead efforts for ambitious global agreements at next year's landmark UN Summits on Climate and Biodiversity –starting with a joint commitment to net-zero by 2050.
- Propose a new transatlantic green trade agenda, which would include a Trade and Climate Initiative within the WTO and measures to avoid carbon leakage.
- Form a transatlantic green tech alliance to ensure greater cooperation on developing clean and circular technologies and creating lead markets.
- Jointly design a global regulatory framework for sustainable finance, learning from the experience of the EU taxonomy.

- Joint efforts to lead the fight against deforestation and step up ocean protection – starting with joint efforts to broker a global plastics treaty and designate Maritime Protected Areas in the Southern Ocean. (p.5)

The next chapter is on trade and technology, not as essential for our analysis but it shows again how the EU was fully committed to transatlantic cooperation to try and bring Joe Biden and the US along for its grand plans and strategies. In the fifth and last chapter before the conclusion the Commission shows its vision on geopolitical issues. Its vision includes helping the US with promoting democracy worldwide and coordinating responses to shared challenges. Russia and Ukraine are mentioned, signaling that the EU was already worried about instability and possible conflicts in eastern Europe and to avoid bad outcomes it stresses the importance of transatlantic cooperation on those topics, particularly defending the territorial and energy security of EU's eastern partners, like Ukraine.

The communication ends with the announcement of an EU-US Summit in the first half of 2021 to launch an ambitious and concrete agenda. The final paragraph is key. «When the transatlantic partnership is strong, the EU and the US are both stronger. It is time to reconnect with a new agenda for transatlantic and global cooperation for the world of today.» We will see how that transatlantic and global cooperation on the promotion of energy transition was designed and executed in the first year of the Biden presidency, before the Russian invasion of Ukraine became imminent.

Chapter 4.2 - 2021 – Biden's first year – A reset that did not always live up to EU's expectation.

Joe Biden was inaugurated as president of the United States January 20th of 2021. In his inauguration speech he showed he had a quite distinct set of priorities and values from his predecessor but remarkably like the EU's under Von der Leyen commission. Biden showed his support for multilateralism, to revitalize old alliances like the transatlantic one, and showed his commitment to broad liberal democratic valuers, and therefore a rules-based liberal order led by the US that puts the world working together to solve global challenges like climate change. Climate change or climate crisis as Biden called it in his speech was mentioned, and he showed

his interest and focus on the issue, by mentioning how he would be rejoining the Paris Agreements right away.

« We can make America, once again, the leading force for good in the world. » is the defining declaration with regards to foreign policy in his inauguration address, which was, understandably, very concentrated on promoting union domestically and the fight and recovery from the covid pandemic and the crisis it caused. Almost immediately after he was elected, he set to do executive orders, laws that do need to pass through Congress, and his first regarding climate policy was called *Executive Order on Tackling the Climate Crisis at Home and Abroad*, where he committed to restoring the US as a Climate leader, rejoining the Paris agreement and holding a Leader's Climate Summit. He linked stressed climate change as national security issue, and that climate change would be taken into account in the US's foreign policy. Biden also set to increase climate finance for developing nations, decarbonize several sectors, starting with electricity generation, reduce methane emissions and eliminate fossil fuel subsidies. This set of laws was a new start in America's climate policy and strategy, and its goals would remain throughout the Biden presidency and shown in his foreign policy and speeches.

The first speech by president Joe Biden or foreign policy, or the White House titled it tit, Remarks by President Biden on America's Place in the World, is more relevant for our topic. «Biden says America is back. Diplomacy is back at the center of our foreign policy.» We shall see if he mentioned climate or energy diplomacy further down the speech.

One again he promised to repair US alliances to meet the challenges of the moment – and of the future. He mentioned how American leadership needs to match the growing tide of authoritarianism, such as the ambitions of China or the determination of Russia to damage US's democracy. One of the global challenges he mentioned is once again the climate crisis, the term he most often uses, to enhance the notion of urgency and gravity of climate change. Biden showed the value he gives to not only diplomatically cooperate with US allies but also with rivals, such as China, critical for solving the energy transition. He nevertheless he says he wants to engage with China on the climate crisis from a position of strength "by building back better at home, working with our allies and partners, renewing our role in international institutions, and reclaiming our credibility and moral authority, much of which has been lost.". This mean working with allies, rejoining the Paris agreement and therefore integrating climate objectives across US diplomacy, to show the world that the US seeks to lead in the climate domain, and work with its closest allies on the issue, chiefly the also ambitious EU. By raising the US commitments, the Biden administration hoped to have other major emitters up their

commitments as well. For that end he decided to host a climate leaders video summit to address climate change on Earth Day of 2021.

Biden did show some continuation of Trump's protectionist approach to trade and industrial policy, by stressing the need to invest in American workers and business and imposing and enforcing fair rules of international trade and intellectual property, so no country, such as China, can match the US. Biden showed right from the beginning he would not have a neoliberal approach to trade like some of his democratic and republican predecessors, and would instead try a more left-wing, more progressive, more thought-out version of the protectionist path Trump put America on. This would have significant impacts on the US role and approach to the energy transition as we shall see, as Biden, while promising investments in new, green technologies that help accelerate the energy transition he would also show that policies should not always be done only with the goal of protecting the environment and advancing the energy transition. His administration would combine them with some protectionist policies looking to reshore key industries and promote national production. This was something that scared Europeans looking for America to have a more favorable approach to free trade and to European trade interests. We will analyze this further, especially when it comes to its impact on the energy transition, further on.

In the conclusion of his speech, he reiterated the idea that the US must invest in diplomacy not just because it is the right thing, but because it is US's self-interest. "When we strengthen our alliances, we amplify our power as well as our ability to disrupt threats before they can reach our shores. » «We are a country that does big things. American diplomacy makes it happen. And our administration is ready to take up the mantle and lead once again. »

Therefore, ready to lead on the world, including on the energy transition we had in February 2021, two major blocks and allies both looking to lead the world on climate, the US under Biden, and the EU with Von der Leyen as President of the European Commission. How would their cooperation on this energy and climate front be throughout 2021 up until Russia invaded Ukraine? As countries started to let go of Covid restrictions, vaccinations rates increased, economies came roaring back worldwide and so did energy use and carbon emissions. Soon energy prices would greatly increase again, and an energy crisis would begin even before the Russian invasion of Ukraine.

On the April Earth Day Virtual Climate Leaders' Summit Biden reiterated many of the same goals on climate change and what the approach to the energy transition should. He highlighted the economic and employment benefits of tackling the climate crisis, making it both

an economic and a moral imperative. He underscored the shared responsibility among major economies, who should set ambitious climate goals, like the US did. This speech confirms that the US and EU in 2021 shared many of the same goals, such as carbon neutrality in 2050, the first time a US president set that goal for the US, and overall visions on the energy transition, which should be done for moral, environmental reasons as well as security and economic reasons. He set the path to the COP26 that would be in Glasgow in October 2021, a COP that would end up being successful, we will study Biden interventions along with Von der Leyen's on that UN conference afterwards.

On June 15th 2021, the Joe Biden and the heads of the European Commission and the European Council, Ursula Von der Leyen and Charles Michel were for the first time together in the EU-US Atlantic Council were they defined together a common approach and a new transatlantic agenda. On the statement called *Towards a renewed Transatlantic partnership* they stated their views and agenda. Besides committing to net-zero emissions by 2050, they decided to create and EU-US and a Transatlantic Green Technology Alliance for coordinated clean energy development, a Trade and Technology Council (TTC) to align on digital standards, counter China's influence, and secure supply chains. This need to counter China's influence and guarantee supply chains is something that shows that fighting climate change is not all that matter in the EU and US views, sometimes compromises must be done on that fight to guarantee national security or protect economies. Trade must be a tool to solve issues, such as climate change. On this summit there was also a focus on energy security for Eastern Europe to reduce dependency on Russian energy, aligning climate policy with strategic stability, which shows how by June 2021 Russia was already seen as danger by both the EU and US due to its energy exports and its potentially aggressive foreign policy, not aligned at all with western interests and countries.

Together both sides promised to enhance cooperation and to provide assistance to countries in need, helping them develop sustainably. Finally on the fourth and concluding chapter of the Joint Statement they claim to stand united in their principled approach towards Russia and to be ready to respond decisively to its pattern of negative behavior and harmful activities as they put it, calling on Russia to address those issues to avoid further deterioration of the relationship. This makes it clear that by mid-2021 the danger posed by Russia to world peace, stability, and to Ukraine and the European Union and even the US was evident and something that EU and US were already taking to account. The invasion of Ukraine by Russia a little more than half a year later would not be a complete surprise for either the US or the EU.

The State of the Union speech by Ursula Von der Leyen given to the EU Parliament on 14 September 2021 was evidently focused on the pandemic and the recovery from it, already on the way by this time, as most European had been vaccinated already and cases and deaths were plummeting continent wide. Nevertheless, when showing the path for the EU's recovery with the NEXTgeneration EU plan she once again emphasized climate change, and the European green deal to combat it while strengthening Europe's economy and security. Von der Leyen explained the plan, the EU's commitment, and told of the need for major economies to have concrete plans in time for the Glasgow COP, COP26. One aspect where she talked about cooperation with the US was in increasing climate finance until 2027, showing how the two wealthy, most historically responsible for global warming, were supposed to help developing countries do the energy transition and adapt to a changing climate, and how the US should step up. She also announced the program Global Gateway, a program of partnerships with developing countries to help them build infrastructure, including green energy plants and green infrastructure in general.

In short, this was what mattered in the speech for our thesis, a speech where she did not mention Russia or Ukraine, showing this was not yet at top of the mind of the Europeans.
Now, let us go back to the other side of the Atlantic to see what Joe Biden was saying in terms of cooperation at the Major Economies Forum on Energy on September 17. In his speech he once again asserted US leadership and told other countries what the US was doing to fight climate change, in particular, working to pass historic investment to modernize and make climate resilient US infrastructure and build a clean energy economy that creates millions of jobs while decarbonizing. Biden told of his work with the European Union, and other partners, to launch a Global Methane Pledge to reduce global methane emissions by at least 30 percent below 2020 levels by 2030. Responding to EU and developing countries' pressure he assured other leaders he was working towards meeting the collective goal of mobilizing $100 billion a year.

This meeting was attended by most major economies, representing 80% of the world's emissions, notably a Special Presidential Envoy for Climate Change of the Russia Federation was there Ruslan Edelgeriyev. Attendees affirmed the urgent need for joint action on energy, to speed up the energy transition.

Now let us see the state of this EU-US cooperation towards the energy transition and how they presented it publicly in major speeches and statements at the last COP before Ukraine War and then at a few other occasions as the invasion was starting to be seen as a possibility and

warning lights started to ring. The COP 26 was in November and in Glasgow, hosted by the United Kingdom and his prime minister, the conservative and environmentally minded Boris Johnson.

At the COP Ursula Von der Leyen gave a very brief speech, a few minutes long, calling for climate action and showing the EU's credentials on the matter, with its strong commitments, its Green Deal. She also called for some international action on increasing climate finance and putting a price on carbon. Joe Biden on the other hand did a much longer speech where he also called for global action towards the energy transition not just stressing the danger of the environmental catastrophes increased in frequency. And severity due to global warming but also the economic benefits countries could stand from creating a green, sustainable economy and investing in clean energy. For Biden, the focus on the promotion of the energy transition should be on jobs, and he wanted the US to set the model to the world. He also announced he was working with Congress to increase climate finance support and recalled the diplomatic efforts the US had made over 2021 on the topic. On the European Union, he mentioned once again, how they were Global Methane Pledge to collectively reduce methane emissions — one of the most potent greenhouse gases — by at least 30 percent by the end of the decade.

By this time is more than clear, at least in public addresses and statements, the EU and the US seem almost perfectly aligned, from reducing emissions, to promoting international cooperation on climate, to increasing climate financing, even in their rhetorical approach, but with a big distinction, the EU already had more clear plans in 2021 than the US had, as the Inflation Reduction Act would take almost another year to finally be set and approved while the European Green Deal was approved in 2020.

A great case study of this EU-US is the press release for the International Just Energy Transition Partnership with South Africa launched by France, Germany, UK, US and the EU. This partnership has the goal to help South Africa decarbonization efforts. It is a perfect example of EU-US cooperation on promotion of the energy transition. In this case, a particular focus on the electricity system, by first moving away from coal, the most polluting fossil fuels, and a crucial fuel in South Africa's electricity system. The leaders of the country involved mention this priority of eliminating coal from the system, and said they were building on the promises set at the G7 summit, earlier that year. We did not analyze the communiqué from that speech at the G7 summit, but it is another example of cooperation between the EU, major European countries, the US and other major western countries such as the UK and Canada, as well as some developing countries like India that were invited on many global challenges, but

also climate change, where they promised collaboration in speeding up the energy transition away from fossil fuels, focusing on getting rid of coal first, like where they would focus in Africa. Von der Leyen noted « This partnership is a global first and could become a template on how to support just transition around the world.» It will be curious to see if Ukraine war and how the West and Global South perceived the war will impact these types of partnerships.

Just a brief note, coming back to the G7 communiqué in Cornwall, written in June 13th, it is another evidence that by June 2021 Western countries were already aware of the risks Russia posed to the international system and to Ukraine, as the G7 members demanded Russia removed its troops from the Ukraine border.

So, it is clear the Russian Invasion did not happen overnight, it was prepared over the course of various months, and by late January it was becoming clearer and clearer, particularly to the US who was constantly warning Ukraine and its allies about the impending invasion. By January 28th it was clear they were preparing for that scenario. Their joint statement on U.S.-EU Cooperation on Energy Security makes it clear they were « jointly committed to Europe's energy security and sustainability and to accelerating the global transition to clean energy. » This statement shows the connection between energy security and sustainability, how the US and EU do not just want to promote a domestic energy transition, but a worldwide one. In this meeting they also showed they supported Ukraine's energy security and its integration with the EU gas and electricity markets.

« The EU and the United States cooperate closely on energy policy, decarbonization and security of supply in the U.S.-EU Energy Council» - Another proof that on the eve of the invasion, both blocs worked together towards the energy transition. They mention the added turbulence and disruption to the energy markets, prices and security a Russian invasion of Ukraine would cause so it shows they were getting prepared for that event. Liquefied natural gas was a centerpiece of discussion in this summit, as the US was already the largest supplier at that time to the EU, but both also wanted to expand LNG supply from other sources so that the EU could enhance its energy security in the short while continuing to transition to net zero emissions. This shows how despite short-term energy troubles that appeared in late 2021 with the recovery from Covid and Russian interfering with gas supplies, how the energy transition remained a priority.

At this meeting both sides prepared the U.S.-EU Energy Council that occurred slightly afterwards on February 7th and was chaired U.S. Secretary of State Antony Blinken, U.S. Secretary of Energy Jennifer M. Granholm, EU High Representative/Vice President Josep

Borrell Fontelles, and European Energy Commissioner Kadri Simson. Once again, they worked on how to guarantee energy security in a rapidly changing energy landscape, while continuing to promote energy diversification and accelerating the energy transition to a net-zero future. The Council considered that future one that mitigates energy market fluctuations

Chapter 4.3– The reaction to the invasion - 2022

Then, just as the Covid-19 pandemic seemed to be finally subsiding, a new major international crisis hit the EU, the Russian Invasion of Ukraine on February 24, 2022. Although energy prices were already very unstable and going up before the war, with significant increases in oil prices, and natural gas prices going through the roff in the EU, as economies recovered from the pandemic, and nuclear plants were being shut down in Germany and having issues in France, a major nuclear power producer (Fleck, 2022).

In the early morning of 24th of February of 2022, a day that will live in infamy, Vladimir Putin, President of the Russian Federation addressed his nation, and the world, that a special military operation was beginning in eastern Ukraine. Minutes afterwards, bombs started to drop in Ukraine, and not only on its eastern part, but in Kyiv and Odesa as well. A new war in Europe, feared, but until the last moment hoped it could be avoided by most European leaders and even by Ukraine's president, Volodymir Zelensky, had just begun.

The United States intelligence services had warned the world of this coming war in the days, weeks, and evens months before, as Russia amassed military forces on the Ukrainian border since March 2021, and particularly since October 2021.As we saw on the 2021's speeches, both EU and US were already taking into account Russia's aggressive maneuvers and energy tactics.

The reaction by most of the Western World was of immediate condemnation of Russian acts and an outlook of next steps to take. In the European Union, still in the first day of the invasion there was a special meeting of the European Council, where the 27 EU member states agreed to condemn Russia's invasion, and also agreed with sanctions on many areas, looking to harm and punish Russia for its acts. These areas included sanctions on the energy and transport sectors. The Council invited the European Commission to put forward contingency measures in various areas, such as energy. The Council also added that "It will continue strong coordination with partners and allies, within the UN, OSCE, NATO and the G7.". From the beginning coordination with the United States played a big part on how the EU would respond

to the war, and how it would solve the energy problems that would quickly arise due tot invasion. (European Council, 2022)

The next day, the 25th, a series of sanctions affecting, among others, the Russian energy sector were imposed.

“The EU will prohibit the sale, supply, transfer or export to Russia of specific goods and technologies in oil refining, and will introduce restrictions on the provision of related services. By introducing such export ban, the EU intends to hit the Russian oil sector and make it impossible for Russia to upgrade its oil refineries.

Russia's export revenues accounted for EUR 24 billion in 2019.”” Russia’s military aggression against Ukraine: EU imposes sanctions against President Putin and Foreign Minister Lavrov and adopts wide ranging individual and economic sanctions – (Consilium europa.eu)

These sanctions were clearly intended to harm the Russian fossil fuel sector. Curiously no sanction were imposed on Russian renewable sector, perhaps, because it is too small to be relevant. (Energy Institute, 2024)

Biden had the opportunity to react in a grand and very watched manner with the State of the Union Address to Congress on March 1, 2022. He quickly mentioned the invasion of Ukraine by Vladimir Putin painting not only as a mere invasion but as an effort by Putin to shake the foundations of the free world, as Biden put it. He showed his and America’s support for Ukraine and for Europe more broadly. Biden explained how he prepared a common front of Western allies to support Ukraine and punish Russia, with though sanctions for example. In this speech he announced his plans to release oil from the Strategic Petroleum Reserve in a effort to lower oil prices and explained why that was needed, even if on the long term moving away from fossil fuels was the goal. In conclusion his reaction to the Russian invasion of Ukraine was one of stern condemnation and the announcement that the West was united thanks to his efforts to prepare a united front in the previous months, as the US warned his allies of the impending invasion.

Another Biden speech on late March made in Poland, addressed the war in Ukraine, where he detailed the US commitment to helping Ukraine, sanctioning and pressuring Russia and calling for Europe to end its reliance Russian fossil fuels and highlighted U.S. support for Europe’s energy security. This speech overall reinforced the transatlantic unity, particularly with an aggressive rival, and kept the US emphasis on renewable energy and reducing reliance on "tyrannical" regimes for energy, something which aligned with shared U.S.-EU goal to

achieve net-zero emissions by 2050. Showing once more how the war became a catalyst for accelerated energy transition efforts.

On the 10 and 11th March there was an informal meeting of the Head of State or Government of the European Union in Versailles, where they adopted a declaration where on condemned Russia's aggression, calling for a withdrawal of Russian troops from Ukraine and calling for accountability. This *Versailles Declaration* represented a unified EU response to the invasion. EU also pledged its support for Ukrainian resistance, and future post-war reconstructions and possible membership of the European Union. There was also a commitment to bolstering defense capabilities, reducing energy dependencies, and building a robust economic base for 2030. So, as we can see, it is clear from the beginning of the war how it led to increased European ambitions, on its capabilities, both for internal security and geopolitical projection. What about energy? Correct energy policies were quickly understood necessary to withstanding the war's repercussions well, and also hurting Russia, and helping Ukraine. What did this statement say on energy?

First it said that the EU aimed to reduce its dependency on Russian energy imports as soon as possible, focusing on diversifying supplies and routes, developing renewables, and improving energy efficiency. So, while the EU would continue using fossil fuels, in part from different suppliers and from different routes, to not need Russia as much, it also repeats the goal of speeding the energy transition. Now, it is not only to protect the environment and limit the global temperature increase, but to further its energy security. The goal of climate neutrality by 2050 was repeated. The ambition to decarbonize remained, even with a war on the borders of the Union

It was with this Versailles declaration that a key plan to respond to the energy disruption was announced: RePower EU, that we will analyze further in depth, that was to be proposed until end of May to phase out reliance on fossil fuels, speed up renewables' development, and improve energy infrastructure. A plan for energy security in the winter, a particular energy intensive period due to the colder weather, was also said to be in the works. All these plans would in fact be made and implemented, some of them even more successfully than planned.

The declaration also mentions reducing strategic dependencies on raw minerals and other areas and building European autonomy, without mentioning any other countries in particular or of cooperation with the US. Just talk of pursuing an" ambitious and robust trade policy, multilaterally as well as through trade agreements, and promote our standards, market

access, sustainable value chains and connectivity" with instruments to address distortive effects of foreign subsidies and coercive measures from other countries and a call for fair trade agreements. Geopolitics became even more important to consider when deciding the overall investment needs.

The first joint statement after the invasion between the European Commission and the United States on European Energy Security was made on March 24th. Both committed to reduce Europe's dependency on Russian Energy. Aligned on condemning Russian invasion of Ukraine, they showed they were also aligned on the need of addressing the energy security emergency and ensuring enough energy supply for the EU and for Ukraine. «energy security and sustainability of the EU and Ukraine are essential for peace, freedom and democracy in Europe.» This once again shows how there was an agreement that there is a need to secure energy supplies while advancing clean energy objectives, a key focus for the EU as it strives to reduce its dependency on Russian fossil fuels by diversifying energy sources and investing in renewables.

A few weeks after, on April 6, this close coordination continued, as shown by the Vice-President Joint Statement by Executive Vice-President Timmermans and US Special Presidential Envoy for Climate Kerry following the 6th EU-US High-Level Climate Action Group. One major conclusion of this call between the heads of the climate policy and/or diplomacy on each side is that the war against Ukraine had only « strengthened the imperative of staying on track and accelerating the clean energy transition. The sooner countries can diversify their energy sources, improve energy efficiency, and introduce renewables, the better. The rest of this speech was focused on following up the work done on the COP26 and preparing the next COP. The EU and the US also expressed their joint commitment to help developing countries transitioning and called on other partners to join them. Now helping Vietnam and Indonesia, two very populous and polluting countries, and two important countries in the geopolitical scene. This is clearly not just goodwill and concern for the environment but also an effort to improve relations with global south countries. This is something that would only become more important as these countries became swing states on whether to condemn Russia's actions and support Ukraine.

The goals of Repower EU were stated "EU confirmed its objective to reach independence from Russian fossil fuels well before the end of the decade, replacing them with stable, affordable, reliable, and clean energy supplies for EU citizens and businesses.". As one sees the

goal of transitioning to clean energy is combined with the goal of getting rid of Russian fossil fuels, a double benefit of this transition that the statement highlights

Both parties reinstated their commitment to the Paris Accord goals, reaching net zero greenhouse gases emissions, by 2050, and keeping 1.5 degrees Celsius maximum increase in temperature within reach, through a speedy clean energy transition towards renewable energy and by improving energy efficiency.

The invasion did not affect EU and US goals of the energy transition, nor their commitment, and there is an effort to use natural gas in a cleaner fashion. Despite the role of US LNG in substituting Russian gas, there is also an effort to engage private sector to reduce gas demand and accelerate market deployment and utilization of clean energy technologies and measures in Europe and the United States:

Already after the launch of the Repower EU, Ursula Von der Leyen and Joe Biden met again, on June 27th where they explained how they were countering Russian energy leverage, as Russia was increasingly using gas supplies as a political weapon. They explained their use of new technologies to increase energy efficiency and reduce consumption, something useful for surviving the war impacts on western energy systems but also to more easily do the energy transition and decarbonize. The two blocs also recognized the negative impacts of the LNG that the EU now so often used, in great part coming from the US, and explained how they were planning to reduce methane pollution, therefore demonstrating their commitment to climate-conscious energy policies even amidst pressing energy security challenges. In conclusion, this statement captured how the two partners were reshaping energy and foreign policy in response to the Ukraine war and using the crisis to fuel accelerated cooperation in clean energy and greater transatlantic alignment on security and sustainability.

Inflation, which was already going up, exploded in the EU in the months after the invasion, reaching a peak of 11,5% year-over-year in October 2022, in great part due to a rise in energy prices that reached its all-time peak in the same month (Trading economics, 2023). The sanctions on Russia and the tensions with the country with constant stops in the flow in Russian natural gas led to an 80% fall in gas deliveries from Russia in September 2022 compared with pre-pandemic levels. The energetic dependence that many EU countries created on Russian fossil fuels, chiefly natural gas, backfired tremendously. A ban on Russian oil and gas import also led to increases in fuel and electricity prices (Statista, 2023). To address the energy crisis the EU launched REPower EU in May 2022, with the goal of saving energy, producing more clean energy and diversifying energy suppliers. According to the EC website the EU was able

to reduce 20% of its electricity demand and in 2022 had 39.5% of its electricity coming from renewables, despite severe summer droughts impact hydropower generation. A gas price gap and a global oil price cap was also introduced, limiting Russian revenues from fossil fuels exports. The deployment of renewables was also doubled. Compared to August 2021 in August 2022, Russian pipeline gas went from 41% of energy import to 9%, other pipeline suppliers rose from 40 to 50%, and liquefied natural gas, (LNG) doubled in share, from 19 to 41%. EU established agreements with other third countries for pipeline imports, invested in common purchase of LNG (a significant part coming from the United States) securing strategic partnerships with Namibia, Egypt and Kazakhstan to guarantee a sustainable supply of renewable hydrogen, a key fuel for decarbonization, particularly of European industry, and by signing agreements with Egypt and Israel for the export of natural gas to Europe (Comission, RePower EU, 2022).

To manage price rises and hopefully lower them and guarantee enough energetic resources for the more energy demanding winter, EU launched EU Energy platform to coordinate gas purchases and avoid competition between member states. Common gas procurement therefore ensured a stabler energy supply and at lower costs. In fact, it worked as a common effort to fill up gas storages ahead of winter, and targets were exceeded, by November 1st of 2022, 95% of underground gas storage was filled, instead of the proposed 80%, the target the years ahead will be 90%. A mild winter helped avoid a serious energy crisis, and energy prices have been mostly falling since the peaks of mid-2022. The EU also had its member states agree on a 15% minimum reduction of gas consumption, which was surpassed by the EU overall between August 2022 and March 2023. This voluntary gas demand reduction targeted was then extended by member states, as proposed by the Commission for another year after March 2023 (Comission, EU Energy Platform, 2022).

On 18th of May 2022, as part of the REPower EU plan, the EU also presented its plan for the *EU external energy engagement in a changing world.* It addresses climate change as an existential threat for both the EU and the world and mentions the energy crisis. Despite separating short-terms measures (which can increase pollution for example by increasing coal usage in place of gas) to address immediate energy needs, from stable availability to reasonable prices, from longer term measures aiming to decarbonize the energy sector, the EU once again uses the theme of turning challenges into opportunities. Here, the challenge of the Ukraine war, as an making necessary accelerating the energy transition, as for the EU's view it is the «only way to simultaneously ensure sustainable, secure, and affordable energy worldwide.» Aiming

to end imports of fossil energy from Russia well before 2030, new energy sources and providers will have to be found. The EU thinks it can lead the energy transition, and that it is essential the Union shapes the new worldwide energy markets and systems that will emerge from the transition away from fossil fuels. The EU thinks this crisis is an opportunity for a leapfrog away from carbon-intensive development into a greener, more equal economy that provides energy to millions in many developing countries. The Global Gateway is the EU project's name for investment worldwide in sustainable development and climate related projects. The consequences of the Ukraine war led to a need of strengthening EU climate and energy diplomacy. To achieve its goals, EU's external energy policy will aim to:

> ·strengthen its energy security, resilience and open strategic autonomy by diversifying the EU's energy supply and boosting energy savings and efficiency;
>
> ·accelerate the global green and just energy transition to ensure sustainable, secure and affordable energy for the EU and the world;
>
> ·support Ukraine and other countries that are directly or indirectly affected by the Russian aggression;
>
> ·build long-lasting international partnerships and promote the EU clean energy industries across the globe. (EC, 2023)

Meanwhile there was another Major Economies Forum on mid-June where the Chair's summary and Biden remarks both highlighted how the U.S. and EU are leveraging the Ukraine crisis to drive both immediate energy security and long-term climate goals. They emphasize reducing reliance on Russian energy, increasing clean energy investment, and advancing specific climate initiatives. Notably Russia did not participate in this Forum, which shows geopolitical tensions and a major conflict can disrupt international cooperation. Russia is a major polluter, the fourth worldwide.

Meanwhile the 2022 EU State of the Union emphasized Europe's urgent pivot to energy independence, focusing on reducing reliance on Russian gas and accelerating the green transition through the European Green Deal and REPowerEU. This speech reinforced the EU's commitment to climate resilience, competitive industries, and stronger transatlantic cooperation for energy security.

Chapter 4.4 - The Inflation Reduction Act and the EU response

EU's actions as a block, strongly guided by the EU commission were thus able to lower gas prices in the EU to levels below the Russian invasion of Ukraine, prices are still relatively high compared to historical levels and are likely to remain that way. However long-term EU plans on not only diversifying and increasing natural gas supply, the least warming of the major fossil fuels, but strongly investing in renewables because for the EU renewable energy is «good for the climate; good for EU's energy independence; good for the security of supply, and it creates jobs in the EU" (EC, 2022)

The records achieved in solar energy capacity installation, increased wind capacity, both together surpassing gas usage in electricity generation for the first time increased EU's ambition on climate targets, with a new plan set in March 2023 to almost double the existing share of renewable energy in the EU, proposing a Green Deal Industrial Plan in February 2023, to help the EU industry achieve the EU's climate goals. A response to the Inflation Reduction Act of the Biden Administration in the US approved in 2022, with a record amount of money for the clean energy transition, and some protectionist measures that protect US companies but hurt European ones, resulted in some tensions with the US.

The IRA was already being planned by the Biden administration, with or without the invasion of Ukraine but the escalating inflation and the energy crisis affected certainly some policies and framing of the policy. The name of a mainly climate and energy focused act being Inflation Reduction Act, in response to the high inflation the US was having at the time. Coincidentally or not, it started to drop shortly afterwards. (Trading Economics, 2024) In two remarks, one in August, another in September as it passed on both houses of Congress and was signed by Biden, the president presented the act, which had a big energy focus and on driving climate action and investing in American-made clean energy. It also promoted the transition to renewable energy via substantial investments and tax credits for electric vehicles and energy-

efficient appliances. One of its ultimate goals was to strengthen energy independence and address the climate crisis.

On Davos IRA and the energy transition was a big topic both Ursula von der Leyen and John Kerry underscored the need for a strong push toward net-zero emissions. Their statements reflect a shared EU-US ambition to lead in climate action, seeing the shift as a critical economic and industrial transformation in many ways similar to the Industrial Revolution. Despite alignment on climate goals, the EU expressed concerns over the IRA's protectionist measures. Von der Leyen highlighted worries that certain IRA incentives—like those for US-made electric vehicles—could disadvantage European industries. This led to calls for fair competition and mutual benefits in clean energy, where both blocs could avoid trade conflicts by fostering "economies of scale across the Atlantic." This is a sign of some divergences and tensions on the cooperation on climate transition between the two Atlantic sides. Von der Leyen explained the EU's response to the IRA Net-Zero Industry Act" as part of the European Green Deal, aiming to secure its clean tech industries against international competition, notably from the US and China. This policy approach aligns with broader EU industrial strategies that emphasize sovereignty, resilience, and local production capacities in critical sectors like wind energy, electric vehicles, and hydrogen. This shows despite being aligned on Ukraine, not everything was cooperation on the energy and climate front.

The EU nevertheless sees cooperation with the US as essential for counterbalancing dependence on authoritarian states for resources and technology, while still aiming to secure its clean tech industries against international competition, notably from the US and China.

Coming a little back at the first COP since the beginning of the war, COP27 in Egypt in November Biden presented triumphantly and proudly the Inflation Reduction Act touting the great things it would do for the environment while emphasizing the security aspects. Ursula Von der Leyen made a much shorter speech she mentioned Ukraine but quickly moved to the urgency of the climate crisis, connecting the efforts to get rid of Russian fossil fuels with moving away from fossil fuels in general and she did not pay attention to the US but instead to the global south and the partnerships with developing countries to help them develop without crippling addictions to fossil fuels.

Chapter 4.5 – Adapting the energy transition to a long war – 2023 and 2024

In 2023 it started to dawn on the EU and the US the war would not end quickly. This year also marked a stabilization in energy prices and a lowering of costs. There was algo progress on the energy transition, with first effects of the EU and US responses to the war and the big plans to accelerate the green transition starting to come into effect. Slowly the war also started to have a little bit less prominence on the politics of both sides of the Atlantic.

The US state of the union in 2023 highlighted Economic and Manufacturing Revival: Biden stressed rebuilding American manufacturing and technological infrastructure, and the IRA. He also spoke about the Global Leadership and Investment: Biden highlighted recent U.S. legislative and investment actions, particularly in clean energy and high-tech sectors, as part of a broader global leadership strategy. However, he did not mention the EU, showing how the transatlantic cooperation is not always top of mind for the president of the United States, despite its importance.

On the other side the state of the union, the European Union, Von der Leyen did emphasize the EU's commitment to clean tech and green jobs, through initiatives like the Net-Zero Industry and Critical Raw Materials Acts, the first a response to IRA, by ensuring Europe remains competitive in green tech manufacturing. The EU also started to pay more attention to China, looking for ways to protect its industry even if meant slowing down the adoption of green tech, often made in China. Ursula, emphasizing reduced dependence on Russian energy, von der Leyen reinforced the EU's green energy focus and again spoke about Global Gateway and the EU's efforts to promote the energy transition worldwide. But curiously, like Biden, she did not speak about the other side directly, but it was clear some of her polices were affected and responses to the other side.

While they did not mention each other directly at their big annual state of the union speeches, both continued to cooperate deeply as shown by the joint statement at the 10th EU-US Energy Council which reflected a reinforced transatlantic partnership focused on energy security, accelerated transition to net-zero emissions, and coordinated responses to Russia's energy threats. In 2023, continuing towards 2024, both sides remained centered on enhancing energy resilience, reducing dependency on unstable sources, and collaboratively pushing forward clean energy transitions in a multilateral framework. They agreed on collaborative efforts in nuclear energy, methane emissions reduction, and securing critical minerals for clean energy, as well as coordinating climate action in multilateral forums like the G7 and COP.

Chapter 5: Discussion

With the election of Ursula Von der Leyen as president of the European Commission in 2019 and Joe Biden as president of the United States in 2020, we saw an unprecedented alignment in transatlantic goals, especially around climate and energy. Both leaders shared a vision for a swift, sustainable energy transition that would combat rising global temperatures and preserve the liberal, rules-based order. (Fahey, 2023) highlights this alignment, noting that both the EU and US began positioning climate policy as central to their foreign policies and international stability. This period marked a renewed hope for a cohesive US-EU approach to addressing climate challenges on the global stage.

However, despite this alignment, both powers displayed a distinct shift toward "reshoring" and protectionist policies, especially in the US. Trump's administration had brought protectionism to the forefront of US trade policy, and while Biden approached it with a more diplomatic tone, he continued in a similar direction. Crawford (2023) discusses how Biden's emphasis on boosting US industries and securing supply chains demonstrated an economic nationalism that the EU found disappointing, particularly in Biden's first year. This disappointment, though rarely said in public forums, was evident in the EU's hurried moves to resolve lingering trade tensions with the US, such as reducing tariffs on steel and aluminum for clean production standards, a calculated strategy that integrated trade and environmental goals (Kucharski, 2023).

The key turning point, as (O'Sullivan, 2023) describes, was Russia's invasion of Ukraine in 2022. This event demanded an extraordinary level of cooperation between the US and EU, leading to their most intensive collaboration since World War II. Both sides supported Ukraine, sanctioned Russia, and bolstered their defenses, with energy security emerging as a central focus. While the EU endured high energy prices initially, it accelerated its renewable energy investments, while the US provided critical supplies of gas, helping to stabilize Europe's energy market over time. (Marconi, 2023) describes how this collaboration reflected a strategic shift where the EU and US were increasingly forced to work together, underscoring their mutual dependency in an era of geopolitical tension.

Interestingly, the style of official speeches from both the EU and US did not change drastically, maintaining an emphasis on climate goals and the need for a green transition. However, beginning in mid-2021 with the onset of the energy crisis, and especially after the Ukraine invasion, mentions of "energy security" became markedly more frequent, showing how

the two issues—energy transition and security—were increasingly intertwined. By early 2022, climate resilience and energy independence were framed as complementary goals in both EU and US rhetoric, acknowledging the dual need to achieve climate targets while securing domestic energy resources. The *Routledge Handbook on Transatlantic Relations* (2024) notes this trend, highlighting how energy security and climate diplomacy became joint pillars in US-EU relations, particularly as both worked to address global instability and protect against future energy crises.

The Inflation Reduction Act (IRA) made things more complicated creating both opportunity and tension at the same time for the transatlantic relationship. On one hand, the EU welcomed the IRA for its climate objectives, yet its protectionist subsidies on clean technologies like electric vehicles posed a challenge for European industries striving to compete in similar sectors. Crawford (2023) and Held & Pastukhova (2023) provide detailed analyses of the IRA's impact, noting the EU's mixed response: while supportive of its environmental impact, the EU cautioned that the act's economic nationalism could harm allied economies, complicating the transatlantic relationship further as we saw on the Davos speech by Von der Leyen.

Under Von der Leyen and Biden, climate diplomacy has also become increasingly significant, not only within their relationship but with the developing world as well. The EU and US have prioritized climate financing for low-income nations, supporting adaptation and resilience projects that are critical to global climate goals. (Bremberg & Michalski, 2024) emphasize that both the EU and US see these diplomatic efforts as crucial to maintaining global influence in an era where countries like China are increasingly active in green diplomacy. By tying climate resilience to energy independence, they aim to project stability and support for a fairer global order that addresses energy needs without compromising climate targets.

In sum, the election of Von der Leyen and Biden started a period of unprecedented climate alignment in US-EU relations, though not without tensions surrounding protectionism and trade. The Ukraine invasion highlighted the critical role of energy security, intertwining it with climate policy in a way that will likely define future transatlantic cooperation. As the EU and US continue to balance competitive and cooperative dynamics, they face the challenge of leading global climate action while navigating the balance and complexities of both trying to achieve energy independence, respect allies needs and priorities, and work towards a green transition.

Conclusion

This topic is incredibly complex. This dissertation barely scratches the surface of this. In conclusion it is actually simple, Joe Biden and Ursula Von der Leyen cooperated on the energy transition from the beginning of their mandates, or better, even before Joe Biden was inaugurated, as we saw. They both wanted to engage the developing countries in this issue and help them develop greenly. In the middle of 2021, an energy crisis developed with the recovery from Covid and increased turbulence in the Russian supplies of energy to Europe, particularly with gas. The EU, which does not produce its own gas, was much more affected. The US and EU were key to ensuring decisive successful results at COP26. However, as a war became imminent, and it eventually happened, the focus had to switch to energy security in the short term. The war was the turning point in the two blocs' relationship.

Nevertheless, the long-term goal remained the energy transition and protecting the planet also as the best way to boost economies and protect national security. Even with renewed cooperation as a response to the Russian, the US launched IRA which didn't help transatlantic cooperation in general and in particular towards the green transition, there is still some selfishness, but it is clear the Ukraine war did not make the cooperation on the green transition weaker. Instead, it has become stronger, even with some protectionist measures. The speeches and commitment to do the energy transition remained strong, and the new plans and trends on the EU and the US clearly show an accelerated pace towards the energy transition, even as the US produces oil and gas at record levels. Cooperation is happening, and despite some hiccups, it is crucial in both protecting geopolitical interests, promoting transatlantic security and mitigating global warming and its serious consequences. If it will go on the future we don't know. Hopefully it will.

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Annexes

EU Side

Date	Speaker/Entity	Title	Summary	Link
November 27, 2019	Ursula von der Leyen, President-elect of the European Commission	**Speech by President-elect von der Leyen in the European Parliament Plenary on the occasion of the presentation of her College of Commissioners and their program**	Lays the groundwork for the EU's climate and energy diplomacy, framing it as a central pillar of both internal and foreign policy, and mentions the relationship with the U.S.	Link
December 11, 2019	Ursula von der Leyen, President of the European Commission	**Remarks by President von der Leyen in the European Parliament Plenary on the European Green Deal**	Establishes the priorities of the incoming Commission, putting the European Green Deal center stage as a way for the EU to lead the world in the energy transition.	Link
December 2, 2020	European Commission	**EU-U.S.: A new transatlantic agenda for global change**	Shows the EU's proactive approach to re-engaging the U.S. under President-elect Joe Biden in shared climate and energy goals after a strained relationship during the Trump administration.	Link
September 15, 2021	Ursula von der Leyen, President	**State of the Union Address 2021**	Addresses key issues including climate	Link

	of the European Commission		policy and EU-U.S. relations.	
November 1, 2021	Ursula von der Leyen, President of the European Commission	**Speech by President von der Leyen at the UN Climate Change Conference (COP26)**	Outlines the EU's commitments to climate action at COP26.	Link
May 24, 2022	Ursula von der Leyen, President of the European Commission	**Speech by President von der Leyen at the World Economic Forum**	Discusses the effects of the war in Ukraine on climate policies and the European Green Deal.	Link
September 14, 2022	Ursula von der Leyen, President of the European Commission	**State of the Union Address 2022**	Addresses key priorities, including energy and climate policy in the context of the ongoing war in Ukraine.	Link
November 8, 2022	Ursula von der Leyen, President of the European Commission	**Statement by President von der Leyen at the COP27 Plenary Meeting**	Reaffirms the EU's commitment to climate action at COP27.	Link
December 12, 2022	Ursula von der Leyen, President of the European Commission	**Energy Outlook for Europe: President von der Leyen Outlines Key Priorities for 2023**	Outlines the key energy priorities for the EU in 2023.	Link
December 14, 2022	Ursula von der Leyen, President of the European Commission	**Speech at the European Parliament Plenary on the Preparation of the European Council Meeting of 15 December 2022**	Addresses the upcoming European Council meeting, discussing energy and climate issues.	Link

January 17, 2023	Ursula von der Leyen, President of the European Commission	**Speech by President von der Leyen at the World Economic Forum (Davos 2023)**	Discusses the EU's approach to climate and energy policy amid global challenges.	Link

U.S. Side

Date	Speaker/Entity	Title	Summary	Link
July 14, 2020	Joe Biden, Presidential Candidate	**Remarks by Vice President Joe Biden on the Economy and the Climate Crisis**	Lays out his vision for tackling the climate crisis and rebuilding the economy.	Link
January 20, 2021	President Joe Biden	**Inaugural Address by President Joseph R. Biden, Jr.**	Mentions climate change as one of the key challenges facing the nation.	Link
February 4, 2021	President Joe Biden	**Remarks by President Biden on America's Place in the World**	Emphasizes re-engagement with the world and addressing climate change in his first major foreign policy speech.	Link
April 22, 2021	President Joe Biden	**Remarks by President Biden at the Leaders Summit on Climate**	Announces ambitious climate goals at the virtual Leaders Summit on Climate.	Link
September 17, 2021	President Joe Biden	**Remarks by President Biden at Virtual Meeting of the Major Economies Forum on Energy and Climate**	Discusses efforts to combat climate change with leaders of major economies.	Link
November 1, 2021	President Joe Biden	**Remarks by President Biden at the**	Outlines U.S. commitments at the	Link

		COP26 Leaders Statement	COP26 climate summit in Glasgow.	
March 1, 2022	President Joe Biden	**State of the Union Address 2022**	Addresses various issues including climate and energy in his State of the Union Address.	Link
March 26, 2022	President Joe Biden	**Remarks on the United Efforts of the Free World to Support the People of Ukraine**	Discusses global efforts to support Ukraine, touching on energy and geopolitical considerations.	Link
June 17, 2022	President Joe Biden	**Remarks at the Major Economies Forum on Energy and Climate**	Addresses leaders at the Major Economies Forum, discussing climate action.	Link
August 16, 2022	President Joe Biden	**Remarks at Signing of H.R. 5376, the Inflation Reduction Act of 2022**	Signs landmark legislation addressing climate change, healthcare, and tax reform.	Link
November 11, 2022	President Joe Biden	**Remarks at the 27th Conference of the Parties to the UN Framework Convention on Climate Change (COP27)**	Highlights U.S. climate initiatives at COP27 in Sharm el-Sheikh, Egypt.	Link
February 7, 2023	President Joe Biden	**State of the Union Address 2023**	Discusses key policy areas including climate and energy in his State of the Union Address.	Link

Joint Statements and Events

Date	Entities	Title	Summary	Link
November 2, 2021	France, Germany, UK, U.S., EU	**International Just Energy Transition Partnership with South Africa**	Launch of a partnership to support South Africa's decarbonization efforts.	Link
January 28, 2022	President Biden and President von der Leyen	**Joint Statement on U.S.-EU Cooperation on Energy Security**	Joint statement on cooperation to ensure energy security.	Link
March 11, 2022	European Council	**Versailles Declaration**	EU leaders' declaration focusing on energy independence and strategic autonomy in the context of the war in Ukraine.	Link
March 24, 2022	President Biden and President von der Leyen	**Joint Statement by President Biden and President von der Leyen**	Reinforcing transatlantic cooperation on energy and climate.	Link
March 25, 2022		President von der Leyen and President Biden	**Statement by President von der Leyen with U.S. President Biden**	Addresses joint efforts to enhance energy security and reduce dependence on Russian fossil fuels.	Link
April 6, 2022	Executive Vice-President	**Joint Statement following the 6th EU-U.S. High-**	Reinforces cooperation on climate action	Link

	Timmermans and John Kerry	**Level Climate Action**	between the EU and the U.S.	
March 10, 2023	President Biden and President von der Leyen	**Joint Statement by President Biden and President von der Leyen**	Joint statement on cooperation on various issues including climate and energy.	Link
April 4, 2023	European Union and United States	**Joint Statement following the 10th EU-U.S. Energy Council**	Outcomes of the EU-U.S. Energy Council meeting, focusing on energy security and clean energy transition.	Link