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THE EUROPEAN GREEN DEAL: AN ANALYSIS OF THE DIRECTIVE 2003/87 AND ITS REVISION.

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Introduction

> "Our most pressing challenge is keeping our planet healthy. This is the greatest responsibility and opportunity of our times. I want Europe to become the first climate-neutral continent in the world by 2050. To make this happen, we must take bold steps together. Our current goal of reducing our emissions by 40% by 2030 is not enough.
>
> We must go further. We must strive for more. A two-step approach is needed to reduce CO2 emissions by 2030 by 50, if not 55%. The EU will lead international negotiations to increase the level of ambition of other major economies by 2021. Because to achieve real impact, we do not only have to be ambitious at home – we must do that, yes – but the world has to move together."[1]

President of European Commission pronounced these words in the occasion of her first speech in front of the European Parliament. The clarity of the climate priority is evident.

Climate change represents the real threat of our times, it must be a priority both at international and national level. EU in last decades has demonstrated a strong capacity in creating innovative legislative tools in the field of climate law, although in 2020 this path has been accelerating because of the effects of the Covid-19 pandemic and a more awareness of the environmental problem from the various institutions. The leadership of Ursula Von Der Leyen in the green transition field has helped to create the European Green Deal, a response unequaled in terms of economic resources and evolution of European legislations. This thesis approaches the climate emergency which manifest its problems even within the territories of EU and explain why the European Green Deal represents the widest and ambitious set of climate legislations. The focus will be on one of the most important proposals of the European Commission, the revision of the Directive 2003/87 that establishes the Emissions Trading System, one of the pillars in controlling and mitigating the emissions within the EU.

The revision is part of other 67 climate objectives that together with various types of economic funds try to put the most effective input to the European green transition. Understanding the importance of this radical change in European climate law perspective, it is important to analyze the risks of this

[1] President of European Commission Ursula Von Der Leyen, 16 July 2019.

transition, considering the points of weakness of the governance, the structure, and the cohesion of EU policies.

This thesis provides some features of the various types of impact that this huge set of legislations could have on the society, the economy, and the environment; analyzing the positive and negative aspects which can occur. The ultimate aim of the European Commission is reaching the climate neutrality for the EU, but if this path begins with the updates contained in EGD plan, it can not end without the impulse of EU institutions. National legislations appear to be the key in the good implementation of these measures and their capacity to maximize the economic resources of the various EU funds will be crucial in the achievement of the climate targets.

An ecological transition could not be truly effective if its only objectives are lying on the environmental side. To have a green transition, there must be a just transition. The social aspect of the climate policies is analyzed beginning from the new EU tools to provide social assistance like the Just Transition Fund within the Just Transition Plan.

The aim of EGD trough its legislative and economic tools is not only shaping the future of the Union from an environmental perspective but take advantage from the opportunity of climate policies to renovate our way of living from a social and political point of view. The obstacles move from national differences within Member States and the capacity to tackle the vulnerability of their systems, the ability of the EU institution to incentive policy cohesion and don't minimize the effects of the green transition to the weakest parts of our community. Understanding how the climate evolution of the EU legislation will affect the totality of our social, political, economical life through concrete examples provided by the action of the EU institutions.

CHAPTER 1

THE CLIMATE EMERGENCY IN THE EU AND THE NECESSITY OF EGD

1.1. Effects of climate change within EU Member States

Climate changes and its effects are visible in the entire globe, with some differences based on geography, urbanization, and environmental legal backgrounds. Europe as geographical continent and the EU as political entity are affected with different levels of severity.

The EU is an economic and political union of 27 Member States, but as union of countries it has its own borders which help to understand the vastity of the geographical territory and its fragilities. We can make a difference between an economic sensitivity and a social sensitivity from climate changes due to size of populations and density of critical infrastructures; this would explain why some parts of the Union are more hit and others less interested. Throughout the decades, numbers of environmental disasters have been rising in all Member States. Main causes can be accounted to a rise in temperatures, land erosion and quick and unpredictable downpours. Between 2001 and 2020, flooding accounted for 41 percent of all weather-related disasters reported. Another important aspect of natural disasters is the economic impact on Member States economies; during the period from 1980 to 2017 disasters caused by weather and climate-related extremes accounted for some 83% of the monetary losses. The flood in central Europe of 2002 has caused an economical damage of 21 billion euro becoming the most expensive climate extreme from 1980 to 2017.

EU has currently 27 state members in a territory of 4,233,255.3 km^2, the geography of the Union is wide and complexed, with highly flat areas and relevant mountain ranges it becomes complicated to define a uniform analysis of the climate impacts of its territory. The consequences of climate change differ from country to country and to region to region due to their degree of urbanization, socioeconomic background and the fragility of their environmental monitoring system. One of the most visible effects is a rise in

temperatures, taking in consideration the medium global temperature, Earth's temperature has risen by 0.14° F (0.08° C) per decade since 1880, and the rate of warming over the past 40 years is more than twice that: 0.32° F (0.18° C) per decade since 1981[2]. Global temperatures are a good indicator to measure the impact of climate changes, but also to check the effectiveness of the measures of mitigation that governments and political bodies have taken. According to European Environment Agency ('EEA') by the 2021-2050 period temperatures within Europe are projected to increase of between 1.0°C and 2.5°C and by the 2050-2100 period this increases to between 2.5°C and 4.0°C. The largest temperature increase during 21st century is projected over eastern and northern Europe in winter and over southern Europe in summer[3].

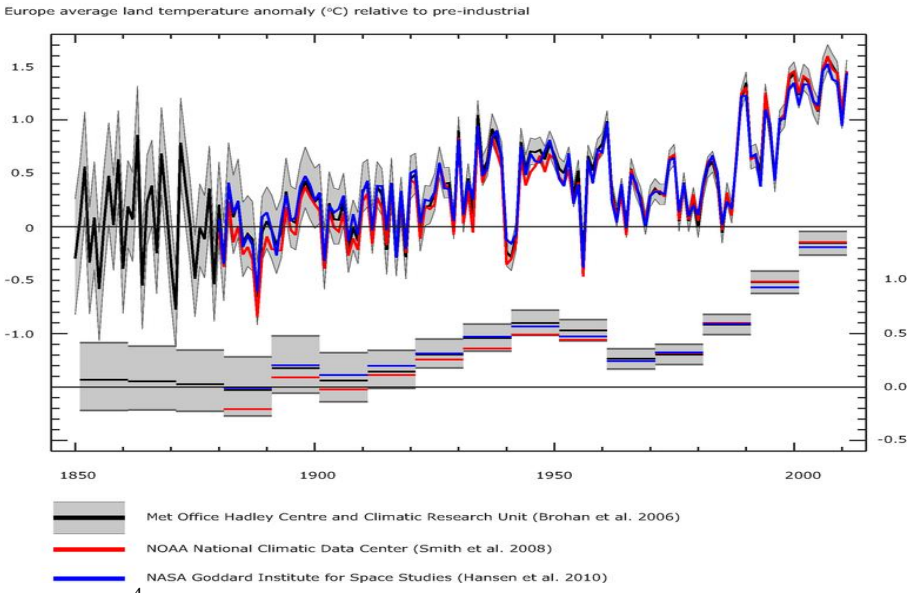

Figure 1.1.[4]

When we talk about climate impact, we are not referring only to a natural one, but also to aspects that gravitate around single citizens or communities. For example, the potential social impact of climate changes derives from the sensitivity of the European population towards environmental issues and energy transition. Some countries like Sweden, Denmark, Finland, and Germany have an historical and strong sense of attachment to the prevention of nature and this has been inevitably translated to the environmental

[2], DAHLMAN, LINDSEY (2021).
[3] Report of European Environment Agency, 2021, *Annual report on Global temperatures*.
[4] Europe average land temperature ('EEA').

prevention measures of these countries. The different conception of the climate risk throughout the Union can represent an element of concern to fulfill the goals of next decades, for the good success of the European Green Deal and its implementation. Another aspect is the economic impact; increases in temperatures, more frequent floodings and scarcity of water resources have an effect especially in areas where strategic infrastructures are allocated. Especially in southern Europe it became critical the agricultural situation due to the unstable climate condition that contributes to a weak production and significant losses of revenues. According to Italian federation of farmers ('*Coldiretti*') since 1995 climate change is responsible in Italy for the disappearance of more ¼ of the cultivated land (-28%) due to the cement and abandonment caused by a wrong development model that has reduced the usable agricultural area in Italy to just 12.8 million hectares[5]. Among other potential impacts, sea level rise is projected to reduce the amount of available fresh water, as seawater pushes further into underground water tables. This is also likely to lead to much more saltwater intrusion into bodies of fresh water, affecting agriculture and the supply of drinking water[6]. One area too often undervalued is represented by fishing and its economic importance; higher seas levels mean a direct and strong influence on the abundance and quality of the market with influences not only in quantities but even in qualities, moreover the always more scarcity of resources push companies to heavier and invasive techniques which represent a serious threat to ecosystems[7]. Analyzing each of the possible influences of environmental changes as regards the political impact, the greater visibility of physical changes in the environment has allowed greater awareness in the public opinion of the European Union. We can identify two different perspectives in which politics and the ecological dimension meet each other; the first one is the electorate dimension, electoral campaigns built on an ecological footprint with clear messages and sometimes even supported by technical plans of medium-long term; it is the case of Jamila Schäfer, the first member of the German green party to ever win a seat in the Bundestag in the 2021 federal elections in the south Munich constituency. She rose through the ranks of Green Youth, taking part in school strikes against education reforms, long before Swedish activist Greta Thunberg made her name by skipping classes for climate protests. She

[5] *Coldiretti* has analyzed only the Italian situation. Press Release, 22 April 2022, *Earth Day: 28% of the cultivated land lost.*

[6] The rise in global temperatures and the risk for the supply of drinking water are strictly connected to each other.

[7] Publication by OECD, 2011, *The Economics of Adapting Fisheries to Climate Change.*

proposed a vast and detailed plan of public policies to reduce the impact of the old energetic system of Germany on the emissions of CO_2[8].

The second linked dimension is the institutional one where governments and presidents chose to take or not actions and, in this case, it is relevant capturing the feedback of the electorate along public policies of a determinate institution. The European Green Deal, for example, looks like the number one political priority for the European Commission. Based on proposals presented by the Commission, the European Parliament and Member States have committed to make the EU climate-neutral by 2050, and to reduce net greenhouse gas emissions by at least 55% by 2030, compared to 1990 levels. An Eurobarometer survey of 2020 showed that nine out of ten Europeans (90%) agree that greenhouse gas emissions should be reduced to a minimum while offsetting remaining emissions to make the EU climate-neutral by 2050, while close to nine in ten Europeans (87%) think it is important that the EU sets ambitious targets to increase renewable energy use, and the same percentage believe that it is important that the EU provides support for improving energy efficiency[9]. These commitments are now enshrined in the European Climate Law, which was formally signed into law on 30 June 2021.

1.2. The urge of green transition

The Climate Change is clearly at the top of most political agendas around the world, including European Union one; leaders, institutions, political organizations, private companies; every actor of our vast and complicated society will meet the problem of reinventing and transforming its way of producing, deciding, and probably thinking. New challenges of climate change brought a new conception of living in our modern societies. It looks clearly that the actual urban processes and existing critical infrastructures are not anymore capable to face all the environmental challenges. EU institutions have particularly increased their concern about these topics in recent years, showing the necessity to search for a new and structural way of growing whose environmental impact could be minimal and justified. EU has already a strong leadership in tackling CO2 emissions and with the ambitious aim of net zero by 2050 confirms this guidance, but it will need some efforts. All

[8] NEVETT (2021).
[9] Special Eurobarometer 513 on Climate Change surveyed 26,669 citizens from different social and demographic groups across all 27 EU Member States.

Members States should follow linear path that contributes to the harmony of all 27 national legislations due to the EU indications.

To achieve this, the EU will work on cutting emissions as swiftly as possible from energy, industrial, and housing sectors, while investing into 'offsetting' strategies that allow for greenhouse gas absorption either through technological or natural means[10]. Reducing emissions and upgrading our methods of production are not zero-cost methods, they assume investments in economical and human capital that necessarily will request different shifts in budget chapters of every administrative level. The transformation to a green economy requires a massive substitution of capital for fossil energy, but the substitutability of capital and fossil energy varies widely across sectors, depending on technology[11]. Every sector within society needs a different grade of transition based on the urgency of the latter, the social cost, its impact on total emissions amount and its necessity of renovation. Transports sector represents, for example, one of the most debated parts in this conception of wide and differentiated urgency of the transition. This is not something that appears to be far from reality; 70% of European live in cities, in which most of transports infrastructures are located, 23% of EU transport emissions come from urban areas. In 2022 following the effort of EGD, the Directorate-General for Mobility and Transport of EU Commission has launched Mission Cities project which is based on acting towards greater sustainable mobility according to the goal of becoming climate neutral by 2030. The project has selected 100 European cities who will be climate neutral by 2030, the Mission will receive €360 million of Horizon Europe funding covering the period 2022-23, to start the innovation paths towards climate neutrality by 2030. The research and innovation actions will address clean mobility, energy efficiency and green urban planning[12]. Not only cities or transport live the urgency of finding new sustainable way to survive at new challenges of climate changes, but another important aspect is also energy and the capacity to collect it and manage it, abandoning progressively fossil energy towards 100% renewable energy. On 14 July 2021, the Commission published a new legislative package on energy entitled "Ready for 55%: Achieving the EU climate target for 2030 on the road to climate neutrality".

[10] LAZARD (2021: 2).
[11] KALSBACH, RAUSCH (2020: 2).
[12] Press release of European Commission, 28 April 2022, *Commission announces 100 cities participating in EU Mission for climate-neutral and smart cities by 2030.*

In the new revision of the Renewable Energy Directive, it proposed to increase the binding share of renewable energy in the EU's energy mix to 40% by 2030 and to set new targets at national level, including:

- A new benchmark of 49 % renewable energy use in construction by 2030.
- A new benchmark corresponding to an annual increase of 1,1 percentage point in the use of renewable energy in industry.
- A binding annual increase of 1,1 percentage points at national level in the use of renewable energy for heating and cooling.
- An indicative annual increase of 2,1 percentage points in the use of renewable energy and waste heat and cold for district heating and cooling[13].

These new targets on renewable energy have to be considered together with the current research of EU Commission and Member States to new types of energetic resources like hydrogen and oceanic one; in the first case EU Commission in 2020 has published a strategy on renewable energy offshore who sets the goal to obtain at least 60 GW of energy produced by renewable energy offshore by 2030 and then 300 GW by 2050; the same strategy aim to create a new system trans-European for this type of sector[14].
The actions towards climate neutrality are composed by many of these revisions which find their legislative foundation in Art. 194 of the Treaty on the Functioning of the European Union ('TFEU') who sets the guidelines to preserve the environment of EU.

The need to proceed quickly with a strong and constant transition of our social and productive processes can not be applied without a huge economic support that won't be based only on national funds, but rather EU ones. In this perspective of broadening the conception of the problem, also the geopolitical context plays a fundamental role, with relations of force between the countries that are also played on the natural resources. It should be noted that EU is currently a net importer of energy, the decline in primary production of coal, lignite, crude oil, natural gas and, more recently, nuclear energy has led to an increasing use of energy raw materials and secondary energy sources (such as diesel/diesel oil) by the EU to meet its demand, although the situation has been stabilized following the global financial and economic crisis.

The security of the EU's primary energy supply may be at risk if imports come largely from a small number of partner countries. In 2018, almost three quarters (70,3%) of EU imports of natural gas came from Russia, Norway,

[13] Directive 2021/0218.
[14] Fact Sheets on the European Union, European Parliament, 2021.

and Algeria. Similarly, almost three quarters (74,3%) of EU coal imports came from Russia, the US and Colombia, while crude oil imports were less concentrated among the main suppliers, as Russia, Iraq and Saudi Arabia accounted for around half (45,9%) of EU imports[15].

To overcome all these necessities EU Commission has set a wide and ambitious package of proposals called European Green Deal (EGD) which aim to reach the climate neutrality within the Union by 2050. To better understand the pressure and the urgence behind EGD it is important to analyze what is the actual background of EU environmental law and what parts are going to be implemented or modified.

1.3. The existing EU climate law

The Union currently has numerous legislative instruments to preserve and consolidate its environmental and natural heritage. The most important features can be found in Art. 194 of TFEU who sets basements of the action of EU institutions in their climate effort. The article sets an important aspect: energy policy is a share responsibility between EU Member States and the EU. However, the decision about energy sources and their distribution is a right of Member States, so the article provides 4 EU aims for energy policy:

- ensure the functioning of the energy market.
- ensure security of energy supply.
- promote energy efficiency and energy saving and the development of new and renewable forms of energy.
- promote the interconnection of energy networks[16].

The functioning of the energy market (1) is guaranteed by the efficiency (3) and the research of new energy resources to translate the supply of energy towards a climate neutrality that according to EGD should be achieved by 2050. Of course, the functioning of energy policies can not be untied from the environmental policy whose one of the pillars can be found in Art. 191 of TFEU who states the 'polluter pays principle'; a rule stating that who create a damage to the environment is the same entity whose duty is to pay for the protection and the cure of what has been hit by his actions[17]. The 'polluter pays principle' is one of a wider set of principles created in occasion of the 1992 Rio Declaration.

[15] Annual report on Energy and Environment of Eurostat, 2020, *EU energy supply*.
[16] Pursuant Art. 194 TFEU.
[17] GRANTHAM RESEARCH INSTITUTE (2012).

Starting from the legacy of the principles stated in the EU primary law, EU institutions have developed in last years a wide and deep spectrum of legislative acts like the Regulation on the Governance of the Energy Union and Climate Action (Governance Regulation) and the newly EU Climate Law[18], i.e. Regulation of the European Parliament and of the Council (EU) 2021/1119 of 30 June 2021 on establishing the framework for achieving climate neutrality and amending Regulation (EC) 401/2009 and Regulation (EU) 2018/1999 (hereinafter the 'Regulation'). This last Regulation sets the ambitious goal of reducing of 55% the greenhouse gas emissions ('GHG') levels compared of 1990s; this provides the EU Commission to harmonize its future legislative action according to these new climate targets and to monitor the efforts of EU institutions and Member States[19]. This new Climate Law of 2021 can be considered as one of the very first legal outputs of EGD, in fact until 2021 only an effort of European Council determined the level of reduction of GHG compared to 1990s levels[20]. Another important tool created by this regulation is the creation of a European Scientific Advisory Board on Climate Change that will provide its independent advice in order to support the EU climate legislative actions[21].

Another important stone in EU climate policies is the Regulation on the Governance of the Energy Union and Climate Action ('Governance Regulation'), which sets important and common tools for reporting and controlling EU climate actions[22]. It appears important to focus our studies not only on the material legislative acts at our disposal, but how EU institutions manage their competences and their roles in order to provide a favorable outcome to the principles stated with the legislative spectrum. The Governance Regulation give to the Member States the mission to implement their national strategies on Energy and Climate based on a common template ('NECPs'). The strategies include every dimension of the Energy Union; energy security, internal energy market, energy efficiency, decarbonization, and research, innovation, and competitiveness[23].

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[18] KOSTER, WENTZIEN, SCHLACKE, THIERJUNG (2021: 2-4).
[19] Regulation of the European Parliament and of the Council (EU) of 30 June 2021, 2021/1119/EU, *establishing the framework for achieving climate neutrality*.
[20] Pursuant Art. 4, para. 1, EU Climate Law.
[21] Regulation 2021/1119/EU.
[22] Regulation (EU) 2018/1999 of the European Parliament and of the Council of 11 December 2018 *on the Governance of the Energy Union and Climate Action, amending Regulations (EC) No 663/2009 and (EC) No 715/2009.*
[23] Pursuant Art. 1, para. 2, Regulation (EU) 2018/1999.

The attention to every dimension asserted in the Regulation help us to understand the necessity and at the same time the problem of multidimensionality of the climate policies governance whose can not be a single and delimited area of competence, but a pluralistic and dynamic one[24]. In a condition of proliferation of climate policies acts, both at international and national level, there can be a problem of stratifications of competences and an overlapped system of responsibilities; many EU Member States manage their climate policies using a mixed attitude with legislative acts, ministerial circulars, and national boards advice. Although this tendency, in last years many states have tried to harmonize their system with a strong effort for a cohesive and legal background whit the creation of formal tools called climate framework laws or 'flagship laws'[25]. These typologies of acts have been used mainly from the Paris Agreement of 2015 which pushed the leadership of European countries in fighting climate change. These 'flagship laws' helped to put together both short-term urgent actions and long-term ambitious goals[26]. Climate framework laws not only help states to act efficiently, but they contribute to the codification of EU obligations with, sometimes, a further upgrade of it with a recognition of who is responsible for every process avoiding the overlapping of competences and responsibilities[27].

1.4. The legislative process of EGD

After the European elections of 2019, Ursula Von der Leyen became the President of EU Commission; one of her first symbolic, but even political statement was focused on managing the climate change and the challenge of sustainable transition as one of the top dossiers of her agenda[28]. On December 2019 European Commission published a communication where it was announced that EGD was not only a milestone in achieving one sustainable goal, but it was a wide and deep range of legislative initiatives to reach ambitious and differentiated goals such as the cut of GHG emission by 2030, reaching the climate neutrality by 2050 and achieving the goals of green transition imposed by the Paris Agreement of 2015 and UN Sustainable Development Goals ('SDG')[29]. The communication originally was based on

[24] FRONTEDDU, SABATO (2020: 29-33).
[25] DUWE, EVANS (2021: 9-12).
[26] *Ibidem.*
[27] KOSTER, WENTZIEN, SCHLACKE, THIERJUNG (2021: 2-4).
[28] *Ibidem.*
[29] Communication of European Commission of 11 December 2019, *European Green Deal.*

40 key points who aimed to act into different fields as energy, climate, transports, mobility, agriculture, and climate governance[30]. Most legislative actions of EGD can be reconducted to amends to existing climate legislation, but the size of the package and the multitude of areas affected has few equals in the history of the European Union then we can assert that EGD is a real milestone in the Union's climate policy[31]. Considering EGD the theoretical starting point of the ambitious goals of the EU Commission, the urgency to find a practical tool to transform intentions to investments was one of the main concerns. On 14 January 2020 EU Commission presented the European Green Deal Investment Plan ('EGDIP') which represents the practical and material pillar of EGD[32]. EGDIP was created with a financial capacity of more than €1 trillion of sustainable investments capable of managing with public and private opportunities on many of the most important challenges of next decades such as circular economy, green mobility, and sustainable transition of industrial processes[33]. EGDIP was created based on three important dimensions: the financing one who sets numerically the total amount of investments, the enabling component that sets the cession by EU Commission of private and public transactions and the practical one which is based on the support that EU Commission would give to national authorities in designing and approaching material obstacles for the implementation of the new climate policies. The Commission to cohesive all of these three dimensions has set the Just Transition Mechanism ('JTM') which represents "a key tool to ensure that the transition towards a climate-neutral economy happens in a fair way, leaving no one behind"[34]. The total allocation of EUR 17,5 billion (2018 prices) consists of EUR 7,5 billion available for budgetary commitments for the period 2021 to 2027 and EUR 10 billion available under the Next Generation EU (Recovery Facility) for the years 2021, 2022 and 2023[35]. After the creation of this important tool the President of the European Commission, Ursula von der Leyen, said:

> "People are at the core of the European Green Deal, our vision to make Europe climate-neutral by 2050. The transformation ahead of us is unprecedented. And

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[30] *Ibidem.*
[31] CABRAS, CESARO DYBKA, FERNANDEZ ,MARCU (2022: 9).
[32] SIKORA (2021: 681–697).
[33] Communication of The European Commission of 14 July 2021, *financing the green transition: The European Green Deal Investment Plan and Just Transition Mechanism*.
[34] Communication from the Commission to the European Parliament, the European Council, the Council, the European Central Bank, the European Economic and Social Committee and the Committee of the Regions, 2018, COM/2018/097 final, *Action Plan: Financing Sustainable Growth*.
[35] *Ibidem.*

> it will only work if it is just - and if it works for all. We will support our people and our regions that need to make bigger efforts in this transformation, to make sure that we leave no one behind"[36].

Together with the EGDPI, EU Commission has proposed a new industrial strategy which aims to bring the Union as one of the world leaders in circular economy and clean technologies[37]. EGD does not represent only a legislative package or a together of sustainable goals, in the EU Commission intents EGD is part of a wider concept of sustainable growth, considering that economic development is not incompatible with achieving high standards of environmental protection[38].

Analyzed the creation of EGD, in purely legal terms this project is based on EU Commission communications, which are a legal instrument typical of EU *soft law*[39]. In many aspects of the competences of the Union the Commission chooses to use this tool like communications or notices. Communications are not binding for individuals, but still, they can have some sort of legal effects. So, EGD should be seen even as a particular element for the EU environmental legal background, if both in considering Art. 192(3) and principles in Art. 192(2), EGD communications does not mention in any form classical environmental principles of EU law. This dissonance represents a problem for the legal practicality of the EGD, the fact that its communications do not consider basic principles of EU environmental law can be a possible threat to the implementation of the ambitious goals that EU Commission has set. Moreover, EGD communications refers to a new policy principle 'green oath: do not harm'[40], this is an ambiguous principle considering that according to this all EU actions should avoid doing harm to the environment but without having a solid EU primary or secondary law references. In article 191(1) TFEU the Commission refers to this principle, but without explaining more in depth what it means from a legal perspective and in an enforceability one[41].

EGD in its creation and in the intentions of the European Commission certainly represents a historic moment for the Union's climate policy, but despite the ambition and the vastity of the projects, some issues can be analyzed considering the compatibility of the legal instruments used for the EGD and the constitutional structure of the legal landscape of the European

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[36] Press Release of EU Commission, 14 January 2020, *financing the green transition: The European Green Deal Investment Plan and Just Transition Mechanism.*
[37] SIKORA (2021: 651-666).
[38] BORIS, SEBASTIANO (2020: 13-16).
[39] Emphasis added.
[40] Emphasis added.
[41] SIKORA (2021: 681-697).

Union. Precisely to monitor and to realize a greater control on the progresses and the attainment of the various objectives, on 14th July of 2021 the EU Commission has announced the 'Fit for 55' package, a set of proposals to revise and update EU legislation and to implement new initiatives to ensure that EU policies are in line with the climate objectives agreed by the Council and the European Parliament[42].

1.5. 'Fit for 55' package and Horizon Program

The 'Fit for 55' package was issued by the EU Commission on 14th July of 2021, it represents a set of proposals in order to monitor the progress of EGD goals and ensure that the transition will be "fair and competitive"[43]. The package is ambitious and wide, and it consists of 12 actions both at level of amendments and at level of new legislative acts[44]. The most important according to the legislative train schedule of the 'Fit for 55' package are:

1) Revision of the EU Emissions Trading System ('ETS').
2) Carbon Border Adjustment Mechanism ('CBAM') and a proposal for CBAM as own resource.
3) Effort Sharing Regulation ('ESR').
4) Revision of the Energy Tax Directive.
5) Amendment to the Renewable Energy Directive to implement the ambition of the new 2030 climate target ('RED').
6) Amendment of the Energy Efficiency Directive to implement the ambition of the new 2030 climate target ('EED').
7) Revision of the Regulation on the inclusion of greenhouse gas emissions and removals from land use, land use change and forestry ('LULUCF').
8) Revision of the Directive on deployment of alternative fuels infrastructure.
9) Revision of the Regulation setting CO_2 emission performance standards for new passenger cars and for new light commercial vehicles[45].

The EU Emissions Trading System ('ETS') deals with a subject that can be defined as the backbone of the legislative package, the ambition of this system is to define a price on coal and then intervene on the reduction of emissions of the most polluting productive sectors[46]. This system, which has been in

[42] VALENDUC (2022: 12-13).
[43] Press release of European Commission, 14 July 2021, *Fit for 55 package.*
[44] LOMBARDINI (2021).
[45] Legislative train schedule of European Parliament, 1 May 2022, *'Fit for 55' package under the European Green Deal.*
[46] Directive 2003/87/EC.

operation for 16 years, has reduced emissions by 42.8%. The aim of the Commission proposal is to reduce the total emissions even further. The ETS in the proposal also extends the rules to the aviation sector, not allowing emission permits and thus aligning this sector with the global Carbon Offsetting and Reduction Scheme for International Aviation ('CORSIA'). At the same time, for the first time, emissions from shipping are introduced into the system[47]. Another important point of this wide package is represented by the Renewable Energy Directive ('RED')[48], which will increase the target of energy production from renewable sources up to 40% by 2030. The severe need resulting from this directive is the commitment to reduce emissions to all sectors and thus avoid a focus of the legislator on a single area; in fact, with this proposal, the Commission asks the Member States to work in order to implement the use of the renewable ones in transports, public offices, industries and the process of modernization of the buildings[49]. Directive 2021/557 is closely linked to the ETS, considering that more than 70% of emissions come from energy production and its consumption[50]. Alongside these two important proposals, a third one is worthy of being described; the Effort Sharing Regulation ('ESR') is a proposal whose aim is binding the annual reduction rate of greenhouse gas emissions of the countries in order to fulfill the goals of EGD and Paris Agreement ones[51]. According to the Commission, the need to change ESR is came from an increase in the ambition of climate targets also drafted by the Climate Target Plan. Originally the reduction foreseen by the regulation was 30% on emissions compared to 2005, with the amendments this share should reach 40%. Following the data of recent years with current conditions, Member States would be able to reduce their emissions by 32%, this figure, despite being in line with the Regulation (EU) 2018/842, would not allow the achievement of the key objective of the legislative package 'Fit for 55' so, the reduction of emissions by 55% by 2030. To allow a good implementation of the proposal and effective applicability,

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[47] Press Corner of European Commission,14 July 2021, *European Green Deal: Commission proposes transformation of EU economy and society to meet climate ambitions.*

[48] Amending Directive (EU) 2018/2001 of the European Parliament and of the Council, Regulation (EU) 2018/1999 of the European Parliament and of the Council and Directive 98/70/EC of the European Parliament and of the Council as regards the promotion of energy from renewable sources, and repealing Council Directive (EU) 2015/652.

[49] Proposal for a Directive, 15 July 2021, 2021/557/EU, *regards the promotion of energy from renewable sources, and repealing Council Directive (EU) 2015/652*.

[50] *Ibidem.*

[51] Proposal for Regulation of the European Parliament and of the Council, 14 July 2021, Regulation 2021/555, *amending Regulation (EU) 2018/842 on binding annual greenhouse gas emission reductions by Member States from 2021 to 2030 contributing to climate action to meet commitments under the Paris Agreement.*

additional funds are allocated for monitoring progress and possible adjustments. The amount of funds made available is almost 2 million euro[52].

The Commission considered funds allocated essential to adopt a pragmatic approach to the various proposals for climate and environmental legislation, including on the innovation front; it has considered the two issues to be closely linked. On May 4, 2021, the Commission presents the project Horizon Europe, a program funded with 95 billion euros that aims to achieve the standards of ecological transition dictated by the EGD and help achieve the UN's Sustainable Development Goals[53]. The program facilitates the relationship between research and innovation by supporting EU policies to combat climate change. There are 5 missions well outlined by the project:

- Adaptation to Climate Change mission
- Climate-neutral and smart cities mission
- Cancer mission
- Soil Deal for Europe mission
- Restore our Oceans and Waters mission

A factual approach such as that of the Horizon program lies in the desire of the European Commission to establish concrete steps in monitoring and, where there is a need, to modify the paths dictated by the program missions.[54]

1.6. Implementation and practicability

Alongside the ambitious goals, the urgency of the changes and the institutional communication there are even obstacles to the clear climate drive of EU Commission. It is not possible to undermine the climate objectives and their attainment without considering their actual viability. EGD represents from a one hand a continuity in the intent of the European Union to be the continent leader in the green transition and in environmental policy. A threat to this may be the over-reliance of European funds from the private business world. Large energy companies, for example, have already engaged in strong lobbying against the revision of the ETS Directive, trying to model the term 'sustainable' to fall within the legislative parameters in their favor[55]. This

[52] *Ibidem.*
[53] Press release of European Commission, 24 April 2021, *how to get funding, program structure, missions, European partnerships, news, and events.*
[54] *Ibidem.*
[55] GONZALEZ (2021).

could lead to substantial flows of funds to companies that are absolutely not of help to the Union's climate objectives. European Commissioner and EGD delegate Frans Timmermans has been accused by several parts of not being transparent enough about his meetings with major European energy companies[56].

One of the ways in which the EGD intends to achieve its objectives by 2050 it is through financially imposing measures. The success of the real applicability of the EGD and the plans attached to it is based on the allocation of financial funds and their careful and programmatic use. The EGD intends to finance the various legislative proposals by mobilizing private and public funds and dedicating a part of the EU budget to environmental and climate action, also through the European Investment Bank[57]. Precisely, in order to create a more complete campaign towards the objectives, the creation of the EGDIP is based on the EU cohesion policy and Art. 174 TFEU, therefore relying on co-financing by the Member States. Another aspect for a correct analysis on the practicability of the EGD is based on the legislative terminology of 'sustainable' and if its use is only used referring to the green side of the word. The concept of sustainable development is codified in the EU primary law in Art. 3(3) TEU, furthermore Art. 11 TFEU gives the EU principle of environmental integration, strongly related to sustainable development. This legal relationship is not cited in the EGD, so a challenge for the project would be the capacity to be 'sustainable' not only in the green dimension, but even in a social and in an economical spectrum. This feature is important even in a perspective of a just transition both focused on the environmental challenges and the social demands of the weakest parts of communities and societies. It is difficult to conceive a very well-defined ecological transition without a strong upgrade of the systems of welfare within the national legislations[58]. Another important point in the diversification of the term 'sustainable' is the scope of Sustainable Finance within the EGD. Sustainable financing means taking due account of environmental, social and governance considerations when making investment decisions. The concept of sustainable investment has also been explained by recent Taxonomy Regulation and so it became a term with legal explanations that can be used to have a more harmonic and direct action within EGD plans[59].

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[56] DE SOUSA (2021).
[57] *Ibidem.*
[58] SIKORA (2021: 681-697).
[59] Regulation of the European Parliament and of the Council, 18 June 2020, 2020/852, on *the establishment of a framework to facilitate sustainable investment, and amending Regulation (EU) 2019/2088.*

The problem of implementation touches also the single legislative proposals as the revision of the EU Emissions Trading System ('ETS'). This proposal despite strong political evidence and ambitious goals it shows that the system behave with low level of implementation. According to I4CE (2021) 47 jurisdictions are behaving according to the system, even if more than 45% of the emissions that are regulated by these rules have a price under USD 10, which is far below the necessary rate to be compatible with the objectives of the Commission[60]. Of course, implementing emissions taxes is not easy, but this result lies in the prevalence of economic policy decisions vis-à-vis environmental policies. This type of system is perceived by many parties as unfair and disproportionate and business segments are concerned about the effects this system may have on their competitiveness and productivity. To overcome this last problem, international coordination seems to be a priority to favor harmonization of the import/export systems and limit the damages. Another option could be a border tax adjustment, an experiment initiated by some countries but without wider coordination[61].

The debate on the feasibility of environmental measures is also accompanied by the problem of social justice and distribution. Environmental policies not only affect sectors that produce emissions or large energy companies, but also individuals; with consequences for employment, income distribution and profits[62]. The Proposal for a Council recommendation on ensuring a fair transition towards climate neutrality has been presented on 14th December 2021 by EU Commission to give solidity to the principles of fairness and solidarity within the context of the European Green Deal. According to the Commission, with the right policies the green transition could create 1 million jobs in the EU by 2030 and 2 million jobs by 2050[63]. To fulfill these objectives it is essential a vision of collaboration within all the administrative and legal levels of the Union. Conversely, in the absence of this well-designed project there are some socio-economic risks[64].

All the policies of the Union and therefore also of the EGD must be pursued according to the criteria of the European Pillar of Social Rights Action Plan and the Political Guidelines of the Commission 2019-2024 with their

[60] VALENDUC (2022: 18-23).
[61] *Ibidem.*
[62] LOMBARDINI (2021).
[63] Publication of European Commission, 4 July 2019, *Sustainable growth for all: choices for the future of Social Europe, Employment and Social Developments in Europe 2019*.
[64] *Ibidem.*

constitutional basis on Art. 3 TEU and Art. 9 TFEU[65]. A concrete example of attention to social justice can be displayed in the conformation of the proposals within the 'Fit for 55' package. The proposed revision of the Energy Taxation Directive exempts, for example, particular situations of family's fragilities from paying higher energy taxes. This example fits into the broader vision of energetic policies as a tool to fight poverty and reduce social hardship. By acting on energy taxes, we can combine the need for energetic differentiation with the urgent need not to weigh these changes on the poorest sections of the population[66].

There is evidence of a temporal problem for the legislative process and implementation of EGD measures in the Member States, mainly for the proposal of revision of ETD. First, a distinction must be made between the ordinary legislative procedure and the special legislative procedure. The first is based on Art. 294 TFEU and is initiated by the Commission and it can lead to three readings in Parliament and Council if no agreement is reached earlier[67]. The literature has shown that this type of procedure can take up to 2 years, so it would seem appropriate to end the legislative procedure of the measures contained in the package in mid-2023. In addition to this, some legal acts must be adopted by a special procedure and therefore on the basis of the Commission's proposal, dictated by Article 192 para.2 TFEU, the decision of the Council must be taken unanimously. With regard to the Energy Taxation Directive, for instance, the Commission expects Member States to implement it by December 2022 with the effective entry into force at the beginning of 2023; having found that the first negotiations on the revision proposal failed in 2015, the Commission's deadlines seem difficult to reach.

[65] Declaration of President of European Commission Ursula Von der Leyen, 16 July 2019, *a Union That Strives for More: My Agenda for Europe – Political Guidelines for the next European Commission 2019-2024.*

[66] Proposal for a Directive of the European Parliament and of the Council, 14 July 2021, 2021/0203, *on energy efficiency.*

[67] KOSTER, WENTZIEN, SCHLACKE, THIERJUNG (2021: 56-65).

CHAPTER 2

DIRECTIVE 2003/87/EC AND ITS REVISION

2.1. The current EU Emissions Trading System

EU has already an own system for tracking emissions to reduce them and sustain the 'polluter pays principle'. European Commission on 13th December 2003 establishes the creation of a system of trading for greenhouse gas emissions ('GHG'), this structure was created thanks to the Directive 2003/87 by the Commission. The system entered in force on 1 January 2005. The Directive in question establishes a scheme for GHG emissions allowing trade between the Community of Member States. The creation of a CO_2 tracking and regulation system is part of a wider legislative review program initiated by the Union in 2005, called: Review of Environmental Economics and Policy[68]. The system is based on the principle of 'cap and trade'; the principle according to the leading climate organization Environmental Defense Fund ('EDF') is divided into two main definitions:

> "The *cap* on greenhouse gas emissions that drive global warming is a firm limit on pollution. The *cap* gets stricter over time.
>
> The *trade* part is a market for companies to buy and sell allowances that let them emit only a certain amount, as supply and demand set the price. Trading gives companies a strong incentive to save money by cutting emissions in the most cost-effective ways."[69]

In the European system the various structures can buy or receive emission permits and they can market them if they need it. After each year, a structure can does not have more emissions than those covered by allowances, other meters incur in heavy penalties.

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[68] Emphasis added.
[69] Definition provided by the Environmental Defense Fund ('EDF'), 21 January 2020.

Although the core concepts were stated during the Kyoto Protocol in 1997, it was the European Union that brought it to a practical level, aimed at radically changing its climate policy. ETS was created with a trial period of three years (2005-2007) then extended for another 5 years (2008-2012), until it has got to a complete break-in detaching in the methodology and application from the Kyoto Protocol. One of the main comparisons with the EU ETS is the American sulfur dioxide (SO2) 'cap-and-trade'[70] system, although the American model has served as an inspirational model for the European one, there are several differences between the two.

Firs of all, EU ETS is much larger, considering more than 11,000 points of analysis against the 3,500 of the U.S. Another difference is based on the organization of the system, the European one has been implemented with a strong decentralization considering that it develops on a structure with several Member States, while the American one is centralized and therefore bound to a single control. The difference in the management of the two system is not only a matter of governance, but even of achievement of success targets, dealing with one centralized system is easier, but even risky in order to analyze the various regional and territorial differences.

The central system of the ETS consists of the allowances, that are the instruments that put the limits within which the various Member States can produce emissions.

> […] an allowance means a permit to emit one ton of carbon dioxide equivalent during a specified period, which shall be valid only for the purposes of meeting the requirements of this Directive and shall be transferable in accordance with the provisions of this Directive[71].

The main actors in the process of creating and allocating allowances are the European Commission, industries and firms and national governments. It is possible to divide the process of placement into two parts: the first one is more extensive, concerning the total number of allowances that each state has available, the second on a microscopic level concerning the distribution of allowances between the various industries of each Member State. Each country has contributed to both levels of discussion with the creation of the National Allocation Plan ('NAP'), a plan that each state has drawn up to

[70] Emphasis added.
[71] Proposal of a directive of European Parliament and the Council, 14 July 2021, Directive 2021/0211, *amending Directive 2003/87/EC establishing a system for greenhouse gas emission allowance trading within the Union, Decision (EU) 2015/1814 concerning the establishment and operation of a market stability reserve for the Union greenhouse gas emission trading scheme and Regulation (EU) 2015/757*.

identify the best possible distribution for the total number of allowances granted to it.

The method of allocation of allowances is clearly stated in Art.10 of the original directive:

> For the three-year period beginning 1 January 2005 Member States shall allocate at least 95 % of the allowances free of charge. For the five-year period beginning 1 January 2008, Member States shall allocate at least 90 % of the allowances free of charge[72].

So, each of the NAP must be written in accordance with Art. 10, the European Commission can reject the plan within three months according to Art. 9 (3) if this latter does not fulfill the requirements provided in the structures system and in the application of the allocation of permits requested by Art. 10.

Regarding the sectors covered by the scheme, reference is made to Annex III of the directive, the choice of sectors is linked to the degree of accuracy with which emissions can be measured. About N_20 it is measured on production of nitric, adipic and glyoxylic acids and glyoxal, for the CO_2 measurements occur "for electricity and heat generation, energy-intensive industry sectors including oil refineries, steel works, and production of iron, aluminum, metals, cement, lime, glass, ceramics, pulp, paper, cardboard, acids, and bulk organic chemicals […]" as stated in the original text of the Directive 2003/87.

The inclusion in the ETS system of the aforementioned productions is mandatory, but some derogations for particular cases are allowed considering the size of the production facilities, fiscal advantages for small and medium enterprises and some sectors which operates outside the European Economic Area and so it considered only the total amount of emissions produced within this area[73].

2.2. Revision of ETS within Directive 2003/87

ETS has faced many revisions throughout the years to achieve new standards of climate neutrality and to achieve new environmental goals. The challenges to the system are strictly linked to the revisions of its legislative basement represented by the Directive 2003/87. This legislative tool had foreseen an intrinsic provision to change itself through the years thanks to the division in

[72] *Ibidem.*
[73] It is the case of the aviation sector, the ETS, until 2023, will work for companies only between airports within EEA.

phases of the application of the trading system. After the above mentioned first two phases, a third started in 2013 and ended in 2020, and saw in 2018 the approval of Directive 2018/410 of the European Parliament and of the Council that amends Directive 2003/87 especially about the costs due to emission reductions and investments with low carbon impact. This directive provides for some important changes including the objective of reducing the total emissions and the establishment of a modernization fund to encourage new projects aimed at the sustainable transition of business production[7475].

Considering the new projections of the current ETS, the reduction of emissions would not be able to be in line with the targets planned for 2030 and thus achieve climate neutrality in 2050, the key objective of the EGD. Recalling that according to Art. 10 of Directive 2003/87 Member States must report their projections on their greenhouse gas emissions, the projections on emissions reductions should be 48% to 2030 thus exceeding the target of 43%. Despite this, the Commission increased this target to 55% and therefore felt the need to revise the system plan. In the spectrum of the European Green Deal and its implementation through a series of legislative proposals; the Commission on 14 July 2021 presented, among others, a proposal to amend the ETS establishing a new trading system of allowances within the European Union. The proposal aims to better challenge the new geopolitical scenario from an energetic point of view and to fulfill higher standards of climate neutrality according to the ambitions of the 'Fit for 55 package'.

The new proposed revision of the ETS sets the target even higher, providing for a reduction of greenhouse gas emissions by 61% for 2030 compared to 2005 (year of entry into force of the ETS). This new achievement is projected to be fulfilled thanks to the implementation of an integrated system of emissions allowances for aviation and the shipping sector and the institution of a system of trading of emissions parallel to that existing, but focused univocally on the field of transports and buildings ('ETS2'); having regard to the strong impact that this latter has in total emissions, more than 36% and that of road transport, which accounts for one fifth of the total greenhouse gas emissions.

However, this new system would be operational from 2025[76], during the first year will be a period of experimentation with the control and reporting of

[74] "In Article 9, the second and third paragraphs are replaced by the following: 'Starting in 2021, the linear factor shall be 2,2 %'" Directive 2018/410 (12).
[75] Article 10d Directive 2018/410.
[76] Art. 30 (b;f) of the proposal of directive amending Directive 2003/87/EC.

emissions from new facilities, but without providing for an effective system of allowances. From 2026 the system should start independently and efficiently[77]. An important difference between the emissions system in these sectors and the others is the composition of issuers. In road transport and in buildings, emitters can also be exceedingly small, so that emissions are not controlled at individual emission points, but by taking into account the supply chain. Briefly, the action that is controlled is the consumption of the fuels to operate the combustion in these sectors. Tracing all the emission points it would involve a great deal of effort in terms of efficiency and bureaucracy; the proposal with this method seeks to prevent this. Emission monitoring is defined in a way that is in line with what is already happening regard to stationary installations and the aviation sector. However, the Commission plans to monitor the evolution of the new system and in case it will update it from 1 January 2028[78].

The need to revise the ETS also stems from the awareness of the greater risk of unbalanced movements of emissions due to the Covid-19 pandemic. At an early stage, considering the projections produced by the various Member States, most countries will anticipate a sharp reduction in pollutant gases between 2020 and 2030, thanks to a production of energy increasingly dependent on renewable sources and a progressive abandonment of coal plants. Some countries (Belgium, Estonia, Iceland, Ireland, Malta, and Poland) are going against the trend, predicting an increase in their emissions due to a national appeal to the abandonment of nuclear energy as an asset of national energy needs.

[77] Art. 30 (a;b;c) of the proposal of directive amending Directive 2003/87/EC.
[78] Art. 30 (f) of the proposal of directive amending Directive 2003/87/EC.

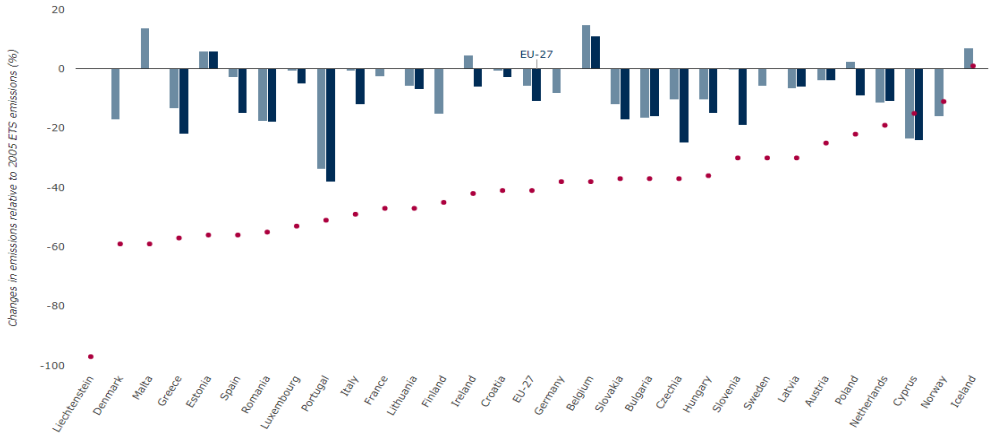

Figure 2.1.[79]

Another objective of the Commission's proposal is the revision of the Market Stability Reserve (MSR), the ETS-contextual tool that allows a price stability for the structures covered by the trading system[80]. In particular, the amendments to the MSR concern the net demand for allowances in the aviation and maritime transport sectors. The ability to stabilize prices through supply and demand compensation, with this change, is reinforced by including the aviation sector in the reserve calculation[81].

Unlike aviation, there are no single allowances per emission point for the shipping sector, but the proposed text provides the calculation of maritime emissions that is added to the points already examined relating to the structures on land. To address another risk of imbalance between market supply and demand, the MSR system is amended to operate also for road transport and the building sector with actions directed towards the surplus of allowances in these specific markets. Furthermore, additional allowances are created in the reserve to enable MSR to be more effective in these areas. In addition, to counter the risk of excessive market volatility, MSR may provide

[79] Figure 2.1. Historical and projected changes in ETS emissions relative to 2005 levels Value for 2005 is historical; 2020 (historical) reflects verified ETS emissions as of 2020. 2020 (projected) and 2030 values are taken from EU Member States' projections. EEA (2021a).
[80] Decision of the European Parliament and of the Council of 6 October 2015, 2015/1814, concerning *the establishment and operation of a market stability reserve for the Union greenhouse gas emission trading scheme and amending Directive 2003/87/EC*.
[81] Art. 1(a) of the proposal of directive amending Directive 2003/87/EC.

additional allowances. This step is not made by considering the surplus of allowances, but rather the average increase in the margin of allowances[82].

Other important principles that would be modified by the proposal of the Commission are the so-called benchmark of the ETS and the setting of precise conditions for free allocation. One of the most concrete and worrying risks for the Union is the use within the Emission Trading System of the cross-sectorial correction: the possibility of adjusting the situation of allowances of a certain issuer point by compensating any imbalances with trading respect to sectors other than your own. The increase in the benchmark is planned with a view to increase the emissions reduction target by 2.5% for 2026, with its growth the parameters become more stringent, with a lower propensity to emit and therefore an advantage in the use of technologies with less emitting impact. In addition, the free allocation of allowances becomes even more stringent towards those low-carbon sectors[83].

2.3. Legal basis, proportionality, subsidiarity.

The legal basis for the proposed review of the system is based on Art. 192 TFEU. The article commits the Union to promote the achievement of climate targets aimed at achieving greater protection of the environment and to pursue in various international contexts all the actions necessary to address global environmental problems.

As regards subsidiarity, the ETS Directive is based on a legislative instrument adopted in 2003, based on the subsidiarity principle of Article 5 TFEU, the key points of this proposal to amend Directive 2003/87 can only be achieved through a legislative instrument at Community level. Similarly, Decision 2015/1814 of the European Parliament and of the Council establishing the creation of the MSR for the ETS system is an existing measure within

[82] *Ibidem.*
[83] Art. 10a of the proposal of directive amending Directive 2003/87/EC.

European legislation, amending its identity is not possible through national or local channels, but only at EU level. Implementing and amending the ETS and the MSR at local level would be counterproductive because it would create different national systems, with a plurality of procedures and bureaucracies that would put at risk the achievement of the objectives set.

The proposal for a revision of Directive 2013/87 respects the principles of proportionality, since in its Provisions it does not go beyond the objectives set, such as the achievement of climate targets. In fact, the European Council has foreseen a domestic and overall reduction of at least 55% of greenhouse gas emissions[84].

2.4. The problem of harmonization and the monitoring of ETS.

One of the most obvious problems with the implementation of the ETS mechanism is the control and effectiveness of permit updates to issue. Each installation point within the system requires a permit to emit greenhouse gases, issued by the various national authorities as required by Art. 5 and Art. 6 of Directive 2003/87. In case of changes to the structure or composition of the issuing point, the permit in many cases needs to be revised. The procedures for the release of permits are different from state to state considering the authorization agency, the timing of release and the various procedural steps. These various national differences are a crucial point in defining the weaknesses of the European system and in underlining that the new proposals for amendments by the Commission also must deal with the realities of individual Member States. Taking into account the changes to permits issued by national authorities, there is a marked discrepancy between individual countries due also to the need for different conditions required to update permits. Countries such as France and Germany do not foresee a revision of the permit except for radical changes in the setting of the issuing installation. While other countries such as Croatia or Poland require an update of permits also, for example, in the event of a change in the name of the controlled

[84] Proposal of directive amending Directive 2003/87/EC.

emission point. These differences cause a significant discrepancy among the number of permit changes among various countries as illustrated in Figure 2.2.

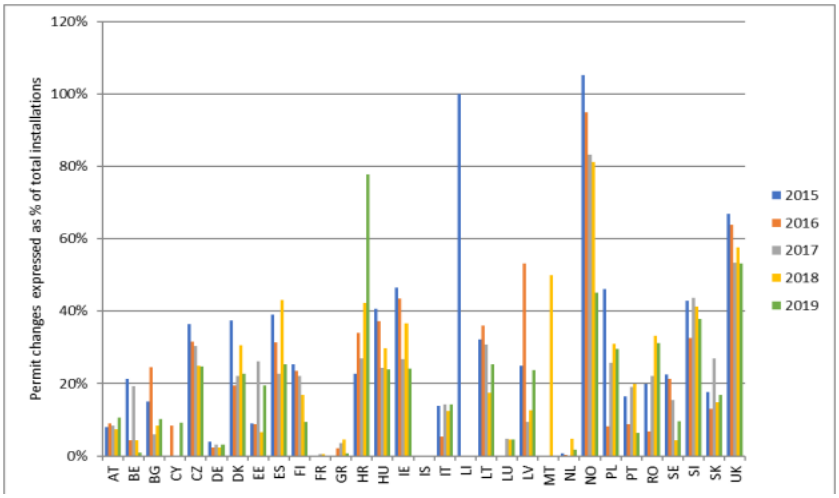

Fig. 2.2. [85]

The differences in national procedures may adversely affect the effectiveness of the implementation of the ETS. Excessive bureaucratization and waiting times for the review of permits can lead to discouragement on the part of stakeholders and a lack of effectiveness in controlling emissions, leading to a possible failure of the objectives set by the Commission. The latter, aware of potential problems, has tried to create useful tools to address these issues, as regards the guidelines to be followed. Individual Member States have also developed additional information packages to guide the bureaucratic processes on permits; in particular, to better inform aviation companies about their emissions monitoring plans. The aviation sector has been one of the most affected by the revisions of the ETS both in 2018 and in the proposal presented by the Commission in 2021.

The harmonization of the various procedures seems urgent in order to reach the fixed objectives. It is this urgency the core concept that was to the base of the implementation of Commission Regulation No. 601/2012 of 21 June 2012 on monitoring and reporting of greenhouse gas emissions ('MRR'). MRR has replaced the Monitoring and Reporting Guidelines ('MRG'). MRR is focused on proving better solutions to harmonize the monitoring and reporting

[85] Figure 2.2. Evolution of the number of permit changes, expressed as a percentage of the total number of installations per country, from 2015 to 2019. (EC).

procedures among the various Member States and progressively eliminating the bureaucratic and administrative obstacles.

Monitoring and reporting emissions data flows allows a complete effective trading system of emissions and therefore the allocation of permits with a good balance between supply and demand. That is why the Commission outlined, in the ETS review process during the third phase (2013-2020), a clear monitoring, reporting and verification structure('MRV'). Without this system the operators would not be controlled and therefore the whole monitoring system would be compromised. This type of instrument underlines the two main parts of which the ETS was created.

On the one hand it is a market instrument, where it interacts with market prices (allowances) and their volatility with traced trades; on the other hand, it is a tool that fits into the Union's climate policy, with environmental objectives already expressed in 2005 and relaunched in 2021 with the announcement of the 'Fit for 55' package. Unlike other types of climate policy, the ETS is based on a clear co-responsibility of operators; without joint action it would be almost impossible to achieve the intended objectives. This need for collective action justifies a strong MRR capable of ensuring transparency and effectiveness in the monitoring of the entire system. The creation of a strong monitoring action is well described in Art. 14 and Art. 15 in connection with Annex IV and V of Directive 2003/87.

> The Commission shall adopt guidelines for monitoring and reporting of emissions resulting from the activities listed in Annex I of greenhouse gases specified in relation to those activities, in accordance with the procedure referred to in Article 23(2), by 30 September 2003. The guidelines shall be based on the principles for monitoring and reporting set out in Annex IV[86].

Despite these tools, the Commission has always considered the involvement of Member States to be extremely important. Without the implementation of the MRR by national regulatory bodies, there could not be a real implementation of the whole ETS.

The process by which the system monitoring takes place also assumes the definition of 'cycle compliance'. The operator monitors the data for a full year, within three months of the end of the calendar year[87] the operator shall produce the annual emissions report ('AER') to be sent to the competent authority ('CA'). However, monitoring is a year-round process that also involves special CA inspections to check the compliance of the monitoring process. The

[86] Art. 14(1) Directive 2003/87/EC.
[87] Art. 12(3) of the MRR.

competent authority in its controls and in the assessment of the annual AER shall follow the envisaged legislation consisting of the national monitoring plans and the MRR. The competent authority according to provisions of national legislation conducts checks both individually and cross-checked. If the authority detects some non-conformities, corrections may be requested, but without any deadline provided by EU Legislation[88].

In the process of monitoring the installations, it seems essential to follow some points for the creation of the monitoring plan. First, it needs to know in detail the situation of the installation concerned, a monitoring plan according to the guidelines of the Commission must be clear and as simple as possible in its drafting. The clarity of the plan derives from the objectivity of the data and the quality of the monitoring tools. It is important to draw up the monitoring plan from the point of view of the verifier and from the possible obstacles that the CA may encounter in the control action.

2.5. Decision (EU) 2015/1814: the Market Stability Reserve (MSR)

Having analyzed why the ETS is the central part of climate policy within the EU in the context of the 'Fit for 55' package of proposals, it is important to understand that, in an emissions trading environment, based on the 'cap-and-trade' principle, ensuring a certain degree of control of the allowances market appears to be a priority. So, it is not only fundamental the already explained procedure of control over the structures and their performance, but also the purely market process between supply and demand to avoid imbalances that would then lead to the ineffectiveness of the system with a consequent failure of the climate targets set.

The Market Stability Reverse ('MSR') is the legislative tool born to satisfy this problem though the decision (EU) 2015/1814[89]. This solution has been adopted in 2019 as a long-term solution. The reserve deals with two fundamental objectives, to organize the surplus of allowances in the market and to improve the trading system to protect it in case of strong imbalances with changes to the offer of allowances in the market. As stated by European

[88] Deadlines can be imposed by national legislations.
[89]Decision of the European Parliament and of the Council of 6 October 2015 *concerning the establishment and operation of a market stability reserve for the Union greenhouse gas emission trading scheme and amending Directive 2003/87/EC.*

Commission "In 2019-2023, the percentage of the total number of allowances in circulation determining the number of allowances put in the reserve if the threshold of 833 million allowances is exceeded is temporarily doubled from 12% to 24%."

The reserve also deals with the issue of unused allowances, which is crucial for the stability of the system. This system operates in its entirety in a way contextual to the rules already started within the ETS therefore with no discretion with respect to the implementation of this measure. For an optimal effectiveness of the reserve the Commission publishes every 15 May the total of allowances still present, this data is fundamental to regulate any problems in the market. The MSR can act both in a situation of surplus and therefore taking allowances, both in terms of lackage by injecting new allowances into the market. Even though the reserve remains unchanged, the review announced by the Commission in 2021 also brings some changes for MSR.

From 2023 the number of allowances that will exceed the volume level expected for the year before will no longer be used and will be eliminated from the market. This choice is crucial for the increase of the EGD climate targets. With this amendment the line of the Commission is reinforced in the choice to disincentive activities strongly polluting and to replace them with technologies to minimal impact of coal. Together with the changes of the reserve, the same objectives are implemented with a reduction of the 'cap'[90] annual and that is the total volume of greenhouses gases that can be admitted through the total of allowances allocated with an overall reduction of 2.2% per year against 1.74% of previous years. These changes are fundamental to the achievement of the objective fixed in 2030 to reduce by 40% greenhouse gas emissions within the Union.

Before 2015, however, the ETS had several problems despite its relative effectiveness. Too low prices and high volatility have been experienced. Price stability therefore became a fundamental objective of the Commission's amendments, but if the effort is considerable, there are risks. First, the long-term development of the energy sector will continue to be strongly dependent on certain geographical contexts with non-linear relationships[91]. This non-linear prediction encounters another problem, the non-linear response of the MSR and therefore an action with a time delay not sufficient to the implementation of the results. To aggravate this problem there is the speculation related to the price predictions of allowances allocated. Generally,

[90] Emphasis added.
[91] CHAPPIN, RICHSTEIN (2015).

a trading system for greenhouse gases is characterized by actions of this type, but the institutions not always give the right attention to the risks of it. A 'cap and trade'[92] scheme can be efficient to have an acceptable total emission volume target only by addressing the topic of speculative banking and thus allowing unlimited permit lending action[93]. This solution is called inter-temporal efficiency, precisely because the reduction of the limits to the loan and transactions is spread over time so as to intervene in the moments of achieving cost efficiency on the total target of reduction of emissions.

A reserve system of allowances such as MSR is not a novelty for the academic literature, on the contrary, over time, various possibilities have been proposed by the scientific community to adapt the system to diverse needs. The system chosen by the Commission for the MSR is based on the intervention between supply and demand to influence price volatility. However, it is not the only possible system; there are even more complicated functions and methods of intervention that work on price forecasts fixing the system's response in a programmatic manner[94]. Therefore, the MSR system employed inside of the Union acts in an effective temporal dimension and not in a programmatic way. When the level of outstanding allowances ('TNAC') reaches a no longer sustainable level (Threshold)[95], MSR reduces the number of allowances. Allowances increased if the TNAC goes below a certain threshold. Together with this main action, even other instruments need to be taken into account as the Linear Reduction Factor ('LFR') which set the total amount of allowances which need to be reduced each year. Under the ETS spectrum, the LFR must be applied for each member state to decide the total number of allowances which have to result allocated and unutilized at the end of each solar year.

The synergy between MSR and LRF is fundamental for the achievement of the goals set by the Commission. With the increase of the target on the total reduction of the emissions, from 40% to 55%, the revision of the directive ETS goes to modify ETS 'cap' and therefore in a contextual way the LRF. Despite this parallelism, the 'cap' of the ETS does not depend exclusively on the linear factor of reduction, but also on the MSR. That is why it is important to consider these two instruments strongly connected to each other.

As stated above, the LFR can act on the progressive cancellation of allowances each year for each Member State. If it increases, the deletions also increase, as is clearly visible in Fig. 2.3. The reason for this correlation is based on a

[92] Emphasis added.
[93] SCHOPP, NEUHOFF (2013: 28).
[94] TASCHINI (2013).
[95] Currently the upper threshold is 833Mt, the lower one is 400 Mt.

main concept: when the LFR is higher you have a lower number of allowances, then a relative increase in prices; however, these changes are less visible in the short term and more visible in the long term because of the nature of the LFR, which increases the reduction of allowances progressively according to the elementary rule of linear reduction. That said, if prices go up, emissions go down because allowances are more expensive, but annual 'caps' don't see the same reduction, this leads to an increase in the TNAC, which in turn increases the inflow of the market reserve and thus an increase in allowances cancellations[96].

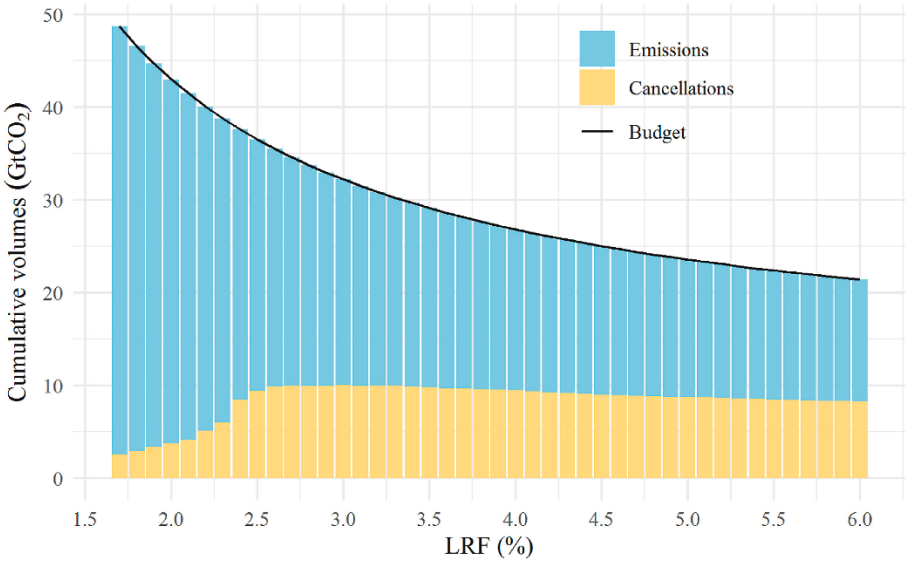

Fig. 2.3.[97]

2.6. The EGD Investment Plan and the Just Transition Fund

The EGD not only has to deal with environmental objectives, but also economic, so the investment plan becomes fundamental in achieving the targets. From a constitutional point of view, Art. 3 TEU already provides for the coexistence of objectives between green transition, environmental

[96] OSORIO, TIETJEN, PAHLE, PIETZCKER, EDENHOFER (2021).
[97] Impact of the LRF on total certificate cancellations and emissions. OSORIO, TIETJEN, PAHLE, PIETZCKER, EDENHOFER (2021).

protection, and the need for economic growth with particular attention to the social implications. Art.3(3) TEU states that:

> "The Union shall establish an internal market. It shall work for the sustainable development of Europe based on balanced economic growth and price stability, a highly competitive social market economy, aiming at full employment and social progress, and a high level of protection and improvement of the quality of the environment. It shall promote scientific and technological advance."

The EGD and its associated tools such as the ETS must find their place within this constitutional composition, with a balancing of various interests that may not have weaknesses. In particular, the Covid-19 pandemic has even more weakened the economic condition of the Union accelerating processes that will revolutionize all the legislative programming and that will also affect the EGD. This set of prerogatives, the complexity of addressing all the problems and the speed that require these changes have led in the creation of the Investment Plan a clear vision with a:

> "New growth strategy that aims to transform the EU into a fair and prosperous society, with a modern, resource-efficient and competitive economy where there are no net emissions of greenhouse gases in 2050 and where economic growth is decoupled from resource use."[98]

The European Green Deal Investment Plan ('EGDIP') is the main instrument for the overall financing and investment to achieve the EGD's climate goals. The plan in the vision of the Commission will manage to finance projects for a trillion euros in ten years. Within the EGDIP there is also the Just Transition Mechanism ('JTM'), a tool created to ensure as much as possible a fair green transition avoiding inequalities between the various parts of society.

The plan has three main objectives, the first is to inject funds for transition projects for the 'Fit for 55' package even thanks to several parallel projects such as the InvestEu plan; the second objective is to create as much as possible a dynamic investment environment, ready to welcome private investments that in turn can help the public sector to progress on the sustainability of its processes; the third one is to give support to the world of public administration to break down all those bureaucratic procedures which wouldn't allow a fast and clear progress of projects, risking being obstacles to the achievement of targets.

When we talk about facilitating both public and private investment in order to achieve the objectives set, the most useful constitutional instrument is Art. 174 TFEU, which is the cornerstone of the EU's cohesion policy. The new climate

[98] Communication of the European Commission, 11 December 2019, COM (2019) 640 final point 1, *the European Green Deal*.

targets allow the action of the EGDIP to be operational in budget expenditure thanks to the Multiannual Financial Framework ('MFF') which provides for a major deployment of resources for the environment and cohesion. As already mentioned, the innovative point of the EGDIP is the JTM. For the Commission this instrument is "a key tool to ensure that the transition towards a climate-neutral economy happens in a fair way, leaving no one behind."[99] and again for the Executive Vice-President of the European Commission, Frans Timmermans "We must show solidarity with the most affected regions in Europe, such as coal mining regions and others, to make sure the Green Deal gets everyone's full support and has a chance to become a reality."

This step is crucial, even if it appears too often underestimated in the analysis of the objectives of the transition. Cohesion means not only territorial cohesion, but also unity between the different objectives. An ecological transition with important structural changes can create inequalities both at the microscopic level between individuals, and at the macroscopic level between different countries. European states which are heavily dependent on fossil energy sources make it more difficult to reach the energy and climate targets, that is on of the reasons why climate policy must be accompanied by a fair and balanced transition project, it is precisely with this objective that the JTM is inserted.

JTM addresses the social and economic effects of the ecological transition by focusing in particular on the geographical regions of the Union, the industries and workers that will be most pressured by a structural change of their production and lifestyles. There are three key points of the JTM; a fund for the right transition of 19.2 billion euros that aims to mobilize 24 billion euros of investment; the 'just transition' scheme within the InvestEU plan that allows to have a budget guarantee for expenses and, with a dedicated hub, it will be a point for advisory requests and it will mobilize in the forecasts from 10 to 15 billion euros mainly from private funds; the third point is the creation of a new Public Sector Loan Facility which will mobilize, thanks to the help of the European Investment Bank, about 18.5 billion euros for public investments.

The Commission has particularly drawn attention to those geographical regions which are at a disadvantage in the process of the transition, because they are dependent on fossil fuels for a considerable proportion of their energy. For this reason, within the project for a just transition, the Initiative for the Coal Regions in Transition has been created with the aim of helping

[99] Press release of the European Commission, 14 July 2021, *the European Green Deal*.

the regions most in difficulty to prepare, to develop and implement productive and economic transition activities in a sustainable way. The initiative aims to connect the various stakeholders to create a dialogue between the various regions creating good administrative practices to accompany the ecological transition. Not only a dialogue, but also an instrument of concrete technical assistance to get out of the highly polluting and coal-based productions. Since 2018, regions based on a strong dependency of coal, peat and oil are appointed as NUTS-2 regions, each of this region has over 100 jobs in extracting these elements[100].

2.7. The distributional issue

The distributional problem represents another major obstacle in the implementation of climate policies within EU and in particular for the European Trading System. Regressivity is one of the main concerns about the fairness and the distribution as this new flow of legislative provisions about green transition brings with it a serious risk for social equality. These proposals set ambitious goals in terms of reducing emissions with annexed strict rules for fighting an increase in pollution, but do not always take in consideration with the same concern the problem of applicability of these provision within the various social communities. We can divide the problem of fairness and equality in two levels: from a social perspective and from a political analysis.

Considering the social perspective, an interesting feature comes from the distributional impact on energy taxes. This phenomenon was analyzed by Flues and Thomas (2015) with the construction of an analysis model considering 20 OECD countries[101]. The model focuses on the impact of taxation on income and not on the total expenditure of a household, this to have greater clarity even for purchasing power. The main results show a regressive behavior regarding the tax on electricity, furthermore it becomes difficult for poor household to save on this type of economic output, as a share is consumed anyway.

[100] Regions with the highest numbers of workers in the extraction are sited in Romania and Bulgaria with 11.072 workers in the former and 12.123 in the latter. Eurostat, 2018.
[101] Their study has covered 16 EU countries: Austria, Belgium, the Czech Republic, Germany, Spain, Estonia, Finland, Greece, Hungary, Ireland, Italy, Luxembourg, Poland, Slovenia and Slovakia.

Policies such as the ETS are certainly effective in reducing the total volume of emissions, as they put in place a series of limitations that discourage production with a high polluting impact. The same objectives with different methodologies are achieved by the imposition of specific taxes for coal or other types of energy emissions. In all this reasonement the fairness of these measures appears important. The incidence of these taxes on emissions is clear, but on household income less. Important political and electoral acts in recent years have abandoned some of these policies precisely because of their social and economic risk. In 2016, Hillary Clinton abandoned the idea of a $42 per ton tax on coal in the United States as a proxy for its regressive impact[102].

Another strong example is the 'yellow vests'[103]movement that was born in France in October 2018 precisely because of the increase of the tax on French coal that would have led to a disproportionate economic weight on the middle class and the working one. Together with these cases, studies show that voters are much more inclined to favor a progressive rather than a regressive environmental tax[104].

The first tax system and restrictions on emissions and pollutant productions were applied in the Northern European countries in the early 1990s where historically social inequalities were minimal with an index of GINI below 24[105]; therefore, the legislators did not have a real social obstacle in applying this type of limitation. Since the 1990s, however, inequality has increased in almost all high-income countries, and legislators have faced two major challenges: on the one hand climate change with all its related effects and on the other hand the social consequences in the application of environmental protection rules. The ETS system, like other systems, focuses on allowances and their prices, but the emission points are concentrated in those industries that are fundamental to society such as energy, transport, and industry. However, these sectors are not only crucial to their potential issuer, but also crucial to the employment of modern societies. Surely the challenge of conjugate environmental regulations with social tightness can not be addressed with a local approach, given that most productions in today's globalized world derives from international trade. The reality of having all

[102] HOLDEN, HESS, LEHMANN (2016).
[103] Emphasis added.
[104] BR¨ANNLUND, PERSSON (2012).
[105] AABERGE, ATKINSON, MODALSLI (2020).

countries with different rules therefore does not allow for the achievement of an already complicated conjugation of interests.

After the signing of the Paris agreements in 2015 many countries are trying to find a way to legislate on the environment, but at the same time to fulfill their climate targets in a way compatible with social estate. If income inequalities make the effect of distributing climate restrictions more regressive, it is very difficult politically to implement such restrictions. As for the Union this does not have a very strong correlation, although in some OECD countries[106], which are strong emitters of greenhouse gases emissions, there is a high index of inequalities. Instead, where income inequalities are low and emission restrictions have been in place for a long time, as in the scandinavian countries, we have a minimal percentage of emissions compared to giants like China and the U.S. Possible solutions to avoid the rejection of carbon taxes or emission control systems can focus on tools that allow tax differentiation also taking into account income factors, promoting progressive and not regressive policies[107].

The Union ETS has both positive and negative effects; some of these are shared with the other restriction systems of the issuing structures; others characterizing the European system. One of the most positive aspects of the ETS is its coverage of more pollutants than the American system for example[108]. In this sense, the revision proposed by the Commission with the inclusion of the Aviation and Shipping Market is heading in the right direction. Another positive feature of the system is the prediction of special rules for carbon leakage, this reduces the risk of relocations from production sites[109]. In addition, these rules supported by strict guidelines encourage the gradual, but continuous sustainable transition of productions. This last point can be implemented even more with an *ex ante* creation of measures aimed at identifying particular areas or regions where the risk of relocation is higher. One attempt is surely the Just Transition Plan. A possible list of high-risk sectors or productions must be as static as possible and avoid major movements, so as not to discredit the system and produce the idea that industrial lobbies are pushing for concessions and exemptions[110].

The EU ETS is a 'cap-and-trade' system that places limitations on emissions on structures that itch emissions. This means that the ETS does not cover

[106] US, Japan, Germany, Canada, and Australia.
[107] ATTANASIO, ORAZIO, PISTAFERRI (2016).
[108] See *supra*.
[109] BORGHESI, MONTINI (2016).
[110] GRUBB ET AL. (2014).

emissions associated with imports from regions or nations with no emissions system is in place. Companies can then move their production to other countries and then through imports marketing their services, reducing the costs associated with entering the ETS. This attitude is not only harmful from an environmental point of view, but also to the structural tightness of the system of restrictions. An efficient and innovative system on this point is represented by the ETS of the State of California, in the United States. The system is called 'first seller approach'[111] as it identifies the first economic agent that imports into the state market. The Californian system can be seen as a 'hybrid cap-and-trade'[112] that "combining a source-based approach for in-state resources and emissions accounting for imports in order to limit emissions leakage".[113]

CHAPTER 3

THE EFFECTS OF EGD MEASURES AND ITS IMPLEMENTATION

3.1. The economic impact

The measures contained within the EGD with their practical applicability in the 'Fit for 55' package will have surely a climate impact with a clear set of goals and climate targets; the reduction of emissions and the support of the various national and Community institutions towards a more complete energy transition.

Although, there are other types of impacts which needs to be analyzed to understand the wideness and the ambitious of the Commission, but even the risks and the obstacles of this new wave of legislative initiatives.

The Circular Economy Action Plan ('CEAP'), one of the main concrete actions carried out by the Commission within the EGD, is part of the unity between the issues of sustainability and economic growth. The CEAP focuses on the transition of circular production with the aim of reducing the pressure on

[111] Emphasis added.
[112] Emphasis added.
[113] HOBBS ET AL. (2010: 26).

natural resources and the environment to create and support new work processes characterized by new technologies. The action of the plan is part of the achievement of the targets set for 2050[114].

> "As half of total greenhouse gas emissions and more than 90% of biodiversity loss and water stress come from resource extraction and processing, the European Green Deal 4 launched a concerted strategy for a climate-neutral, resource-efficient, and competitive economy. Scaling up the circular economy from front-runners to the mainstream economic players will make a decisive contribution to achieving climate neutrality by 2050 and decoupling economic growth from resource use, while ensuring the long-term competitiveness of the EU and leaving no one behind."[115]

With the application of the principles of the circular economy, it is estimated that the Union economy will benefit from a 0.5% increase in GDP and almost 800000 new jobs by 2030[116]. The economic context already present within the Union would allow a good success of the plan, given the absolute efficiency and facilitation of having a single market and the already established leadership, over the years, about new technologies. The economic benefits of the circular economy plan are not only for companies and the transition of their production processes, but also for individual citizens. The creation of new structures and a high recycling capacity allow to have higher quality standards, with an improvement in the consumption by individuals. The CEAP was born as a tool in the context of the EGD, able to implement the already very ambitious objectives of the Commission strategy.

The products are the most interested about circular economy, not only for the process of recycling who permits a higher production of reusable materials, but even for the increase in quality and efficiency. EU has already took some action in this sense thanks to the EcoDesign Directive which regulates energy efficiency and the processes of production related to energy products[117]. Other tools have been created as EU Ecolabel[118] and the EU green public procurement ('GPP')[119] to address the issues of the circular transition, which

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[114] Communication from the Commission to the European Parliament, The Council, the European economic and social committee and the committee of the regions, 2020, COM/2020/98, *a new circular economy action plan for a cleaner and more competitive Europe.*
[115] *Ibidem.*
[116] Cambridge Econometrics, Trinomics, and ICF, 2018, *Impacts of circular economy policies on the labour market.*
[117] Directive of the European Parliament and of the Council of 21 October 2009, 2009/125/EC, *establishing a framework for the setting of ecodesign requirements for energy-related products.*
[118] Set of criteria to minimize the environmental impact of the products, 6 July 2005, Directive 2005/32/CE.
[119] Directive of the European Parliament and the Council, 31 March 2004, 2004/18/CE, *on the coordination of procedures for the award of public works contracts, public supply contracts and public service contracts.*

not only deal with waste recycling, but the overall plant of the product cycle, from creation in companies to the consumption of citizens and disposal and possible recycling. Despite these instruments, before the CEAP, there was no comprehensive set of rules to determine a sustainable production policy within the single market. The concept behind this initiative is to broaden the action of the Ecodesign Directive, extending circular consumption policies to a wider range of products. Through the CEAP and other related legislative initiatives, the Commission aims to take this type of initiatives:

> -improving product durability, reusability, upgradability, and reparability, addressing the presence of hazardous chemicals in products, and increasing their energy and resource efficiency.
>
> -increasing recycled content in products, while ensuring their performance and safety.
>
> -enabling remanufacturing and high-quality recycling.
>
> -reducing carbon and environmental footprints.
>
> -restricting single-use and countering premature obsolescence.
>
> -introducing a ban on the destruction of unsold durable goods.
>
> -incentivizing product-as-a-service or other models where producers keep the ownership of the product or the responsibility for its performance throughout its lifecycle.
>
> -mobilizing the potential of digitalization of product information, including solutions such as digital passports, tagging and watermarks.
>
> -rewarding products based on their different sustainability performance, including by linking high performance levels to incentives[120].

Particular attention within the CEAP is given to the sectors most close to a circular transition, such as the electronic industry, the textile chain and packaging companies. The Commission's strategy also focuses on increasing the effectiveness of the Ecodesign Directive and implementing a new Eastern Energy Plan until 2024.

Not only final products are affected by the CEAP. It controls also the effectiveness of processes and the establishment of possible penalties. It assures the clarity of information on the various products, key principles for a

[120]Communication from the Commission to the European Parliament, the Council, the European economic and social committee, and the committee of the regions, 11 March 2020, *A new Circular Economy Action Plan For a cleaner and more competitive Europe.*

good consumer protection as stated in the communication of the Commission, who is responsible to

> -establish a common European Dataspace for Smart Circular Applications with data on value chains and product information.
>
> -step up efforts, in cooperation with national authorities, on enforcement of applicable sustainability requirements for products placed on the EU market, in particular through concerted inspections and market surveillance actions[121].

One of the most important challenges for a successful plan is the penetration of standards into consumer awareness. It is precisely the demand of individuals that is the main economic force for the circular transition sector. Public authorities in the field of purchasing power account for 14% of all EU GDP and therefore can represent a great incentive fraud to raise consumer awareness of sustainable choices within the market[122]. On this line the Commission proposed a mandatory minimum green public procurement ('GPP') criterion, but with some limits, as explained in the communication of 11 December 2020.

> [The Commission will] phase in compulsory reporting to monitor the uptake of Green Public Procurement (GPP) without creating unjustified administrative burden for public buyers. Furthermore, the Commission will continue to support capacity building with guidance, training and dissemination of good practices and encouraging public buyers to take part in a "Public Buyers for Climate and Environment" initiative, which will facilitate exchanges among buyers committed to GPP implementation.

Between 2012 and 2018 the number of jobs, somehow linked to the circular economy, grew by 5% to reach 4 million units[123]. Unemployment is one of the main aspects when it considers the new development path constructed by EGD. This latter can be a strong input to a reduction of unemployment, in particular youth one considering the creation and the adaptation of new jobs and new technologies[124]. To make the most of the new opportunities of climate policies, reducing economic and social inequalities becomes a priority, an action already brought to the attention of the Commission with the JTM[125]. According with the ex-European Parliament President David Sassoli "Green Deal must be an opportunity to fight inequality".[126]

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[121] Communication of European Commission, 11 December 2020, *High ambition summit*.
[122] Report of Eurostat, 22 April 2018, *new jobs, and green opportunities.*
[123] Report of Eurostat, 22 April 2018, *new jobs, and green opportunities.*
[124] BACHER, TAMESBERGER (2020).
[125] See *supra*.
[126] Discourse of David Sassoli, 30 August 2021, IED conference, Venice,Italy.

There are two aspects that most may pose a risk to the economic and social effectiveness of the objectives of the EGD. On the one hand, economic growth, which must be above 2% until 2030 in order to achieve its objectives, and on the other hand, inflation must remain as close as possible to the price set by the ECB. Both of these goals are very much at stake because of the repercussions of the pandemic and even more because of the initiative of the Russian Federation to invade Ukraine on 24 February 2022 with a consequent war that is causing an increase in energy prices and an arrest of the economic growth compared to the projected increases after year 2020[127].

The large scale of EGD funding is the real driver for the economic objectives of the plan. If funding brings about an effective change in economic and social development, the incentives to maintain what has been created would be much less than the original funds. The key is to start that virtuous circle of choices and public policies that can bring to completion the ecological transition. Crucial is the dialogue between the various decision-makers through all the administrative levels, one of the cardinal principles of the Union. The initial fragmentation of Member States' responses to the pandemic from Covid-19 has provided a clear lesson; there is a strong need to reverse the trend of decreasing of European Cohesion, already begun in 2016 with Brexit. The success of the EGD will also come up against its ability to unite the societies of Member States and to strengthen the cohesion of the union[128].

3.2. Environmental impact

Although the objectives of the EGD range from the economic to the social spectrum, the primary objectives are mostly environmental. Considering the plan, with all the Commission's proposals including the revision of the ETS explained in Chapter 2, the Commission sets itself 68 environmental objectives to be achieved over the period 2024 to 2050. Most of the targets concern GHG emissions and air pollution with 16 objectives. More than 80% of the targets must be met by 2030[129].

An interesting comparison comes from the objectives within the apolitical climate after the EGD plan and those existing previously. The main objective on which the 'Fit for 55' package is based is the reduction of emissions by 55%

[127] WOLF, TEITGE, MIELKE, SCHUTZE, JAEGER (2021: 99-107).
[128] GRÄBNER, HEIMBERGER, KAPELLER, SCHÜTZ (2020).
[129] PALEARI (2022: 199).

by 2030, this parameter is far above the previous parameters. This considerable increase in the ambition of the targets is also visible the EU Land Use, Land Use Change and Forestry sink[130]. Another important objective is the Consumption of Renewable Energy ('RES'), the Commission has also raised targets in this field, providing for 40% of energy produced from renewable sources by 2030 against the current 32% with a consequent increase in the target for energy efficiency. Precisely, this last point will probably be reached by an incentive to the renovation of buildings. The construction sector appears central not only in terms of energy consumption, but also in the proposed revision of the ETS within the EGD, which for the first time it includes the construction sector in the trading process of allowances. Together with the construction sector, the transport one is another protagonist of the attention of the Commission, with a target that also thanks to the ETS is expected to be 90% in emissions reductions by 2050, against the 60% expected pre-EGD[131]. In this perspective, the Commission aims to have zero emissions from cars and other means of transport by 2035, before the EGD the deadline was set at 2050[132].

The environmental impact, such as the socio-economic impact of the projects will also be determined by the capacity of implementation at national level of the planned measures. Despite national differences in energy policies, such as the use of nuclear power or the differentiation of sources, the 68 objectives are designed to have a certain impact on climate transition regardless of the diversity of relationships within the Member States. The most important part reserved for the EGD plan is definitely the reduction of emissions with the implementation and revision of the ETS system and the MSR. On the other hand, limited action has been taken in the area of biodiversity protection, where few initiatives have been taken compared to rather ambitious measures. The level of priority given to the energy and emissions sector seems to outstrip the other blocks of the plan. In the long term, this imbalance, if not corrected, may represent a significant obstacle, with the risk of jeopardizing the

[130] Proposal for a directive of the European Parliament and of the Council, 14 July 2021, 2021/557, *amending directive (EU) 2018/2001 of the European Parliament and of the Council, Regulation (EU) 2018/1999 of the European Parliament and of the Council and directive 98/70/EC of the European Parliament and of the Council as regards the promotion of energy from renewable sources, and repealing Council directive (EU) 2015/652.*
[131] Communication of European Commission, 2020, 2020/789, *Sustainable and Smart Mobility Strategy, putting European transport on track for the future.*
[132] *Ibidem.*

Commission's environmental objectives, with advantages and disadvantages shared between sectors and Member States[133].

One of the most problematic environmental aspects when it comes to the target to reduce air emissions with ETS or the Carbon Border Adjustment Mechanism ('CBAM') is to be able to tackle and reduce not only emissions or the use of carbon directed to a specific structure affected by that restriction, but also indirect emissions that may occur in processes prior to or after the actual control of the selected process[134]. Whereas for the ETS, indirect emissions are identified as regards the energy sector (not yet as regards export see. ch.2), the CBAM system does not provide for European coordination for tackling indirect emissions and therefore leaves it to the Member States to offset indirect carbon costs[135]. Many times, this freedom of compensation creates further problem showing the risk of having 27 different actions even if it is only for indirect emissions problem.

A concept closely related to the control of emissions and air pollution is the eco-efficiency and therefore the ability to produce and create new products with the lowest possible environmental impact. It is one of the most important goals for the EGD and the Just Transition. The identification of the most polluting industries allows a greater attention for the creation of targeted environmental policies that bring real benefits in the climate field. Industries that work with the production of chemicals, steel, cement, and paper are those that use more energy sources and therefore produce more emissions[136]. Considering this type of production more dangerous than others has been the pivotal action of the Industrial Emissions Directive ('IED'). The aim is to protect the environment and the health of individuals against a control action aimed at placing restrictions on impacting activities[137].

> "The 2020 evaluation of the IED concluded that it was generally effective in preventing and controlling pollution into air, water and soil from industrial activities, and in promoting the use of best available techniques (BAT). The IED has substantially reduced emissions of pollutants into the air and, to a lesser degree, water emissions. It has also helped reducing emissions into the soil from IED installations. Although its impacts on resource efficiency, the circular economy and innovation are harder to assess, the Directive appears to have

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[133] PALEARI (2022: 206).
[134] ANDREI, MEHLING, COSBEY (2021: 19-22).
[135] *Ibidem.*
[136] Special Report of the Intergovernmental Panel on Climate Change of Cambridge University, 2020, *climate change and industries.*
[137] Directive of the European Parliament and the Council, 24 November 2010, 2010/75/EU, *on industrial emissions.*

> made a positive contribution, albeit of limited magnitude. It has also made a limited contribution to decarbonization, within the constraints currently placed on the IED. Other aspects, such as public access to information and access to justice, have improved compared to the earlier legislation that the IED replaced".[138]

Even the IED directive is interested in the legislative changes within EGD. The Commission has assessed the effectiveness of the directive in the prevention and control of the most pollutant industries within the European market, although various improvements can be produced to fulfill higher environmental targets.

The revision of the directive aims to ensure a wider involvement of the various stakeholders regarding the information, communication, and control of the analyzed structures in relation to their emissions. The key concept of environmental impact must not, according to the Commission, be subject to the principle of accusation or active responsibility, but rather must be understood as a common path for a gradual but constant transition of production processes, in a more sustainable way and with a higher quality for consumers.

3.3. The social impact

Environmental measures aim to radically change the way of life of individuals within society, which is why the risk of social inequalities fueled by the restrictions imposed is real. In all communities there are disadvantaged groups who may be more at a disadvantage than the environmental policies implemented, because of their family economic situation and working conditions. At the same time, they are the most affected by the progress of climate change, because most of the time they do not have the economic and structural resources to cope with the sudden changes in the surrounding environment. It is precisely the social and behavioral impact that is often poorly represented at both political and legislative levels[139].

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[138] Proposal for a directive of the European Parliament and of the Council, 5 April 2022, 2022/156, *amending Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial emissions (integrated pollution prevention and control) and Council Directive 1999/31/EC of 26 April 1999 on the landfill of waste.*
[139] GIFFORD (2011).

In the construction of the various legislative proposals examined in this thesis and in the objectives mentioned by the Commission, it is clear that there is a greater concentration in the analysis of the environmental and economic effects. Also considering the number of sources and the amount of literature investigated, the part reserved for the social impact and the implications for the life of the individual caused by climate policies appears scarce[140]. A good understanding of this aspect is important to achieve completeness in the analysis of the effects of the EGD.

A first fundamental point is to understand how most legislative actions pursued in this field focuses on production systems at a macroscopic level, considering only a small part of the individual component. According to a report by the International Energy Agency ('IEA') of 2010, 40% of the total CO2 emissions produced by different OECD countries are related to individual consumption and therefore linked to the individual citizen. Climate change impacts precipitation, hydrogeological instability, soil fragility, industrial processes, and the possibility of new employment frontiers. The policies that counteract these impacts focus on these categories. This is why it is important to include in the analysis and application of restrictions, such as those provided for by the ETS, the individual citizen, who consumes and lives the society and therefore directly shows itself as a fundamental link to measure the effectiveness of environmental measures. This chain is moderated by two important mechanisms, 'vulnerability' of subjects and their 'resilience'. Two concepts also applicable in the definition and revision of Directive 2003/87/EC.

In particular, the enlargement of the emission trading system regards to the road and transport sectors is crucial for a new assessment of the social impact of climate policies. These two sectors are not sectorial areas, on the contrary they interest almost every aspect of a community starting from the low-class families, less inclined to use alternative and sustainable ways of moving, considering the higher costs of these alternatives. The Commission through the cost-benefit analysis of the revised ETS directive seems to confirm the fear of a problem of disproportionality of the climate measures.

> "[The proposal] will have significant social impacts which may disproportionally affect vulnerable households, vulnerable micro-enterprises and vulnerable transport users who spend a larger part of their incomes on energy and transport and who, in certain regions, do not have access to alternative, affordable mobility and transport solutions"[141]

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[140] PONGIGLIONE, CHERLET (2015).

[141] Proposal of a directive of European Commission, 14 July 2021, *amending Directive 2003/87/EC.*

One of the factors that most affect the social system is the increase in prices, especially those of energy. Over the years we have seen how the ETS has contributed to an increase in prices, but it has not been the main culprit. Several estimates have been made of the share of electric increases because of the emissions trading system; taking into account the temporal period from 2010 to 2020, the Commission have assessed that the restrictions of the ETS have contributed to 1/5 while an argument of the Spanish Central Bank in 2021 attributes 20% of the increase to the ETS considering 2019 and 2020[142]. Another study of the European Programme Lead marks a 10% as a share of increase of the ETS considering the last solar year[143]. If on the one hand this type of system curbs the disproportionate consumption of pollutants and therefore decreases the share of emissions, on the other hand there is a certain degree of responsibility for the increase in energy prices. Most of the time, it reaches the poorest sections of the population, part of society where large companies can recover the increased costs through the increase in electricity bills.

Despite the efforts of the Commission to focus on the cohesion of the systems of climate restrictions, the impact that climate policies have on the various Member States depends on national differences and even in this case on their degree of 'resilience' and 'vulnerability', that is the ability to exploit the points of froze of their productive systems and the ability to take preventive actions to compensate for their points weaknesses[144]. For example, countries that are heavily dependent on coal or that are particularly in favor of setting up high-impact polluting companies will find it more difficult to achieve the objectives set and will have to be affected by additional contextual instruments to the EGD, such as the Just Transition Plan already mentioned in Chapter 2.

There are two main approaches in defining the severity of the climate measures towards the society and its fragilities; one approach is based on more severe measures with principal environmental aims. Using this approach there is a strong input within a community to accelerate the processes of transition and only in a second moment it will be able to tackle the problems connected to this quick change. The second approach is less aggressive, with more concern of social and economic implications of climate measures, this action

[142]Occasional document of Central Bank of Spain, August 2021, n. 2120, *recent developments in Spanish retail electricity prices: the role played by the cost of Co2 emission allowances and higher gas prices.*
[143] MOORE (2022).
[144] WU (2021: 5).

chooses to tackle at the same time the problem of pollution and natural degradation and the social impact of those measures on salaries, purchasing powers and social inequalities.

Another difference in the approach between the environment and society depends on the decision on who should pay the costs of the transition. The European legislator is faced with a choice, either to reduce the energy intensity of GDP or to launch policies that focus on the emission of energy with the least possible emissions. The first approach had negative empirical evidence, managed to offset the distortive effects of GDP growth, with an emissions peaking in 2019. The fall in the cost of renewables and the expectation of an even greater decline in the future have led policy makers to focus on an approach of energetic differentiation, the key principle of the package of legislative proposals created by the European Union. The technology used and the evolution of the mechanisms of control and abatement of emissions will determine the extent of the change in production but deciding who will be the main responsible for the costs of this transition is clearly a political choice. The cost can be borne by the active population of society in the short term or by recourse to debt instruments, thus shifting the burden onto future generations.

3.4. The path towards climate neutrality

Being climate neutral means achieving zero emissions within a defined territory. This is the most ambitious goal for a public institution. The European Green Deal with all contextual tools has climate neutrality as the goal and puts in place numerous legislative and economic resources to achieve it.

We can identify three levels of action that pose the objective of climate neutrality. The 2015 Paris Agreement, the EGD and the various national strategies. The Paris Agreement is the main international input to counteract the rise in global temperature, the agreement is crucial because it manifests itself globally aiming to engage and empower countries like the United States and China. The EGD is the most important example of European coordination. With 68 objectives it coordinates and proposes a revolution in European climate legislation, aiming to make the EU the leader in the ecological transition. The last link concerns national strategies, each individual country has its own autonomy in the implementation of measures. Although the problem of climate change is global, each country has its own peculiarities, which make it more or less ready to an effective and constant transition.

One of the crucial aspects for achieving climate neutrality is the combination of innovation and climate policies. The legislative evolution must not only touch the technical aspect of the production of emissions, but also favor as much as possible the technological and research evolution able to produce cutting-edge systems in the mitigation of the various types of pollution. The EU has enough resources to do this. These resources, however, are not implemented within a single and identifiable entity, but through different structures that have in turn several funds available[145].

The funds deployed vary in size and structure. The Innovation Fund already mentioned in Chapter 2 is one of the newest and most important funds, it focuses mainly on the industrial sector based on the fact that the 10 billion euros that it fields come from the sale of allowances of the ETS system. The Innovation Fund plays a key role in the wider *Clean Planet for All*[146] initiative. The fund works closely with the InvestEu programme in order to encourage private investment in the ecological transition and increase the competitiveness of the productive sectors.

Together with funds exclusively targeted at climate objectives, there are also tools for the greater distribution of resources. These are, for example, the cohesion funds of the Union such as the European Regional Development Fund ('ERDF') and the Cohesion Fund, which aim to develop the most backward regions by reducing socio-economic inequalities. Territorial cohesion and the development of the most degraded areas can go hand in hand with the ecological transition. The Commission believes in this combination to the extent that there is close synergy between the different funds within the Horizon Europe project[147].

One of the main challenges for achieving the targets set by the Commission will be the ability to align Member States with the Union's research and innovation priorities. The search for consistency must be supported by the principles of cohesion and shared competence, which are the cornerstones of the effectiveness of Community policies. Member States through their national implementation of European rules can maximize the funds allocated to them by exploiting their degree of 'resilience' and protecting their

[145] DUTTON, PISLER (2019: 3-5).
[146] Emphasis added.
[147] INSTITUT JACQUES DELORS (2019: 100).

'vulnerabilities'[148]. The funds coming from the European Union represent only a small part in the proportion of funds allocated to research and innovation in the various states, 8% against 30% deriving from national funds[149].

Achieving climate neutrality is not easy and probably represents one of the greatest challenges for the near future, but also for the future of new generations. A massive allocation of resources, their effective use by maximizing contributions and constant monitoring of decision-making processes will lead to a fundamental starting point for achieving the objectives. In addition to the legislative basis, it is important to focus on incentives that allow research and innovation on low carbon technologies that can cover all sectors, the different types of technologies and avoiding geographical imbalances within the Union[150].

Conclusion

The situation of the revision of Emissions Trading System is only one of many proposals and paths of European Green Deal. This thesis has tried to show the wideness and the complexity of the legislative projects, focusing on one of the provision which can be assessed as the flagship climate policy tool of the EGD.

There are some elements which have been fundamental to the acceleration of the EU climate policy implementation in last years; the high ambitious of the Commission, the necessity of an urgent and coordinated action and the role of the Union as a worldwide leader in green transition. The path of the Commission's proposals will not be easy and straightforward and will have to be accompanied by a strong awareness and communication campaign on the various reforms proposed. The scope of legal provisions is such that they

[148] See *supra.*
[149] Report of European Climate Fund ('ECF'), October 2018, *Funding Innovation to Deliver EU Competitive Climate Leadership.*
[150] DUTTON, PISLER (2019: 16-17).

affect many different areas not only directly, by any restrictions or changes in strategy, but also indirectly as economic areas and social communities.

The proposal of revision of ETS aims to better include some sectors strongly pollutant like the transports and the building one which contributes with high percentages to the total amount of emissions within the Member States. A better ETS for the Commission is contextual to a good achievement of the climate targets of 2030 and 2050 and to an effective climate neutrality in the future.

On 8 June 2022 the legislative path of the proposal of revision of the Directive 2003/87 has received a political strong rejection from the European Parliament. The gradual elimination of free emission allowances, benefiting large European industry, was the breaking point of the majority of the European Parliament. This blockade has not only political implications, but it risks delaying negotiations on all the other proposals included in the 'Fit for 55' package. However, the vote in the European Parliament confirms the risks and obstacles that this revolution in climate legislation is facing. Not only do we question the legal and financial challenges of the EGD, but also the effects on political orders within the Community and national institutions. Moreover, there are many interests linked to the sectors that will be profoundly transformed by the new proposals, therefore it needs to be careful with eventual lobbying actions on Members of European Parliaments or national governments towards the blockage of the provisions.

European green deal represents a branded opportunity, but in order to be efficiently exploited it must be anchored to the constitutional principles of the Union and a strong economic and financial planning that can not only start the implementation paths, but also following them in their constant evolution. Moreover, all these rules can only be effective if there is close cooperation between the EU, the nation states and individual citizens. In particular, the latter represent a central point in the correct application of the new rules, which do not stop at the legal sphere, but they represent a real change of mentality that can promote new lifestyles and new industrial processes, always ensuring social cohesion. All these aspects best promote the true essence of the EGD, a challenge of cohesion and interdisciplinarity worthy of only the most ambitious projects, capable of revolutionizing our way of thinking.

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Riassunto

Il cambiamento climatico rappresenta la vera minaccia dei nostri tempi e risulta essere una priorità sia a livello internazionale che nazionale. L'UE negli ultimi decenni ha dimostrato una forte capacità di creare strumenti legislativi innovativi nel campo della legislazione sul clima, anche se nel 2020 questo percorso è stato accelerato a causa degli effetti della pandemia da Covid-19. La leadership di Ursula von der Leyen nel campo della transizione verde ha contribuito a creare il Green Deal europeo, una risposta senza pari in termini di risorse economiche e di evoluzione delle legislazioni europee. Questa tesi affronta la realtà dell'emergenza climatica che manifesta i suoi problemi anche all'interno dei territori dell'UE e spiega perché il Green Deal europeo rappresenta la più ampia e ambiziosa serie di legislazioni sul clima negli ultimi anni. Questa tesi cerca di spiegare come il dispositivo rappresenti un vero e proprio punto di svolta nella legislazione comunitaria, interessando non solo l'area di competenza climatica e ambientale, ma avendo dei risvolti in campo giuridico, sociale, economico e politico. L'attenzione si concentrerà su una delle proposte più importanti della Commissione, la revisione della direttiva 2003/87 che istituisce il sistema di scambio delle quote di emissione, uno dei pilastri nel controllo e nella mitigazione delle emissioni all'interno dell'UE.

La revisione fa parte di altri 67 obiettivi climatici che insieme a vari tipi di fondi economici cercano di mettere il contributo più efficace alla transizione verde europea. Comprendendo l'importanza di questo cambiamento radicale nella prospettiva del diritto climatico europeo, è importante analizzare i rischi di questa transizione, considerando i punti di debolezza della governance, della struttura e della coesione delle politiche UE.

Questa tesi fornisce alcune caratteristiche dei vari tipi di impatto che questo enorme insieme di legislazioni potrebbe avere sulla società, l'economia e l'ambiente; analizzando gli aspetti positivi e negativi che possono verificarsi.

L'obiettivo ultimo della Commissione europea è raggiungere la neutralità climatica per il 2050. Un obiettivo ambizioso, ma in linea con il ruolo di leadership che l'EU ha acquisito nel tempo.

I cambiamenti climatici e i loro effetti sono visibili anche nel territorio dell'Unione, con aumento dei fenomeni estremi come alluvioni, frane, smottamenti e incendi. Uno degli effetti più visibili è l'aumento delle temperature, con una crescita di 0.08° C per decennio dal 1880. Quando si parla di impatto climatico non ci si riferisce solo a gli effetti ambientali, ma anche ai contraccolpi socioeconomici che esso porta. L'impatto che

l’emergenza climatica ha sui vari Stati Membri dell’Unione identifica a priori una diversa sensibilità verso la transizione ecologica e una differente velocità con la quale vengono prese le decisioni in questo ambito. Questo è uno dei rischi più grandi per l’UE che come obbiettivo ha il rafforzamento della coesione legislativa e politica dei vari stati.

In questa ottica la Commissione ha lavorato negli ultimi anni su politiche di abbattimento delle emissioni e una più veloce transizione energetica verso fonti rinnovabili e riqualificazione dei processi industriali esistenti. Lo sforzo della Commissione tocca tutti i settori, dai trasporti alle industrie, dalla mobilità urbana all’efficientamento energetico. Il 14 luglio 2021 la Commissione ha pubblicato il nuovo pacchetto legislativo ‘Ready for 55%’ che segna i target climatici da raggiungere entro il 2030. Le azioni verso la neutralità climatica sono composte da molte di queste revisioni che trovano il loro fondamento legislativo nell'art. 194 del Trattato sul Funzionamento del l'Unione europea (‘TFUE’) che definisce gli orientamenti per la tutela del l'ambiente nell'UE.

Analizzando la spinta legislativa dell’UE si approfondiscono anche le cause di possibili ostacoli e problemi che porterebbero ad un ritardo nel raggiungimento degli obiettivi prefissati. Uno di questi è la sicurezza dell'approvvigionamento di energia primaria dell'UE, che può essere a rischio se le importazioni provengono in gran parte da un piccolo numero di paesi partner. Nel 2018, quasi tre quarti (70,3%) delle importazioni di gas naturale dell'UE provenivano da Russia, Norvegia e Algeria. Analogamente, quasi tre quarti (74,3%) delle importazioni di carbone del l'UE provenivano dalla Russia, dagli Stati Uniti e dalla Colombia, mentre le importazioni di petrolio greggio erano meno concentrate tra i principali fornitori, poiché Russia, Iraq e Arabia Saudita rappresentavano circa la metà (45,9%) delle importazioni del l'UE .

Per superare tutte queste necessità, la Commissione Europea ha stabilito un ampio e ambizioso pacchetto di proposte chiamato European Green Deal (EGD) che mirano a raggiungere la neutralità climatica all'interno dell'Unione entro il 2050.

Le istituzioni dell'UE hanno sviluppato negli ultimi anni un ampio e profondo spettro di atti legislativi mirati a rinforzare la legislazione climatica a disposizione. Un esempio è il regolamento sulla governance dell'Unione dell'energia e l'azione per il clima (regolamento sulla governance) e la nuova Legge sul Clima dell'UE , i.e. Regolamento del Parlamento Europeo e del Consiglio (UE) 2021/1119 del 30 giugno 2021 relativo all'istituzione del quadro per il raggiungimento della neutralità climatica e che modifica il Regolamento (CE) 401/2009 e il Regolamento (UE) 2018/1999 (di seguito il Regolamento). Quest'ultimo regolamento fissa l'ambizioso obiettivo di ridurre

del 55% i livelli di emissioni di gas a effetto serra (GHG) rispetto agli anni '90; ciò consente alla Commissione UE di armonizzare la sua futura azione legislativa in base a questi nuovi obiettivi climatici e di monitorare gli sforzi delle istituzioni UE e degli Stati membri.

Il 14 gennaio 2020 la Commissione Europea ha presentato il Piano Europeo di Investimento per il Green Deal (EGDIP), che rappresenta il pilastro pratico e materiale di EGD . EGDIP è stato creato con una capacità finanziaria di oltre mille miliardi di euro di investimenti sostenibili in grado di gestire con opportunità pubbliche e private molte delle sfide più importanti dei prossimi decenni, come l'economia circolare, mobilità verde e la transizione sostenibile dei processi industriali . La Commissione ha posto in essere il meccanismo di transizione giusta (JTM) che rappresenta "uno strumento chiave per garantire che la transizione verso un'economia neutrale dal punto di vista climatico avvenga in modo equo, senza lasciare indietro nessuno". La dotazione totale di 17,5 miliardi di EUR (prezzi 2018) è costituita da 7,5 miliardi di EUR disponibili per gli impegni di bilancio per il periodo 2021-2027 e 10 miliardi di EUR disponibili nell'ambito del Next Generation EU (Recovery Facility) per gli anni 2021, 2022 e 2023. Dopo la creazione di questo importante strumento, il presidente della Commissione Europea, Ursula von der Leyen, ha dichiarato:

> "Le persone sono al centro dell'EGD, la nostra visione è di rendere l'Europa neutrale dal punto di vista climatico entro il 2050. La trasformazione davanti a noi è senza precedenti e funzionerà solo se è giusta - e se funziona per tutti. Sosterremo i nostri cittadini e le nostre regioni che devono compiere maggiori sforzi in questa trasformazione, per essere sicuri di non lasciare indietro nessuno".

La tesi nel secondo capitolo si concentra su una delle proposte del pacchetto 'Fit for 55', la proposta di revisione del sistema di *emissions trading* chiamato anche sistema ETS. Questo strumento entra in attività nel 2005 dopo l'approvazione della Direttiva 2003/87 e prevede un sistema di controllo delle emissioni tramite delle quote di permessi che possono essere commerciate all'interno di un vero e proprio mercato dei permessi. Il sistema ha contribuito in maniera importante a ridurre le emissioni di CO_2 all'interno dell'Unione, ma considerata l'accelerazione del processo legislativo e la necessità di aumentare i target di riduzione si è reso necessario predisporre una revisione del sistema dopo quelle già avvenute nel 2015 e nel 2018.

Il sistema centrale del sistema ETS è costituito dalle quote, che sono gli strumenti che pongono i limiti entro i quali i vari Stati membri possono produrre emissioni.

> […] per quota si intende un permesso di emissione di una tonnellata di biossido di carbonio equivalente per un periodo determinato, valido solo ai fini del rispetto delle prescrizioni della presente direttiva e trasferibile conformemente alle disposizioni della presente direttiva.

I principali attori nel processo di creazione e assegnazione delle quote sono la Commissione Europea, le industrie, le imprese e i governi nazionali. È possibile dividere il processo di collocamento in due parti: la prima è più ampia, per quanto riguarda il numero totale di quote che ogni stato ha a disposizione, il secondo a livello microscopico per quanto riguarda la distribuzione delle quote tra le varie industrie di ciascuno Stato Membro. Ogni Paese ha contribuito a entrambi i livelli di discussione con la creazione di un proprio piano nazionale (National Allocation Plan), un piano che ogni stato ha elaborato per individuare la migliore distribuzione possibile per il numero totale di quote concesse ad esso.

Il metodo di assegnazione delle quote è chiaramente indicato all'Art.10 della Direttiva 2003/87:

> Per il triennio che inizia il 1 gennaio 2005 gli Stati membri assegnano almeno il 95 % delle quote a titolo gratuito. Per il periodo quinquennale che inizia il 1 gennaio 2008, gli Stati Membri assegnano almeno il 90 % delle quote a titolo gratuito .

Questa revisione inoltre includerebbe nel sistema ETS dei settori fino ad ora totalmente o almeno in parte esclusi dalle restrizioni delle emissioni; come l'aviazione e il mercato navale, in più rinforza il sistema di controllo e monitoraggio delle applicazioni delle norme e la riforma del sistema di riserva dei permessi (MSR) che ha come obiettivo la stabilità del sistema. Per far fronte ad un altro rischio di squilibrio tra l'offerta e la domanda del mercato, il sistema MSR viene modificato per operare anche per il trasporto su strada e il settore dell'edilizia con azioni dirette verso l'eccedenza di quote in questi mercati specifici. Inoltre, nella riserva vengono create quote supplementari per consentire a MSR di essere più efficace in questi settori. Per contrastare il rischio di eccessiva volatilità del mercato, MSR può fornire quote aggiuntive. Questo passaggio non avviene considerando l'eccedenza di quote, ma piuttosto l'aumento medio del margine di quote.

Il sistema ETS sia nella sua forma originaria che nella proposta della Commissione mantiene comunque degli elementi di criticità.

L’armonizzazione del sistema tra i diversi Stati Membri appare complessa considerate le differenze strutturali dei vari Stati e la loro diversa velocità nei processi di transizione ecologica. Paesi storicamente più legati ad attività industriali altamente inquinanti si trovano più svantaggiati rispetto a Paesi con un grado di sostenibilità produttiva più alto. Una delle sfide più importanti per l’UE sarà rafforzare la coesione territoriale ed individuare le debolezze e i punti di forza dei vari territori così da individuare quelli più svantaggiati. In virtù di queste considerazioni all'interno dell'EGDIP è presente uno specifico dispositivo chiamato Meccanismo per una Transizione Giusta ('JTM'), uno strumento creato per garantire il più possibile una transizione sostenibile ed equa evitando le disuguaglianze tra le varie parti della società.

Il JTM affronta gli effetti sociali ed economici della transizione ecologica concentrandosi in particolare sulle regioni geografiche dell'Unione, sulle industrie e sui lavoratori che saranno maggiormente sotto pressione da un cambiamento strutturale della loro produzione e dei loro stili di vita. Ci sono tre punti chiave del JTM; un fondo per la giusta transizione di 19,2 miliardi di euro che mira a mobilitare 24 miliardi di euro di investimenti; lo schema di transizione giusto all'interno del piano InvestEU che consente di avere una garanzia di bilancio per le spese e, con un hub dedicato, sarà un punto per le richieste di consulenza e mobiliterà nelle previsioni da 10 a 15 miliardi di euro principalmente da fondi privati; il terzo punto è la creazione di un nuovo strumento di prestito del settore pubblico che mobiliterà, grazie all'aiuto della Banca europea per gli investimenti, circa 18,5 miliardi di euro per investimenti pubblici.

L’elaborato, in seguito, si concentra sul problema della distribuzione dei costi derivanti dalle restrizioni dell’ETS e degli dispositivi legislativi per contrastare il cambiamento il climatico. La regressività è una delle principali preoccupazioni circa l'equità e la distribuzione in quanto questo nuovo flusso di disposizioni legislative sulla transizione verde potrebbe comportare un grave rischio per la coesione sociale. Queste proposte fissano obiettivi ambiziosi in termini di riduzione delle emissioni con annesse norme rigorose per combattere un aumento dell'inquinamento, ma non sempre prendono in considerazione con la stessa preoccupazione il problema dell'applicabilità di tali disposizioni all'interno delle varie comunità sociali. Inoltre il rischio di far pagare alle componenti più disagiate della società il costo della transizione è reale. La transizione energetica porta ad un inevitabile aumento dei costi per l’individuo riconducibile ad un rincaro delle materie prime, primo fra tutti il carbone. La situazione appare ancora più complessa dal punto di vista sociale, considerando la situazione geopolitica attuale dopo l’invasione armata della Federazione Russa a scapito dell’Ucraina del 24 Febbraio 2022 che ha

provocato una revisione strutturale delle importazioni energetiche a causa della forte dipendenza dell'Unione nei confronti della Russia.

L'elaborato, infine, tratta le varie tipologie di impatto che l'EGD e la revisione del sistema ETS possono provocare, spaziando dall'ambito ambientale agli effetti sociali ed economici. Dal punto di vista finanziario l'ampia portata dei finanziamenti EGD è il vero motore degli obiettivi economici del piano. Se i finanziamenti apportassero un cambiamento effettivo nello sviluppo economico e sociale, gli incentivi a mantenere ciò che è stato creato sarebbero molto inferiori ai fondi iniziali. La chiave nella progettazione degli investimenti è avviare quel circolo virtuoso di scelte e politiche pubbliche che può portare a compimento la transizione ecologica. Fondamentale è il dialogo tra i vari decisori attraverso tutti i livelli amministrativi, uno dei principi cardine dell'Unione. La frammentazione iniziale delle risposte degli Stati Membri alla pandemia di Covid-19 ha fornito una chiara lezione; vi è una forte necessità di invertire la tendenza alla diminuzione della coesione europea, già iniziata nel 2016 con la Brexit. Il successo dell'EGD si scontrerà anche con la sua capacità di unire le società degli Stati Membri e rafforzare la coesione dell'Unione.

Dal punto di vista dell'impatto ambientale, esso sarà determinato anche dalla capacità di attuazione a livello nazionale delle misure previste. Nonostante le differenze nazionali nelle politiche energetiche, come l'uso dell'energia nucleare o la differenziazione delle fonti, i 68 obiettivi sono progettati per avere un certo impatto sulla transizione climatica, indipendentemente dalla diversità delle relazioni all'interno degli Stati Membri. La parte più importante riservata al piano EGD è sicuramente la riduzione delle emissioni con l'implementazione e la revisione del sistema ETS e dell'MSR. D'altro canto, sono state intraprese azioni limitate nel settore della protezione della biodiversità, dove sono state adottate poche iniziative rispetto ad altre misure piuttosto ambiziose. Il livello di priorità attribuito al settore dell'energia e delle emissioni sembra superare gli altri blocchi del piano. A lungo termine, questo squilibrio, se non corretto, può rappresentare un ostacolo significativo, con il rischio di mettere a repentaglio gli obiettivi ambientali della Commissione, con vantaggi e svantaggi condivisi tra i settori e gli Stati Membri.

La proposta di revisione dell'ETS ha avuto un forte contraccolpo a causa del voto contrario del Parlamento Europeo dell'8 giugno 2022. Il testo tornerà in commissione ambiente per trovare un accordo tra i diversi partiti europei. Questo voto porterà a dei rallentamenti anche per altre proposte inserite nell'EGD e mostra in maniera chiara quali sono gli ostacoli concreti che la spinta legislativa della Commissione può incontrare.

In generale l’obiettivo ultimo delle istituzioni europee è il raggiungimento della neutralità climatica per cui l’impatto delle azioni dell’uomo sull’ambiente sono minime e non contribuiscono ad un deterioramento degli indicatori climatici.

Una massiccia allocazione delle risorse, il loro utilizzo efficace massimizzando i contributi e il monitoraggio costante dei processi decisionali creano un punto di partenza fondamentale per il raggiungimento degli obiettivi. L’elaborato indica oltre alla base legislativa, l’importanza degli incentivi che consentono la ricerca e l'innovazione delle tecnologie a basso impatto inquinante e la loro copertura su tutti i settori, i diversi tipi di processi, evitando squilibri geografici all'interno dell'Unione.

La revisione dell’ETS e più in generale l’intero impianto dell’European Green Deal non rappresentano solo un cambiamento radicale della legislazione climatica comunitaria, ma hanno un effetto in termini sociali ed economici con opportunità, ma anche rischi e possibili ostacoli. Considerata l’ambizione del progetto da parte della Commissione, i prossimi 10 anni saranno fondamentali nell’evoluzione e nel monitoraggio delle varie proposte legislative che non solo si pongono obiettivi climatici storici, ma mirano a ridefinire gli interi processi socioeconomici all’interno dell’UE.