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Implications of the European Green Deal today
Implicaciones del Pacto Verde Europeo en la
actualidad

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ABSTRACT

This paper develops the most important aspects of the European Green Deal, from its historic origins and precedents in the European Union, going through its implementation by the Member States in their territories in a cooperative manner (for example, Spain), until the study of the difficult challenges that the European institutions have programmed for the future in terms of gas emissions.

Specifically, the Climate Pact and the EU Climate Law are two fundamental pillars of the European environmental policy studied in this paper, so it is essential to know them and their main objectives.

In addition, the necessary transformation of the European economic system will be studied, as well as the financing method used by the EU to put into practice and make the sustainable levels of pollution a reality for the horizon of the year 2050.

RESUMEN

Este trabajo desarrolla los aspectos más importantes a conocer del Pacto Verde Europeo, desde sus orígenes históricos y precedentes en la Unión Europea, pasando por su implantación por parte de los Estados Miembros en sus territorios de forma cooperativa (por ejemplo, España), hasta el estudio de los desafiantes retos que para el futuro tienen programados las Instituciones Europeas en materia de emisiones de gases.

Concretamente, el Pacto Climático y la Ley Climática de la UE son los dos pilares fundamentales de la política medioambiental europea estudiada en el trabajo, de forma que resulta imprescindible conocer su razón de ser y sus objetivos principales.

Además, se estudiará la necesitada transformación del sistema económico europeo, así como el método de financiación empleado por la UE para poner en práctica y hacer realidad los niveles sostenibles de contaminación para el horizonte del año 2050.

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1. INTRODUCTION

Due to the recent European Climate Law publishment and the beginning of the public consulting process on the European Climate Pact, I thought it appropriate to prepare a paper explaining the characteristic features of European environmental policy.

The main objective of the European Climate Pact was to encourage citizen participation in the race to achieve objectives such as gas emission reductions through information exchange, conferences, and debates. Fortunately, this had success, with the creation of other successive pacts, as we will see below.

However, this pact was merely an appeal by the European Union to raise public awareness of the seriousness of the consequences of climate change, and this had no support in theory. It was therefore necessary to mobilize the authorities of all the Member States and make a legal provision a reality that would effectively make countries comply with the political and economic objectives set by the European Institutions to create a sustainable future.

In order to understand the above, it is not only important to know what the European Green Deal is, but also to study its influence on the economic sectors of the European community, as well as the different financing formulas to cover the large expenses derived from the aforementioned environmental action plan.

Thus, in this paper, I will begin by setting out the historic precedents in the field of the European Green Deal by looking back to the past and mentioning the main existing pacts and agreements to which the EU is a party up to the present day. I will then analyze individually, on the one hand, the European Climate Pact, and on the other hand, the European Climate Law, and then study separately the consequences of both in the sectors of the economy, agriculture, industry, energy, pollution, biodiversity, and mobility.

In addition, I will talk about the investment plan coordinated by the EU and the Member States to enable the implementation of the European Green Deal and I will dedicate the last lines of the paper to Spain's specific response to climate change, as well as the arrival of Covid-19 pandemic, all framed within the environmental policy.

Finally, I will add a section on the difficulties that the implementation of the European Green Deal has brought about for both the EU as a whole and the Member States, some

alternative proposals for action, and of course, the criticisms that can be made in this regard.

I consider that, since global warming is one of the greatest currents and certainly future problems humanity is facing, it is appropriate to analyze the problem from an economic perspective, and this is what I have tried to do in these pages. To do so, it has been essential to locate information from years ago, in order to appreciate the evolution of European regulations and attempts in sustainable policy with the planet, but above all to pay attention to the current proposals for the coming years.

The sources I have resorted to have been mostly from European Institutions such as the European Commission, as well as official websites operating in sectors with great influence on the environment.

For all the above reasons, this paper is merely an attempt to bring the reader closer to a position that is more or less aware of the seriousness of the present climate problem and the need to solve it as soon as possible through European coordination and cooperation.

2. ORIGIN AND PAST OF THE DEAL

- Pacts, meetings, and deals all around the World

The environmental policy of the European Union has become stronger over the years, from its beginnings in Paris in October 1972, when it was called the European Economic Community (EEC), until nowadays with the new European Green Deal.

In the 1970 decade, social movements such as Greenpeace (1971) started to be more and more common in different parts of the world, because knowledge of the pain that humans were doing to Earth was eventually bigger, thanks in part to the book “Limits to growth” (Meadows, 1972)¹. That is why it started to be very common for Governments to have meetings to propose solutions against climate change.

All the meetings held were organized by the World Meteorological Organization (WMO) in which countries from all over the world participated. In those meetings, the European Economic Community always assisted as a big block of countries with the same interests and opinions.

¹ “Limits to growth”, Meadows, 1972. This is a book that recreated the population growth, economic development, and the increase in the ecological footprint of the population on Earth in the next one hundred years from 1972.

In 1979, the First World Climate Conference² was held in Geneva, Switzerland, which was assembled by the WMO to deal with an issue that was beginning to alarm the world population, global warming, and its consequences for human beings.³

This meeting concluded with an appeal to governments due to the urgency of anticipating the climate changes that could have negative consequences for the future of the climate all around the World. With this in mind, the World Climate Program (WCP) was created, which is governed by the World Meteorological Organization (WMO), the United Nations Environment Program (UNEP), and the International Science Council (ISC).

Many more summit meetings were held with different results. In 1988 was established by WMO and UNEP, the Intergovernmental Panel on Climate Change (IPCC), to evaluate the magnitude and chronology of the climate change we were suffering from and estimate its potential environmental and socioeconomic effects to present realistic response strategies. Its first report was published two years later, in 1990, clearly certifying scientific evidence on climate change.

The same year this first report was published, the Second World Climate Conference was held. It was sponsored by WMO, UNEP, and other international organizations, and it consisted of negotiations among 137 countries and the European Community. After this conference, no target was settled to reduce emissions, but it supported some principles that were later included in the Climate Change Convention.

Later, the Intergovernmental Negotiating Committee for a United Nations Framework Convention on Climate Change (INC/UNFCCC) met five times between February 1991 and May 1992 to give birth to a summit meeting in Rio de Janeiro with 150 participating countries. It was the largest meeting of Heads of State held to date. The 1992 UN Framework Convention on Climate Change (UNFCCC) was finally signed by 154 states and the European Community at Rio de Janeiro.

At the meeting in Rio, an agreement called the Convention on Biological Diversity was adopted among other things. The Convention entered into force in March 1994. After that, developed countries started submitting national communications describing their climate change strategies. Meanwhile, the Intergovernmental Negotiating Committee

² The WCCs are a series of international meetings, organized by the World Meteorological Organization, on global climate issues.

³ NATURGY (2020): Las conferencias mundiales sobre el clima, citas urgentes y necesarias

(INC) kept holding meetings to discuss matters regarding how to develop climate change laws or guidelines, but the INC was dissolved after its 11th and final session in February 1995.

After this sudden dissolution, the Conference of the Parties (COP) became the Convention's ultimate authority.

The Conference of the Parties held its first session in Berlin in 1995, in which participants launched the "Berlin Mandate" with more commitments than were included in the Convention, and all parties were required to start negotiations to reduce emissions beyond the year 2000.

From this first session of the Conference of the Parties in 1995, every year there has been one in a different city of the World, leading to different rules or guidelines for the participating countries or states.

In 1996 it was held in Geneva, and a series of objectives were set on the limitation of greenhouse gas emissions by industrialized countries.

An important date is the 1997 Kyoto COP meeting, in which Kyoto Protocol arises. This protocol is an international agreement that aims to reduce the emissions of greenhouse gases that cause global warming.

The Kyoto Protocol was approved in December 1997, but it entered into force in February 2005, because in the previous years all the COP meetings were to ultimate details and refine all aspects. It only entails developed countries and imposes on them a heavier weight because it recognizes that they are primarily responsible for the current levels of greenhouse gas emissions in the atmosphere.⁴

The following important date is in 2012 in Doha, Qatar. Here was established an extension of the Kyoto protocol. Here was agreed a new deadline for adopting a universal climate agreement, setting it for 2015. They also agreed to do everything possible to provide financing and technology to developing countries to make it possible for them to cope with climate change.⁵

In November 2015 the meeting was in Paris, one of the most important meetings of the Conference of the Parties because here the participating parties reached a new global deal.

⁴ UNITED NATIONS: ¿Qué es el protocolo de Kyoto?

⁵ UNITED NATIONS: Press Conference (December 8, 2012)

“The Paris Agreement” presented an action plan to limit global warming below 2 °C. The basis of this agreement was the ambition, transparency, and solidarity between all parties. It was very important because it was the first legally binding climate agreement.⁶

The implementation of the Paris Agreement required social and economic transformation. It worked on a 5-year cycle of ambition and big effort carried out by countries. By 2020 countries had to submit their plans for climate action known as National Determined Contributions (NDCs). In that NDCs, countries communicate actions they will take to reduce their greenhouse gas emissions for reaching the goals set in the Paris Agreement.

The following year, 2016, COP-22 was held in Marrakech. The main objective of this summit meeting was the preparation for the entry into force of the Paris Agreement, and it was the meeting of the parties of the agreement.

In 2009, when Europe, and the World, were in an economic recession, the Organization of the United Nations (UN or ONU) published an article that tried to call to fight against climate change by a deep transformation of the current economic system.⁷

The publication of this report did not leave a mark on society, but today the awareness and concern about climate change are much bigger than ten years ago thanks to new studies.

In recent years, several proposals have been launched to act seriously and combat climate change but there is one that stands out from the rest, and it does because it is the first one led by the EU and only incumbent for the Member States. That is the case of the European Green Deal, presented by the new European Commission in December 2019, in the 25th Conference of the Parties, a movement that seeks to save the planet for new generations based on sustainable growth. It also has the objective of having a modern, resource-efficient, and competitive economy in which there will be zero greenhouse gas emissions by the year 2050.

- Why a Climate Pact and a Climate Law?

To reach our decarbonization goals, emissions must be reduced in all sectors, from industry and energy to transport and agriculture. Climate change is a global threat and can only be addressed through a global response.

⁶ EUROPEAN COUNCIL (October 15, 2020): The Paris Agreement.

⁷ IBERDROLA ESPAÑA (2022): European Green Deal, mucho más que una estrategia para frenar el cambio climático.

This is why the EU engages with and actively supports its international partners on climate action, in particular through the UNFCCC and their Paris Agreement. In parallel to these actions, the EU is taking action on adaptation to climate change to deal with the unavoidable effects of climate change.

Among all the actions that the European Green Deal proposes, the elaboration of a European Climate Law is particularly relevant, because it will provide legal support and transform what is defined as political commitments, into legal obligations. A big part of the guidelines that member states have to follow are considered soft laws⁸, but if they were considered as laws, the objectives would be achieved easily.

It is scheduled for 2030 to try to get a reduction of 55% of the emissions or even more if it is possible for the following years. The March 2020 proposal of the European Climate Law seeks to ensure climate neutrality⁹ in the European Union by 2050, being the first climate-neutral continent in the World.¹⁰

We also saw a different way of facing climate change and looking for new measures and good practices when the Commission proposed the European Climate Pact, a new way of finding population motivation and implication in this matter.

3. EUROPEAN CLIMATE PACT

The European Commission began a public consultation process in March 2020 called the European Climate Pact. Through this pact, citizens will have the opportunity to participate in climate action and help to make Europe a more sustainable continent. It is a great opportunity for people to be part of a global project through the exchange of information, debates, or meetings.

The European Climate Pact is an EU initiative inviting people, communities, and organizations to participate in climate action and build a greener Europe. It was proposed with the idea of allowing people to share knowledge and ideas, learn about climate change and develop, implement, and scale-up solutions.

It consisted of three months of online consultation, until June 2020, and after all the data was collected and analyzed, the Commission launched the European Climate Pact in

⁸ Soft laws refer to quasi-legal instruments which do not have any legally binding force, or whose binding force is weaker than the binding force of traditional law.

⁹ Activities are climate-neutral if they do not put a strain on the climate, or if they do not create greenhouse gases or the least possible.

¹⁰ EUROPEAN COMMISSION: La acción por el clima y el Pacto Verde

December 2020 (European Commission, 2020), which supposes one of the greatest initiatives of recent years, because is a pact made mainly by EU citizens.

People could not only participate by sharing solutions or developing ideas but also any citizen could become an ambassador. For becoming an ambassador people had to inform, inspire and support climate action in their communities or networks.

Many people and organizations immediately wanted to be ambassadors of the Climate Pact, it was a title that engaged each one to the pact for one year or six months for the case of organizations. Each ambassador is published on the Pact website and has some obligations to deserve this title of the EU, like organizing activities in their communities or testing climate solutions so that they can be replicated and spread.

Although this Pact was launched in the year 2020 and it was possible to have a quick growth and then lose popularity, eventually it seems to be inspiring more and more people and organizations. In the last weeks of the year 2021, there were more than 1,600 promises that had been made by organizations and communities across Europe.

In June 2021, in the Belgian region of Flanders, mayors from 293 local authorities signed the Flemish Local Energy and Climate Pact (European Union, 2021) for them to adapt and fight climate change over the next eight years. The idea was to link this local pact with the European Climate Pact, by turning into ambassadors to all the mayors that signed the Flemish Pact.¹¹

The objective of the Pact is to attract as many people as possible, and the best way is to invite organizations to participate, such as companies or even schools, with the objective that they draw up commitments so that, through concrete actions, the members of these organizations are well motivated to participate.¹²

These commitments will be reviewed periodically and the information processing will be shared with the other participants. In this way, the solutions proposed and the initiatives developed will be greater. This is a good idea by the EU, because it is very accessible to the population, and anyone can make a commitment through the website of the European Commission.

¹¹ EUROPEAN UNION (December 20, 2021): Thousands of people and organizations joined the European Climate Pact in 2021 – so who are they and what have they pledged to do?

¹² EUROPEAN COMMISSION (2020): European Climate Pact

When the Pact was launched, in December 2020, at the same time the EU created an organization called Count Us In, which consists of a website with different steps to follow to reduce emissions. The innovative aspect of this website is that people can sign up on the site and post the actions they have taken and it will be recorded on the web to know how much carbon has been saved by the participants of the organization.¹³

We can say that this has been a successful proposal of the EU because currently there are more than thirty thousand kilograms of Carbon saved by people using Count Us In.

Although this is a nice act of the citizens and organizations that are participating in these matters, we cannot forget this is a pact that was designed to cause a movement on the EU population and try to increase the awareness in this subject, but it guarantees nothing.

That is why European Climate Law was proposed, to legally bind the countries of the European Union and make it a truly relevant matter for governments.

4. EUROPEAN CLIMATE LAW

In March 2020, the proposal for a European Climate Law was presented, with the aim, as previously indicated, of providing legal support to the European strategy for guaranteeing the climate neutrality of the European Union from now until the year 2050.

The EU has already put in place some of the toughest and most ambitious climate legislation in the world and started to modernize and transform its economy in line with its climate goals. Between 1990 and 2016, the EU was capable of reducing greenhouse gas emissions by 23% at the same time that its economy grew by 50% (European Commission, 2017).¹⁴

Current policies are expected to reduce by almost 60% greenhouse gas emissions by 2050 compared to 1990 levels, which means that much more job remains to be done. Additional measures have to be taken urgently because scientific evidence reveals that the negative effects of climate change are increasingly obvious and severe, and that is why the EU created the European Climate Law.

¹³ COUNT US IN ORG: European Climate Pact

¹⁴ EUROPEAN COMMISSION (November 7, 2017): EU cut emissions by 23% from 1990 to 2016, while economy grew by 53%

The main goal of this Law is to complement the existing EU policy framework and set the long-term direction of the EU policies, to ensure transparency and commitment of the EU for investors and businesses.

Because avoiding climate change is impossible, the Law also aims to enhance efforts on adaptation to climate change consequences, and also try to keep reducing greenhouse gas emissions.

Despite the main and final objective being set for the year 2050, closer horizons have been proposed to check and ensure the deal is on a good way. For the year 2030 EU countries should have reduced by 55% greenhouse gas emissions compared to 1990 levels, and from the year 2020 to 2030, every five years there will be a meeting of the parties to review whether measures are adequate or not.

To understand the importance of the European Climate Law, we have to know that this law is the heart of the European Green Deal, as the president of the European Commission, Ursula von der Leyen, said on the Law release date on 4th March 2020 ('Committing to climate-neutrality by 2050', European Commission, 2020).

“We are acting today to make the EU the world’s first climate-neutral continent by 2050. The Climate Law is the legal translation of our political commitment and sets us irreversibly on the path to a more sustainable future. It is the heart of the European Green Deal. It offers predictability and transparency for European industry and investors. And it gives direction to our green growth strategy and guarantees that the transition will be gradual and fair.”¹⁵

With this law, the EU wants to be an example to follow for the rest of the countries all around the World. Whatever the result will be, they have managed to unite many countries against the same cause and modify their different economies on different scales through a new law accepted by all of them by vote.

That day, the Vice-president of the European Commission, Frans Timmermans, also had a few words on such a special day for the EU, and remembering the Paris Agreement, the origin of the situation in which we are nowadays: “We are turning words into action today, to show our European citizens that we are serious about reaching net-zero greenhouse gas emissions by 2050. The European Climate Law is also a message to our

¹⁵ EUROPEAN COMMISSION (March 4, 2020): Committing to climate-neutrality by 2050: Commission proposes European Climate Law and consults on the European Climate Pact. Brussels.

international partners that this is the year to raise global ambition together, in the pursuit of our shared Paris Agreement goals. The Climate Law will ensure we stay focused and disciplined, remain on the right track, and are accountable for delivery.” (‘Committing to climate-neutrality by 2050’, European Commission, 2020).

This law represents a turning point in global actions against climate change. All the international treaties and agreements that had been accepted by several countries, were just that, treaties and agreements. Nothing but the words linked these countries with these treaties.

Thanks to this new law the Commission will be empowered to issue recommendations to the Member States whose actions are inconsistent with the climate-neutrality objective, and the Member States will be obliged to take due account of these recommendations or to explain their reasoning if they fail to do so. The Commission can also review the adequacy of the trajectory and the Union-wide measures.

Member States will also be required to develop and implement adaptation strategies to strengthen resilience and reduce vulnerability to the effects of climate change. In previous treaties such as Kyoto or Doha, countries were entailed with the common goal, but now these Member States of the EU are required to do what is established by the new law.¹⁶

5. TRANSFORMING THE EU’S ECONOMY FOR A SUSTAINABLE FUTURE

To know how the European Green Deal is going to affect the sectors of involved countries, the European Commission published a communication in December 2019, the date of the deal announcement, in which eight statements were cleared up, regarding the economy, agriculture, industry, and energy sectors, among other important things such as pollution, biodiversity, and mobility.

The EU presents a roadmap for making the economy sustainable by turning climate and environmental challenges into opportunities across all policy areas and making the transition fair and inclusive for all. The deal aims to boost the efficient use of resources by moving to a clean, circular economy¹⁷ and stopping climate change, reversing biodiversity loss, and cutting pollution.

¹⁶ EUROPEAN COMMISSION (March 4, 2020): Questions and answers on the European Climate Law and Climate Pact

¹⁷ Circular economy is a model of production and consumption that involves sharing, reusing, renovating, and recycling existing materials and products for as long as possible.

It outlines the investments needed and financing tools available and explains how to ensure a fair and inclusive transition. This statement tries to cover all sectors of the economy, notably transport, energy, agriculture, buildings, and industries.

To deliver the European Green Deal, there is a need to rethink policies for clean energy supply across the economy, industry, production, and consumption, transport, agriculture, construction, taxation, and social benefits. To achieve these aims it is essential to increase the value given to protecting and restoring natural ecosystems, to the sustainable use of resources, and to improving human health.



Figure 1: “Marzena et al, 2020”

The eight different points proposed by the European Commission to transform the EU’s economy are the following:

- A zero-pollution ambition for a toxic-free environment

To protect European citizens and ecosystems, the EU needs to better monitor, report, and prevent pollution from the air, water, and soil. To address these interlinked challenges, the European Commission presented the Zero-pollution Action Plan, in June 2021.

This EU action plan affects all the economic sectors, and it especially affects the sale of pesticides and chemicals. To ensure a toxic-free environment, the Commission wants to

help to protect citizens and the environment and encourage innovation for the development of safe and sustainable alternatives.



Figure 2: “Zero pollution action plan, European Commission, 2021”

- Preserving and restoring ecosystems and biodiversity

Ecosystems provide essential services such as food, water, and clean air. They also mitigate natural disasters, pests, and diseases and help regulate the climate. There are several objectives, such as increasing the coverage of protected biodiversity-rich land and sea areas, or restoring more effectively the areas covered by the ‘Natura 2000 Network’¹⁸.

The Commission will identify which measures, including legislation, can help to improve and restore damaged ecosystems. For example, there is a new forest strategy in the EU and its main objectives are effective afforestation and forest preservation and restoration, to increase CO₂ absorption.

To protect biodiversity, the EU presented the EU-Wide Biodiversity Strategy. This new strategy will establish protected areas for at least 30% of land and 30% of the sea in Europe. They will also restore degraded ecosystems at land and sea across the continent. The use of pesticides has to be reduced to 50% by 2030, restoring 25,000 kilometers of European rivers, and planting 3 billion trees by the same year.

These goals will be difficult to achieve because they plan to unlock 20 billion euros through EU funds and also through national and private funding.

¹⁸ Network of core breeding and resting sites for rare and threatened species.

- From “Farm to Fork”: fair, healthy and environmentally friendly food system

The European Union data shows that one-third of the global greenhouse gas emissions come from our food systems. The food systems consume large amounts of natural resources, resulting in biodiversity loss and negative health impacts.

The Commission proposed this strategy to accelerate our transition to a sustainable food system, through regulatory and non-regulatory initiatives, with common agricultural policies as key tools to support a fair transition.

Thanks to what we have learned from the Covid-19 pandemic, the European Commission will also develop a contingency plan to guarantee the food supply and safety. The EU will support the global transition to sustainable agri-food systems through its trade policies and international cooperation instruments.¹⁹

The EU agriculture is the only one in the world that has achieved the emissions reduction and that has started to act towards more sustainable systems. This strategy seeks to achieve a sustainable food system while maintaining the benefits of the activity and trying to not reduce the competitiveness of the sector. That is why two main objectives have been set: reduce to 50% the use of pesticides and fertilizers that can affect the quality of the food and try to reduce the loss of nutrients by 50% too.²⁰



Figure 3: “Farm to Fork Strategy, European Commission, 2020”

¹⁹ EUROPEAN COMMISSION (2020): Farm to Fork Strategy

²⁰ EUROPEAN COMMISSION (December 11, 2019): COMMUNICATION FROM THE COMMISSION

- Accelerating the shift to sustainable and smart mobility

Transport accounts for a quarter of the EU greenhouse gas emissions, so to achieve climate neutrality by 2050, a 90% reduction of transport emissions must be achieved.

The Commission's Vice-President Frans Timmermans said: "To reach our climate targets, emissions from the transport sector must get on a clear downward trend. Today's strategy will shift the way people and goods move across Europe and make it easy to combine different models of transport in a single journey." ("A fundamental transport transformation, European Commission, 2020").

Automated and connected multimodal mobility will play an increasing role, together with smart traffic management systems enabled by digitalization. The EU transport system and infrastructure will have to support new sustainable mobility services that can reduce pollution, especially in urban areas of the cities.

The EU aims to create zero-emissions airports and ports through new initiatives to promote sustainable aviation and maritime fuels. Another aim proposed by the Commission is to double the rail transport traffic by 2050 because nowadays rail transports are the one that less pollute.²¹

Thanks to these changes that are going to be implemented, the EU has now the opportunity to make European transport not only more sustainable but more competitive and ready to resist any future shocks such as the Covid-19 pandemic.

However, we cannot forget about one of the most important things of this transport evolution. Mobility must be available and affordable for all because rural and urban worlds have to remain connected.

- Towards the EU's climate ambition for 2030 and 2050

The commission has already set out a clear vision of how to achieve climate neutrality by 2050. In 2020 the Commission proposed the Climate Law, previously explained, to protect this objective and ensure that all sectors play their part.

As was previously explained, the EU target is to reduce greenhouse gas emissions for 2030 to at least 50% and 55% if we compare to the levels of 1990. Every year the

²¹ EUROPEAN COMMISSION (December 9, 2020): A fundamental transport transformation: Commission presents its plan for green, smart and affordable mobility.

Commission will propose more ambitious strategies for adapting to climate change because it will continue to become more noticeable.

- Supplying clean, affordable, and secure energy

The production and the use of the energy suppose more than 75% of the greenhouse gas emissions of the EU. For a clean energy transition, the European Commission has to ensure a secure and affordable energy supply, develop a fully integrated energy market and prioritize energy efficiency by developing a power sector based on renewable sources.

There is a debate here because the EU has declared nuclear energy and gas as green energies. This worries some countries since it defines gas as a transition fuel and makes nuclear seem like a solution when neither prevents climate change. As the EU said, investments in nuclear energy can be considered green if they have received permission before 2045 and are located in a country that has a plan and funds to safely knock out radioactive waste by 2050.²²

To make an effective energy transition, the Commission has proposed the building of interconnected energy systems with modern infrastructures to boost energy efficiency.

Another important objective is the decarbonization of the gas sector, which is crucial for reaching the 2030 and 2050 objectives.

One of the main objectives of the Commission is to develop the full potential of European offshore wind energy, which is increasing over the years, but it still has a long way to go to the objectives set.

- Mobilizing industry for clean and circular economy

Achieving a climate-neutral and circular economy requires the full mobilization of industry. It takes many years to transform an industrial sector, so to be ready for 2050, decisions and actions need to be taken in the following five years at the latest.

The EU industry is already changing, but still accounts for 20% of the greenhouse gas emissions and only 12% of the materials used come from recycled ones. The Commission Industrial Strategy highlights the importance of research and innovation in providing the

²² EUROPEAN COMMISSION (2020): A clean energy transition.

technological foundation to transform and strengthen industrial value chains, to turn sustainability and digital challenges into business opportunities.²³

This strategy will also include measures to encourage companies to offer and allow consumers to choose reusable, durable, and repairable products. The EU needs leaders to develop the first commercial applications of innovative technologies in key industrial sectors by 2030. Priority areas include clean hydrogen, fuel cells, and other alternative fuels, energy storage, and carbon capture, storage, and usage.

The European Commission will support innovative clean steel technologies leading to a carbon-free steelmaking process. The Commission will help to implement these innovative large-scale projects.

- Building and renovating in energy and resource-efficient way

The construction, use, and renovation of buildings require significant amounts of energy and mineral resources, it accounts for 40% of the energy consumed. To address the objectives set in the European Green Deal, the Member States should engage in a renovation wave of public and private buildings. Renovation lowers energy bills and can reduce energy poverty, which boosts the construction sector.

The Commission will also review the Construction Products Regulation²⁴. It should ensure that the design of new and renovated buildings is in line with the needs of the circular economy and lead to increased digitalization and climate protection of the building stock.²⁵

6. THE SUSTAINABLE EUROPE INVESTMENT PLAN

To achieve the objectives set by the EU, the European Commission proposed in January 2020 the Sustainable Europe Investment Plan or the European Green Deal Investment Plan. An investment plan is necessary because economic effort needs to be coordinated and managed in the right way to reach the established targets.

For reaching the targets established by the European Commission, it is expected that at least one trillion euros will be mobilized for sustainable investments in the next decade. A part of the plan is called the Fair Transition Mechanism, and only this part of the plan is expected to mobilize at least one hundred billion euros in investments in the following

²³ EUROPEAN COMMISSION (2020): Policy for a climate neutral, circular industry.

²⁴ The CPR lays down harmonized rules for the commercialization of construction products in the EU.

²⁵ EUROPEAN COMMISSION: Building and renovating in an energy and resource efficient way

five years. This huge investment will be destined to support workers and citizens of the regions that will be most affected by the transition.²⁶

The European Green Deal Investment Plan has three main objectives that highlight several ones. First of all, thanks to the EU budget and other associated instruments, the funding for the transition is going to be increased by one trillion euros over the following decade. Then, public administrations and project promoters are going to be supported by the Commission for identifying, structuring, and executing more sustainable projects that can help to reach the final goal. Finally, to facilitate more sustainable investments, the EU will create an adequate and enabling framework for private investors and the public sector.



Figure 4: “Sustainable Europe Investment Plan, European Commission, 2020”

The transition to a climate-neutral and environmentally sustainable economy will require significant investments. It is estimated that for achieving the current 2030 climate and energy targets 260 billion euros will be required each of the following years, and they will come from the EU budget, the private sector, and national budgets of Member States. The plan announced by the EU to reduce the greenhouse gas emissions for the year 2030 will suppose even bigger investment needs. The in-depth analysis in support of the Commission’s long-term strategic vision for an EU climate-neutral economy already indicated that the transformation to a low carbon economy may require additional investments of up to 2% of GDP by 2040.²⁷

The EU budget alone cannot be enough to meet the massive global investment needs. The private actors and the Member States economies will also play a very important role in financing the European Green Deal. The next long-term EU budget will run for the next

²⁶ EUROPEAN COMMISSION (January 14, 2020): The European Green Deal Investment Plan and Just Transition Mechanism explained

²⁷ EUROPEAN PARLIAMENT (April 2020): European Green Deal Investment Plan. Main elements and possible impact of the coronavirus pandemic

five years until 2027 and will be invested in climate and environmental-related objectives. The Commission proposed 25% of its total to contribute to climate action and spending on the environment across multiple programs.²⁸

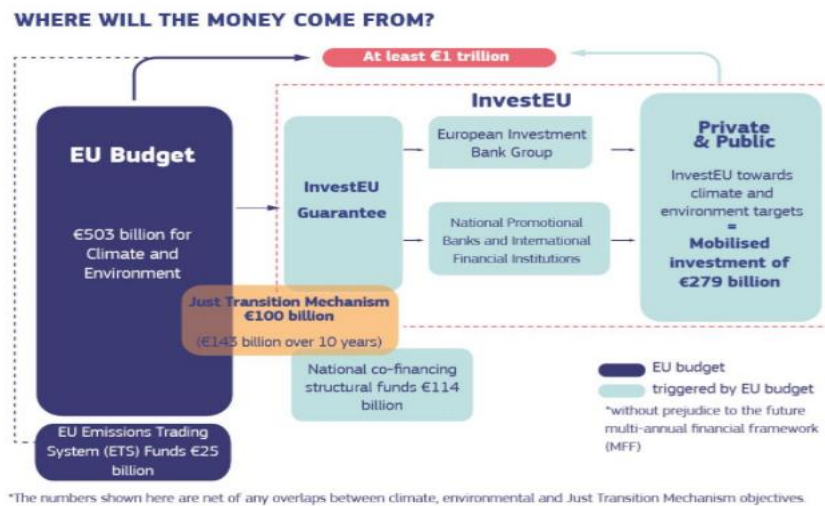


Figure 5: “The European Green Deal Investment Plan, European Commission, 2020”

It is expected that the EU budget will provide around five hundred billion euros to the Investment Plan over the next ten years from 2020, and thanks to that, national co-financing will also contribute with around one hundred billion euros in the same period for climate and environment projects.

If doing it were difficult, after the Covid-19 pandemic it turned even more difficult and unaffordable. That is why the InvestEU Program was created to provide long-term funding to companies and support policies to recover from a deep economic and social crisis. The program was created in 2021 and its budget comes partly from Next Generation EU for providing crucial support to companies in the recovery phase.

The InvestEU Program will provide around two hundred and eighty billion euros of private and public climate and environment-related investments from the year 2021 to 2030.²⁹

²⁸ EUROPEAN COMMISSION (January 14, 2020): COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS.

²⁹ EUROPEAN UNION (2020): InvestEU

To ensure no one is disadvantaged, the Just Transition Mechanism³⁰ will mobilize at least one hundred billion euros until 2027 for investments, thanks to the financing from the EU budget, co-financing from the Member States, and also the contribution from InvestEU and the European Investment Bank (EIB).

Finally, the Innovation and Modernization funds will provide around twenty-five billion euros for the EU transition to climate neutrality, with a special focus on the lower-income Member States. These funds do not come from the EU budget, they come from the auctioning of carbon allowances under the European Union Emissions Trading System³¹.

The success of the European Green Deal Investment Plan will depend on the engagement of all relevant stakeholders in its implementation and it will only be achieved if the Member States maintain the high ambition of the Commission proposal during the negotiations on the upcoming financial framework.

The investment community, including institutional investors, banks, and private equity funds, is invited to fully use the emerging framework for sustainable investments. Member States authorities will have to take up an active role in identifying, promoting, and co-financing those investments if it is necessary.

Every year the Commission holds a Sustainable Investment Summit, in which all relevant stakeholders are involved. This summit is an opportunity to take stock of progress across the different workstreams included in the European Green Deal Investment Plan, and identify new avenues for action.

The Commission will continue exploring with relevant partners additional sources that could be mobilized to meet the long-term financing needs of the transition, and innovative ways to do so. The Commission will also develop and provide regular assessments of the environmental and socio-economic impacts of the transition to climate neutrality and related investment needs to address those impacts, wherever it is needed.

³⁰ The JTM is a key tool to ensure that the transition towards a climate-neutral economy happens fairly, leaving no one behind.

³¹ The EU ETS is a key pillar of European climate policy. It contributes to the EU's greenhouse gas reduction targets by setting a cap on the maximum level of emissions for the sectors, which generates a price for them.

- Other options for investments

We are taking into account the results obtained by the European Union and their institutions in order to have an idea of the money needed to carry out all the measures and changes proposed in the European Green Deal.

There are studies that show that much more money would be needed to achieve the goals, but they also show that there is plenty of money available and that governments do not have to borrow it from the private sector. In order to reach a sustainable, fair and decarbonized economy, the EU would need to spend 1.3 trillion euros, every year over fifteen years.³²

Currently, thanks to the European Commission's new initiatives, there is a renewed impetus for a serious and ambitious decarbonization program and green recovery from the Covid-19 pandemic.

7. THE EUROPEAN GREEN DEAL IN SPAIN

- Response to the Covid-19 pandemic

Spain appealed to the European Commission so that the European Green Deal is the lever for Europe's economic recovery. Spain is one of the ten countries of the EU that have requested the Commission to analyze what elements of those that are included in the Green Deal can go ahead as soon as possible to accelerate a green recovery.

These countries propose the increase of investments in sustainable mobility, renewable energy, buildings rehabilitation, research and innovation, biodiversity recovery, and circular economy. They also urge the Commission to send a political signal to the world and its citizens that the EU will lead on the road to climate neutrality and compliance with the Paris Agreement.

The countries that together with Spain appeared in April 2020 were Austria, Denmark, Finland, Italy, Latvia, Luxembourg, the Netherlands, Portugal, and Sweden. These countries made that because they consider that the European Green Deal provides solutions to give respond to the economic crisis caused by the Covid-19 pandemic, and transform Europe into a sustainable and climate-neutral economy.³³

³² GALVIN, RAY (2020): Yes, there is enough money to decarbonize the economies of high-income countries justly and sustainably

³³ VICEPRESIDENCIA CUARTA DEL GOBIERNO DE ESPAÑA (April 9, 2020): España hace un llamamiento a la Comisión Europea para que el Pacto Verde sea la palanca para la recuperación económica de Europa.

One of the main objectives of this appeal is to remind the European Commission that European countries must be at the forefront of new low carbon economic development, to reduce the emissions by 2030 or reinforce the environmental standards.

Spain considers that the Covid-19 crisis has reminded us of the importance of giving early responses, working together and in solidarity, just as occurs against the climate and environmental crisis.³⁴

The Spanish Ministry for the Ecological Transition and the Demographic Challenge established that Spain must start preparing to rebuild its economy and boost the recovery plans necessary to achieve renewed progress and prosperity, and sustainability for Spain and Europe and its citizens. Efforts to stop the climate and ecological crisis must be a priority in those recovery plans.



Figure 6: “Mensaje político de los países a la Comisión, Gobierno de España, 2020”

The countries stated that the EU must maintain its ambition to mitigate the risks and costs of inaction against climate change and biodiversity loss. They conclude by highlighting that the protection and conservation of biodiversity must be a fundamental part of the response to the global and environmental crisis since they are vital to guarantee the well-being and survival of our following societies.

In the current recovery process from Covid-19, the energy transition has become a determining driving force for generating economic activity and employment in the short term, in a manner consistent with what the country needs in the medium and long term.

³⁴ GOBIERNO DE ESPAÑA (May 19, 2020): Proyecto de ley de Cambio Climático y Transición Energética.

The objective of the energy transition has been identified by the Spanish Government and it is expected to have positive impacts on our economy and well-being.

- Spain response to climate change

In May 2020 the Council of Ministers of the Spanish Government presented the first project of Law on Climate Change and Energy Transition (PLCCET) to the Parliament. The PLCCET incorporates all economic sectors into climate action, from energy generation to primary sectors, including transport, industry, or public administrations. Their contribution over the coming decades will be decisive in achieving the objective of climate neutrality and will allow them to adapt to the new industrial revolution, that is associated with the low-carbon economy, which is already on the go, although we do not know if it will finally occur as expected.

The text sets the following objectives, that can be revised over time. It determines for the first time that Spain has to reach climate neutrality before 2050. The Spanish electric system must be 100% renewable for the same date. For that, in 2030, the emissions of the Spanish economy must be reduced at least 20% compared to 1990 levels, because this is a coherent objective with the ambition of the EU of a reduction between 50% and 55% of emissions in 2030.

At the end of this decade, the objective is that at least 35% of final energy consumption comes from renewable sources. And for the case of the electric system, it must have a 70% of renewable presence for 2030, to reach the 100% in 2050 as previously stated.³⁵

The Spanish Government has already prepared a strategy that will be reviewed the next year 2023 to know if it going on the right way. To reach the objective of climate neutrality, cuts in CO₂ emissions are strictly necessary, and that is why strategies are going to be revised every few years.

According to the Ministry of Ecological Transition, 75% of the gases emitted into the atmosphere by Spain are produced by obtaining energy. That is the reason why they are giving so much relevance to being able to produce electricity 100% renewably in less than thirty years.

³⁵ TORRES, DIANA (May 25, 2021): WE LIFE: España contra el cambio climático: las 5 medidas clave para frenarlo.

Due to the large number of gases emitted by road transport to the atmosphere, the Government has decided that 2040 is the last year in which vehicles with fuel engines, either diesel or gasoline, will be sold. However, after that year the vehicles already purchased will be allowed to circulate, with the idea that in the following twenty years from 2040, fuel vehicles will stop circulating.

The law hopes that little by little, the custom of depending on oil will be abandoned and that the search for fossil fuels in Spain will be prohibited, although the realism of these statements is highly doubtful. Spanish Congress also decided to stop the uranium mining in our territory.

Concerning plastic, Spain will also regulate its use by companies and commerce. The reduction of one-use plastics is expected to be very notably not only in Spain but all around the World.

However, the implementation of these regulations could have some secondary effects that would not fit with the idea of respecting the environment. It is difficult because the construction of infrastructures that generate electricity from renewable energies implies the destruction of the ecosystems wherever they are built. That is why to avoid reaching this point, the development will have to be done slowly and responsibly.

Spanish educative system will reinforce knowledge about this global challenge and training for technical and professional activities in the low-carbon economy. The treatment of climate change in education will be reviewed and teacher training will be promoted from the bottom.

In addition, a Committee of Experts on climate change and energy transition was created. This Committee is responsible for evaluating and making recommendations on energy and climate change policies and measures, including regulations. They will have to prepare an annual report that will be sent to the Spanish Congress and submitted to debate on it and discuss new possible measures or the modification of the existing ones.³⁶

8. DIFFICULTIES, ALTERNATIVES, AND CRITICAL APPRAISAL

It is very different to say what is pretended to be done and carry it out. To carry out all the measures proposed in the European Green Deal is very difficult because lots of things

³⁶ BLOG RURALVIA (November 23, 2021): ¿Sabías que España es uno de los países más concienciados con la crisis climática?

would need to be changed, which could collide with companies' interests and Member States' interests. The EU tries to give an optimistic vision of the result of the measures, but this is very difficult and it is possible that they could need more than the expected thirty years to reach the final goal.

To stop producing and emitting polluting gases in 2050 is a challenge that requires resolving a lot of legal issues for Spain and the rest of the Member States. It also requires political intervention in decision-making, as has happened with the Covid-19 pandemic. Probably it will also require the generation of development models that hardly exist nowadays, and collaborative models with citizen, public and private participation that propose solutions locally and also globally.³⁷

Regarding the legal framework, the European Union and its members are facing the challenge of unifying and simplifying the rules. With the European Climate Law, the Member States are facing two challenges: on the one hand, to establish simple and clear legislation, and on the other hand to strengthen security and legal stability and stop making constant changes that make more difficult the work of companies and energy communities.

Regarding the energy sector, there exist more than one hundred and forty rules that affect different things in the sector, and it makes it very difficult to understand everything and act according to all these new rules and measures.

It must be borne in mind that political action cannot transform economic and consumption patterns on its own. As previously stated, citizen, public, and private participation and involvement are needed, or instead of difficult, it would turn into an impossible target.

While organizations such as Greenpeace say that the reductions proposed and set as a target are not enough for the year 2030, some realistic people have lots of doubts about the achievement of all the established goals.

Previously was stated that the European Union was the only continent with emissions reduction in agriculture, but part of the reductions may come from product imports from third countries outside of the EU, and that is an externalization of the ecological damage. That is why it would be better for all to promote a global deal, not only for European

³⁷ THE CONVERSATION (December 5, 2021): Pacto Verde Europeo: las dificultades de las que parte España para poder cumplir.

Union countries, in order to not externalize the ecological damage, control it and learn how to deal with it.

The truth is that there are a lot of measures, but it is still not clear how the achievement of these goals is going to affect the production levels or the prices, or how it is going to affect not member countries that maintain commercial relationships with the Member States. This is probably affecting the competitiveness of companies of the Member States, however, there are no detailed measures for acting and protecting against these situations for companies.

The European Commission thinks that thanks to technological innovation it is going to be possible to increase production and at the same time reduce the usage of energy and generate waste, but these are only assumptions since the Commission has not explained yet how these innovations are going to be promoted to achieve the objectives.

There is one clear thing: the lack of specificity in most of the measures that are being taken and implemented. There is also an absence of an economic impact study. This is a great limitation for the deal that may threaten the achievement of the project's main objective, which is to make Europe the first climate-neutral continent in the World.

The European Commission could be more realistic and set other objectives, such as decreasing the ambitious goals or also postponing the target year further than 2050. Maybe they have set such ambitious goals because they have the pressure of the majority of the EU population, and eventually the data of climate change are worse and people know it.

They could have set easier objectives, but as this subject is so important for the future of the planet, they have set objectives that now seem impossible to reach because they already know that these targets are not going to be fulfilled but at least they are going to try to be close.

It is very difficult that Europe achieves climate security solely within its own borders. Global climate politics will need to be a clear focus of the new geopolitical Commission. This means a strong projection from the EU on its position in global clean technology

markets, and cooperation with major economies such as China on setting common standards and financial rules for these products and services.³⁸

9. CONCLUSION

As we have seen, the European Green Deal emerges as the main proposal of the European Commission in the race for environmental protection in the following years. For that, a consultative process was initiated in order to encourage citizen participation and involvement thanks to the European Climate Pact.

Regarding this pact, any European citizen that fulfills some requirements proposed by the Commission (being proactive and a role model in the fight against climate change) could become a recognized ambassador with an important intervention in European society.

However, climate and environmental objectives cannot be achieved without the Member States' governments coordination, and that is why European Climate Law was implemented. It is an essential tool that provides legal support to the European strategy for guaranteeing the climate neutrality of the European Union from now until the year 2050.

The previous ideas, in my opinion, are mere theory and an optimistic perspective is given. It does not mean that all the objectives in the political environment are the best, neither they will be achieved in the established frame time. That is why economic needs have to be studied in order to get a realistic perspective of what carrying out the European Green Deal means for the economy and society.

The economic effort needs to be coordinated and managed in the right way to reach the established targets, that is why the European Commission proposed the Sustainable Europe Investment Plan. As it is previously stated, this is only theory and it is the first time that a group of countries puts efforts together for making an investment plan against climate change. From my point of view, it could be necessary to extend the deal globally and not only between the EU Member States.

I consider that reducing our production (both European and Spanish) in order to decrease pollution in this sector, in general, is an effective measure taking into account only the European territory; but we cannot forget that it implies that the Member States will have

³⁸ GAVENTA, JONATHAN (December 2019): HOW THE EUROPEAN GREEN DEAL WILL SUCCEED OR FAIL, page 21

to increase their imports from non-European countries, which will boost their production and consequently their pollution. It is called damage externalization, and it means nothing that a group of countries are climate-neutral and stop greenhouse gas emissions if the rest of the World, or at least a part of it, keep polluting at the same levels or even more.³⁹

That is why a global deal involving all the countries in the world would be needed in order to coordinate the objectives and environmental policies. We do not know if it would be possible because it would imply huge expenses and we have to bear in mind that there are a lot of developing countries that could not afford these economic efforts.

10. BIBLIOGRAPHY

- BLOG RURALVIA (November, 23, 2021): ¿Sabías que España es uno de los países más concienciados con la crisis climática?. Available in: <https://blog.ruralvia.com/espana-concienciado-crisis-climatica/> [Last consultation 14/02/2022]
- CLIMATE POLICY INFO HUB. Available in: <https://climatepolicyinfohub.eu/eu-emissions-trading-system-introduction.html> [Last consultation 14/02/2022]
- COUNT US IN ORG: EUROPEAN CLIMATE PACT. Available in: <https://www.count-us-in.org/en-gb/businesses/eu-climate-pact/campaigns/euclimatepact/> [Last consultation 14/02/2022]
- D'ALFONSO, ALESSANDRO (April, 2020) European Parliament: European Green Deal Investment Plan Main elements and possible impact of the coronavirus pandemic. Available in: [https://www.europarl.europa.eu/RegData/etudes/BRIE/2020/649371/EPRS_BRI\(2020\)649371_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2020/649371/EPRS_BRI(2020)649371_EN.pdf) [Last consultation 14/02/2022]
- DR. DIONISIO FERNÁNDEZ DE GATTA (May, 12, 2020). El ambicioso Pacto Verde Europeo. Available in: (https://www.actualidadjuridicaambiental.com/wp-content/uploads/2020/05/2020_05_12_Fdez-Gatta-Pacto-Verde-Europeo.pdf). [Last consultation 14/02/2022]
- ECSITE (info@ecsite.eu): EU Biodiversity Strategy for 2030. Available in: <https://www.ecsite.eu/activities-and-services/news-and-publications/eu-biodiversity-strategy-2030> [Last consultation 14/02/2022]
- EL ESPAÑOL (December, 9, 2019): COP: ¿Cuántas Cumbres del Clima ha habido?. Available in: (https://www.elespanol.com/ciencia/medio-ambiente/20191209/cop-cuantas-cumbres-clima/450705129_0.html). [Last consultation 14/02/2022]

³⁹ GAVENTA, JONATHAN (December 2019): HOW THE EUROPEAN GREEN DEAL WILL SUCCEED OR FAIL, page 5

- EURONEWS (January, 1, 2022): El gas y la energía nuclear, en el centro de la batalla verde de la UE. Available in: <https://es.euronews.com/2022/01/04/el-gas-y-la-energia-nuclear-en-el-centro-de-la-batalla-verde-de-la-ue> [Last consultation 14/02/2022]
- EUROPEAN COMMISSION: Building and renovating in an energy and resource efficient way. Available in: https://ec.europa.eu/info/sites/default/files/research_and_innovation/green_deal/gdc_stakeholder_engagement_topic_04-1_buildings.pdf [Last consultation 14/02/2022]
- EUROPEAN COMMISSION (November, 7, 2017): EU cut emissions by 23% from 1990 to 2016, while economy grew by 53%. Available in: https://ec.europa.eu/clima/news-your-voice/news/eu-cut-emissions-23-1990-2016-while-economy-grew-53-2017-11-07_en [Last consultation 14/02/2022]
- EUROPEAN COMMISSION (2019 a): La Acción por el clima y el Pacto Verde. Available in: https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal/climate-action-and-green-deal_es [Last consultation 14/02/2022]
- EUROPEAN COMMISSION (2019 b): COMMUNICATION FROM THE COMMISSION. Available in: <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52019DC0640&from=ET> [Last consultation 14/02/2022]
- EUROPEAN COMMISSION (2020 a): Investing in a green future. Available in: (https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal/finance-and-green-deal_en). [Last consultation 14/02/2022]
- EUROPEAN COMMISSION (2020 b): Delivering the European Green Deal. Available in: (https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal/delivering-european-green-deal_en). [Last consultation 14/02/2022]
- EUROPEAN COMMISSION (2020 c): European Climate Pact. Available in: https://ec.europa.eu/clima/eu-action/european-green-deal/european-climate-pact_en [Last consultation 14/02/2022]
- EUROPEAN COMMISSION (2020 d): European Climate Law. Available in: https://ec.europa.eu/clima/eu-action/european-green-deal/european-climate-law_en [Last consultation 14/02/2022]
- EUROPEAN COMMISSION (March, 4, 2020 e): Questions and answers on the European Climate Law and Climate Pact. Available in: https://ec.europa.eu/commission/presscorner/detail/en/QANDA_20_336 [Last consultation 14/02/2022]
- EUROPEAN COMMISSION (March, 4, 2020 f): Committing to climate-neutrality by 2050: Commission proposes European Climate Law and consults on the European Climate Pact. Available in: https://www.europarl.europa.eu/cmsdata/230214/EU_commitment%20to%20climate-neutrality_by_2050.pdf [Last consultation 14/02/2022]

- EUROPEAN COMMISSION (2020 g): Farm to Fork strategy. Available in: https://ec.europa.eu/food/horizontal-topics/farm-fork-strategy_en [Last consultation 14/02/2022]
- EUROPEAN COMMISSION (December, 9, 2020 h): A fundamental transport transformation: Commission presents its plan for green, smart and affordable mobility. Available in: https://ec.europa.eu/commission/presscorner/detail/en/ip_20_2329 [Last consultation 14/02/2022]
- EUROPEAN COMMISSION (2020 i): A clean energy transition. Available in: https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal/energy-and-green-deal_en [Last consultation 14/02/2022]
- EUROPEAN COMMISSION (2020 j): Policy for a climate neutral, circular industry. Available in: https://ec.europa.eu/info/research-and-innovation/research-area/industrial-research-and-innovation/industrial-policy_en [Last consultation 14/02/2022]
- EUROPEAN COMMISSION (January, 14, 2020 k): COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS. Available in: <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52020DC0021&rid=7> [Last consultation 14/02/2022]
- EUROPEAN COMMISSION (January, 14, 2020 l): The European Green Deal Investment Plan and Just Transition Mechanism explained. Available in: https://ec.europa.eu/commission/presscorner/detail/en/qanda_20_24 [Last consultation 14/02/2022]
- EUROPEAN COMMISSION (2020 m): The Just Transition Mechanism: making sure no one is left behind. Available in: https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal/finance-and-green-deal/just-transition-mechanism_en [Last consultation 14/02/2022]
- EUROPEAN COUNCIL (October, 15, 2020): Conferencia de las Naciones Unidas sobre el Cambio Climático en París, 30 de noviembre a 12 de diciembre de 2015. Available in: (<https://www.consilium.europa.eu/es/meetings/international-summit/2015/11/30-12/>). [Last consultation 14/02/2022]
- EUROPEAN COUNCIL (February, 7, 2022): Conferencia de las Naciones Unidas sobre el Cambio Climático (CP26), Cumbre de Dirigentes Mundiales, Glasgow (Reino Unido), 1 de noviembre de 2021. Available in: (<https://www.consilium.europa.eu/es/meetings/international-summit/2021/11/01/#:~:text=La%20Cumbre%20de%20Dirigentes%20Mundiales%20del%201%20de%20noviembre%20de,el%20inicio%20de%20la%202026.&text=Del%2031%20de%20octubre%20al,y%20todos%20sus%20Estados%20miembros.>). [Last consultation 14/02/2022]
- EUROPEAN UNION: InvestEU and recovery. Available in: https://europa.eu/investeu/invest-eu/investeu-and-recovery_en [Last consultation 14/02/2022]

- EUROPEAN UNION (December, 20, 2021): Thousands of people and organisations joined the European Climate Pact in 2021 – so who are they and what have they pledged to do?. Available in: https://europa.eu/climate-pact/news/thousands-people-and-organisations-joined-european-climate-pact-2021-so-who-are-they-and-what-have-2021-12-20_en [Last consultation 14/02/2022]
- GALVIN, RAY (2020): Yes, there is enough money to decarbonize the economies of high-income countries justly and sustainably. (page 2, chapter 2)
- GAVENTA, JONATHAN (December 2019), E3G: HOW THE EUROPEAN GREEN DEAL WILL SUCCEED OR FAIL
- GOBIERNO DE ESPAÑA (May, 19, 2020): Proyecto de ley de Cambio Climático y Transición Energética. Available in: <https://www.lamoncloa.gob.es/consejodeministros/Paginas/enlaces/190520-enlace-clima.aspx> [Last consultation 14/02/2022]
- IBERDROLA ESPAÑA (2022): European Green Deal, mucho más que una estrategia para frenar el cambio climático. Available in: (<https://www.iberdrola.com/compromiso-social/que-es-european-green-deal>). [Last consultation 14/02/2022]
- JACKSON, PETER. NACIONES UNIDAS: De Estocolmo a Kyoto: Breve historia del cambio climático. Available in: <https://www.un.org/es/chronicle/article/de-estocolmo-kyotobreve-historia-del-cambio-climatico> [Last consultation 14/02/2022]
- MEADOWS, DENNIS; MEADOWS, DONELLA; RANDERS, JORGEN. (1972). Limits to growth. [Last consultation 14/02/2022]
- MINISTERIO PARA LA TRANSICIÓN ECOLÓGICA Y EL RETO DEMOGRÁFICO (April, 9, 2020): España hace un llamamiento a la Comisión Europea para que el Pacto Verde sea la palanca para la recuperación económica de Europa. Available in: https://www.miteco.gob.es/es/prensa/200409pactoverde_tcm30-508600.pdf [Last consultation 14/02/2022]
- MURILLO GILI, RICARD (June, 2020) Caixabank research:

El Green Deal Europeo, entre lo deseable y lo factible. Available in: https://www.caixabankresearch.com/sites/default/files/content/file/2020/06/90699-im06_20_web_09_dossier_2_ok_extenso_es.pdf. [Last consultation 14/02/2022]
- NATURGY (2020): Las Conferencias Mundiales sobre el Clima: citas urgentes y necesarias. Available in: https://www.naturgy.com/las_conferencias_mundiales_sobre_el_clima_citas_urgentes_y_necesarias [Last consultation 14/02/2022]
- NAVARRO, BEATRIZ (February, 2, 2022). LA VANGUARDIA: Bruselas se enroca y concede la etiqueta de verde a las inversiones en gas y energía nuclear. Available in: <https://www.lavanguardia.com/economia/20220202/8028583/bruselas-aprueba-gas-nuclear-verdes-plan->

[transicion.html#:~:text=La%20UE%20se%20enreda%20con%20el%20sello%20para%20la%20energ%C3%ADa%20verde&text=Las%20inversiones%20en%20energ%C3%ADa%20nuclear,desechos%20radiactivos%20para%20el%202050](#). [Last consultation 14/02/2022]

- RANDO BURGOS, ESTER (2020). El Pacto Verde Europeo como antesala de la Ley Europea del Clima. Available in: <https://revistas.um.es/bioderecho/article/view/460611/303501>). [Last consultation 14/02/2022]

- SWITCH TO GREEN: The EU Green Deal – a roadmap to sustainable economies. Available in: <https://www.switchtogreen.eu/the-eu-green-deal-promoting-a-green-notable-circular-economy/> [Last consultation 14/02/2022]

- THE CONVERSATION (December, 5, 2021): Pacto Verde Europeo: las dificultades de las que parte España para poder cumplir. Available in: <https://theconversation.com/pacto-verde-europeo-las-dificultades-de-las-que-parte-espana-para-poder-cumplir-172744> [Last consultation 14/02/2022]

- TORRES, DIANA (May, 25, 2021) We Life: España contra el cambio climático: las 5 medidas clave para frenarlo. Available in: <https://www.welife.es/sostenibilidad/ley-cambio-climatico-espana-medidas/> [Last consultation 14/02/2022]

- UNITED NATIONS ENVIRONMENT PROGRAMME (2000): Climate Change information sheet 17. Available in: <https://unfccc.int/cop3/fccc/climate/fact17.htm>). [Last consultation 14/02/2022]

- UNITED NATIONS CLIMATE CHANGE: ¿Qué es el Protocolo de Kyoto?. Available in: https://unfccc.int/es/kyoto_protocol#:~:text=El%20Protocolo%20de%20Kyoto%20fue,16%20de%20febrero%20de%202005.&text=En%20su%20Anexo%20B%2C%20el,industria%20y%20la%20Uni%C3%B3n%20Europea. [Last consultation 14/02/2022]

- UNITED NATIONS CLIMATE CHANGE SECRETARIAT (2012): En la Conferencia de la ONU sobre el Cambio Climático celebrada en Doha los gobiernos dan el siguiente paso esencial de la respuesta mundial al cambio climático. Available in: https://unfccc.int/files/parties_and_observers/application/pdf/pr20120812_cop18_close_esp.pdf [Last consultation 14/02/2022]

- Other references

- FIGURE 1

MARZENA SMOL, PAULINA MARCINEK, JOANNA DUDA AND DOMINIKA SZOLDROWSKA (2020) Importance of Sustainable Mineral Resource Management in Implementing the Circular Economy (CE) Model and the European Green Deal Strategy. Available in: https://www.researchgate.net/publication/341207390_Importance_of_Sustainable_Mineral_Resource_Management_in_Implementing_the_Circular_Economy_CE_Model_and_the_European_Green_Deal_Strategy [Last consultation 14/02/2022]

- FIGURE 2

EUROPEAN COMMISSION (May, 12, 2021): Zero pollution action plan. Available in: https://ec.europa.eu/environment/strategy/zero-pollution-action-plan_es [Last consultation 14/02/2022]

- FIGURE 3

EUROPEAN COMMISSION (2020): Farm to Fork strategy. Available in: https://ec.europa.eu/food/horizontal-topics/farm-fork-strategy_es [Last consultation 14/02/2022]

- FIGURE 4

EUROPEAN COMMISSION (January, 14, 2020): COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS. Available in: <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52020DC0021&rid=7> [Last consultation 14/02/2022]

- FIGURE 5

EUROPEAN COMMISSION (January, 14, 2020): The European Green Deal Investment Plan and Just Transition Mechanism explained. Available in: https://ec.europa.eu/commission/presscorner/detail/en/qanda_20_24 [Last consultation 14/02/2022]

- FIGURE 6

GOBIERNO DE ESPAÑA (April, 4, 2020): España hace un llamamiento a la Comisión Europea para que el Pacto Verde sea la palanca para la recuperación económica de Europa. Available in: <https://www.miteco.gob.es/es/prensa/ultimas-noticias/espa%C3%B1a-hace-un-llamamiento-a-la-comisi%C3%B3n-europea-para-que-el-pacto-verde-sea-la-palanca-para-la-recuperaci%C3%B3n-econ%C3%B3mica-de-europa/tcm:30-508602> [Last consultation 14/02/2022]