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"Challenging the effectiveness of the EU Emissions Trading Scheme under the pressure of climate change"

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LIST OF ABBREVIATIONS

Art.	Article
CFR	Charter of Fundamental Rights of the European Union
CJEU	Court of Justice of the European Union
COP	Conference of the Parties
CSD	Commission on Sustainable Development
ECHR	European Convention on Human Rights
ECtHR	European Court of Human Rights
EU ETS	European Union Emissions Trading Scheme
EU	European Union
GHG	Green – House Gases
IPCC	Intergovernmental Panel on Climate Change
NAP	National Allocation Plan
OJ	Official Journal of the European Union
para	Paragraph
TEC	Treaty of the European Community
TEU	Treaty on the European Union
TFEU	Treaty on the Functioning of the European Union
UN FCCC	United Nations Framework Convention on Climate Change
UN	United Nations
WCED	United Nations World Commission on Environment and Development
WMO	World Meteorological Organization

I. Résumé en français

Le changement climatique correspond à une modification durable des paramètres statistiques du climat global de la Terre ou de ses divers climats régionaux, qui sont en général dus à des processus intrinsèques à la Terre, à des influences extérieures ou, plus récemment, aux activités humaines. La science a été considerablement développée en ce qui concerne les dangers lesquels le changement climatique comporte. La nécessité de protéger l'intérêt des générations futures a renforcé la coopération mondiale. Les Nations Unies (NU) ont pris l' initiative d' assurer la coordination des pays du monde pour l' adoption d' engagements ambitieux et de mesures soigneusement conçues à long terme. En 1992, la Convention-Cadre des Nations Unies sur les changements climatiques (CCNUCC) et cinq ans plus tard, le Protocole de Kyoto facilitait l' adoptions des measures qui présentaint des effets mesurables.

L' Union européenne (UE) a toujours été un des acteurs principaux concernant la protection de l' environnement et les changements climatiques sont un domaine d' action prioritaire. Ainsi, l' Union a établi un système d' échange de quotas d' émission de gaz à effet de serre (SCEQE) pour la réduction des émissions provenant des activités industrielles. Le system est divisé en trois periodes et est maintenent subi à une réforme structurelle comme un moyen d' alignement sur les obligations découlant de l' Accord de Paris qui est en vigueur depuis l' Octobre 2016.

D' un point de vue juridique, l' efficacité du system soulève des questions relevantes de le traitement fiscal dans le cadre des systèmes nationaux, le respect des règles de concurrence et les préoccupations en matière de droits de l' homme. La présente thèse est divisée en deux parties qui tentent d' évaluer l' efficacité du SCEQE en ce qui concerne sa compatibilité avec les règles de concurrence et de droits de l' homme, comme cela a été discuté dans les fora juridiques, le plus important étant les tribunaux Luxembourgeois. Les arrêts principaux de l 'UE sur le SCEQE et, en général, la jurisprudence pertinente peuvent éclairer les questions juridiques qui se posent lorsque le SCEQE est mis en œuvre.

Mots clés: SCEQE, protection de l' environnement, changement climatique, concurrence, aides d' État, amende, droits fondamentaux.

Summary in English

Climate change is defined as a statistically significant variation in either the state of the climate or in its variability, persisting for an extended period (typically decades or longer) at a global or regional level and is caused by intrinsic Earth processes, external influences or, more recently, human activities. Global community has made considerable scientific steps in understanding the dangers that this phenomenon entails. The realization of the need to combat climate change for the sake of future generations has enhanced cooperation on a global scale. The United Nations (UN) have taken the lead in bringing countries worldwide to the discussion table for the adoption of ambitious commitments and carefully designed long – term measures. In 1992, the United Nations Framework Convention of Climate Change (UNFCCC) and five years later the Kyoto Protocol facilitated the transit from commitment statements to measurable effects of action among states.

The European Union (EU) was always one of the leading actors in environmental protection issues. This was also the case for combatting climate change as well, with the adoption of a regional Emissions Trading Scheme (ETS), which, at time being, is the largest scheme of its kind worldwide. Divided into three implementation periods, the EU ETS, is now in the process of a structural reform. This is not just a way to encapsulate the lessons learned so far into action, but also a means of aligning with the obligations deriving from the Paris Agreement that is in force since October 2016.

The effectiveness of the EU ETS has been scrutinized by a number of actors. From a legal perspective it raises a number of issues, such as tax treatment under the national systems, compliance with competition rules and human rights concerns due to the penalties that are imposed on non – compliant operators. The present thesis is divided in two parts that attempt to assess the EU ETS effectiveness regarding its compatibility with competition and human rights rules, as discussed in legal fora, the most important being the Luxembourg Courts. The landmark EU ETS judgments of the EU ETS, and in general the relevant case – law in its totality are expected to shed light on legal questions that arise when the EU ETS is implemented.

Keywords: EU ETS, environmental protection, climate change, competition, state aid, penalties, fundamental rights.

II. INTRODUCTION

1. Presentation of the subject and structure of the thesis.

It was not earlier than the beginning of the 1990s when climate change was widely recognized as an issue of major importance for the global community. Climate change is defined as *"a statistically significant variation in either the state of the climate or in its variability, persisting for an extended period (typically decades or longer)"*.[1] Over the years the term has gained a negative character corresponding to changes that are caused due to human activities and not just the changes in climate in the course of natural processes.[2] Equating climate change with anthropogenic global warming is not unusual, although the former is broader in essence than the latter.[3] It is thus necessary to clarify that global warming refers to surface temperature increases[4] while climate change includes global warming and everything else that increasing greenhouse gas levels affect.[5]

Except for the concept of "climate change" a researcher is also possible to find out "climatic change" as a term describing the phenomenon of weather shifting. It was introduced in 1966 by the World Meteorological Organization (WMO) for encompassing all forms of climatic variability on time-scales longer than 10 years, whether the cause was natural or anthropogenic.[6] Climatic was used as an adjective to describe this kind of change as opposed, for example, to political or economic change.

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[1] Glossary – Climate Change, Education Center – Arctic Climatology and Meteorology, NSIDC National Snow and Ice Data Center, available at: http://www.ipcc.ch/ipccreports/tar/wg1/518.htm, latest access: 28.10.2016.

[2] America's Climate Choices: Panel on Advancing the Science of Climate Change; National Research Council, Advancing the Science of Climate Change. Washington, D.C.: The National Academies Press, 2010, pp. 1, 21- 22, available at: http://dge.stanford.edu/labs/caldeiralab/Caldeira_research/pdf/ACC_Science_2010.pdf.

[3] W. Broecker, "Climatic Change: Are We on the Brink of a Pronounced Global Warming?" Science, vol. 189, 1975, 460-463, available at: http://blogs.ei.columbia.edu/files/2009/10/broeckerglobalwarming75.pdf.

[4] E. Conway, "What's in a Name? Global Warming vs. Climate Change, NASA, 12.5.2008, available at: http://www.nasa.gov/topics/earth/features/climate_by_any_other_name.html, latest access: 28.10.2016.

[5] *Supra* n. 4.

[6] M. Hulme, Concept of Climate Change, in: The International Encyclopaedia of Geography. Wiley-Blackwell/Association of American Geographers (AAG), 2016, p. 1, available at: https://www.academia.edu/10358797/Climate_change_concept_of_.

However, the potential of human activities to negatively affect climate[7] led to replacing the adjective "climatic" by the noun "climate". From then on the concept of "climate change dominated in the relevant discussions while appeared in the title of the Intergovernmental Panel on Climate Change (IPCC)[8] and the UN Framework Convention on Climate Change (UNFCCC)[9]. Finally, climate change, as we know it today is not just a technical description of weather changes.

Despite being purely environmental in nature, it is an issue of major concern that affects many aspects of living on planet Earth and entails a series of environmental, political, economic, legal and other kind of scientific analyses. Climate change has consequences on poverty, economic development, population, growth, sustainable development, resource management and even on the movement of populations. For example, the Stern Report of 2006 declared that *"if no action is taken to reduce global warming, this will lead to 200 million refugees around the world and cost approximately 20% of global GDP".*[10]

Any attempt to downgrade the adverse effects of human activities to the environment was of political nature. The fact that no shift in the US environmental policy had been reported in the Third National Communication to the UNFCC[11] in

[7] Contribution of Working Groups I, II and III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change Core Writing Team, Pachauri, R.K. and Reisinger, A. (Eds.) IPCC, Geneva, Switzerland. pp 72, available at: https://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr.pdf. See also: J. H. Butler, *et al.,* A record of atmospheric halocarbons during the twentieth century from polar firn air, Nature 399, 749-755 (24 June 1999).

[8] The Intergovernmental Panel on Climate Change (IPCC) is the international body for assessing the science related to climate change. The IPCC was set up in 1988 by the World Meteorological Organization (WMO) and United Nations Environment Programme (UNEP) to provide policymakers with regular assessments of the scientific basis of climate change, its impacts and future risks, and options for adaptation and mitigation. More information available at: https://www.ipcc.ch/news_and_events/docs/factsheets/FS_what_ipcc.pdf.

[9] UNFCCC, 1771 UNTS 107; S. Treaty Doc No. 102-38; U.N. Doc. A/AC.237/18 (Part II)/Add.1; 31 ILM 849 (1992), available at: https://unfccc.int/resource/docs/convkp/conveng.pdf. The UN Framework Convention on Climate Change UNFCCC entered into force on 21 March 1994. Today, it has near-universal membership. The main goal of the Framework Convention was and still remains the prevention of "dangerous" human interference with the climate system.

[10] Stern Report: The Economics of Climate Change, 2006; Stern report: the key points, 30 October 2006, available at: https://www.theguardian.com/politics/2006/oct/30/economy.uk; 10 years on from the Stern report: a low-carbon future is the 'only one available', 27 October 2016, available at: https://www.theguardian.com/environment/2016/oct/27/10-years-on-from-the-stern-report-a-low-carbon-future-is-the-only-one-available.

[11] U.S. Department of State, U.S. Climate Action Report 2002, Washington, D.C., May 2002, available at: http://unfccc.int/resource/docs/natc/usnc3.pdf.

terms of contributing in the development of measures for the reduction of GHG was negatively criticized[12]. Despite the few sceptical political opinions on the reality of climate change, by the year 2008 climate change was recognized as a human- induced global phenomenon.[13]

"Science has made enormous inroads in understanding climate change and its causes, and is beginning to help develop a strong understanding of current and potential impacts that will affect people today and in coming decades. This understanding is crucial because it allows decision makers to place climate change in the context of other large challenges facing the nation and the world. There are still some uncertainties, and there always will be in understanding a complex system like Earth's climate. Nevertheless, there is a strong, credible body of evidence, based on multiple lines of research, documenting that climate is changing and that these changes are in large part caused by human activities. While much remains to be learned, the core phenomenon, scientific questions, and hypotheses have been examined thoroughly and have stood firm in the face of serious scientific debate and careful evaluation of alternative explanations.".[14] This quote of the United States National Research Council[15] summarizes exceptionally the main characteristics of the phenomenon of climate change. It not only refers to the progress made so far but it also implies the number of actors involved in combatting climate change.

From the scientific community to politicians and from the current to future generations, everyone should be aware of and contribute to prevent unpleasant developments. Of most concern among the aforementioned anthropogenic factors that speed up the change of the climate is the increase in CO2 levels due to emissions from

[12] C. J. Bailey, U.S. Climate Change Policy, Routledge, 2015, p. 98.
[13] Masai L., The Kyoto protocol in the EU –European Community and Member States under International and European Law. T.M.C. Asser Press, 2011, p. 29.
[14] Advancing the Science of Climate Change, By America's Climate Choices: Panel on Advancing the Science of Climate Change, Board on Atmospheric Sciences and Climate, Division on Earth and Life Studies, National Research Council, National Academies Press, 2011, p. 1.
[15] C. Rexmond, The National Academy of Sciences: The First Hundred Years, 1863-1963. NAP, 1978, pp. 209–211, available at: http://www.riversimulator.org/Resources/NAS/NationalAcademySciencesFirstHundredYears1978.pdf.

fossil fuel combustion[16], followed by aerosols (particulate matter in the atmosphere) and the CO2 released by cement manufacture[17]. Other factors, including land use, ozone depletion, animal agriculture, and deforestation play their role -both separately and in conjunction with other factors – in adversely affecting climate.

In an attempt to reduce the CO2 levels many measures have been engaged. Special attention should be given though to "emissions[18] trading schemes". To provide a short definition emissions trading is *the creation of surplus emissions reduction at certain stacks, vents or similar emissions sources and the use of this surplus to meet or redefine pollution requirements applicable to other emission sources. This allows one source to increase emissions when another source reduces them, maintaining an overall constant emissions level. Facilities that reduce emissions substantially may bank their credits or sell them to other facilities or industries.[19]*. There are many successful emission trading schemes in the world, such as the United States Emissions Trading program[20], China's

[16] T. Simmons, CO2 emissions from stationary combustion of fossil fuels, Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories, available at: http://www.ipcc-nggip.iges.or.jp/public/gp/bgp/2_1_CO2_Stationary_Combustion.pdf.

[17] M. J. Gibbs, P. Soyka and D. Conneely, CO2 emissions from cement production, Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories, available at: http://www.ipcc-nggip.iges.or.jp/public/gp/bgp/3_1_Cement_Production.pdf.

[18] Emission: Pollution discharged into the atmosphere from smokestacks, other vents, and surface areas of commercial or industrial facilities, from residential chimneys; and from motor vehicle, locomotive, or aircraft exhausts. Definition of emissions in Glossary of Environmental Terms, Pollution Prevention and Abatement Handbook WORLD BANK GROUP, p. 446, available at: http://siteresources.worldbank.org/INTENVASS/214584-1115356570828/20480327/WorldBankPollutionPreventionandAbatementHandbookGlossaryofEnvironmentalTerms1998.pdf.

[19] K.W. Junker, Ethical Emissions Trading and the Law, Vol 13 University of Baltimore Journal of Environmental Law, 149 (2005-2006), p. 150.

[20] Two emissions trading programs in the United States regulate the most significant conventional air pollutants: Sulfur dioxide (SO2) and Nitrogen oxides (NOx). For more details: D. Burtraw and S. Jo Szambelan, U.S. Emissions Trading Markets for SO2 and NOx, Discussion Paper, RFF PD 09 – 40, October 2009, available at: http://www.rff.org/files/sharepoint/WorkImages/Download/RFF-DP-09-40.pdf.

emissions trading program[21] and of course the European Union[22] Emissions Trading Scheme (EU ETS).

The present thesis focuses on the EU ETS established by the Directive 2003/87[23] (emissions trading Directive) on the legal basis of the art. 192 para 1 TFEU[24]. According to the description[25] given by the European Commission the EU emissions trading system is a cornerstone of the EU' s policy to combat climate change and its key tool for reducing greenhouse gas emissions cost-effectively. It is the world's first major carbon market and remains the biggest one.[26] It has been amended[27] and affected[28] over the years by developments that shape reality around climate change. Besides, the emissions trading Directive itself provides[29] that it should be reviewed in the light of developments in the context of the UNFCCC and to take into account experience in its implementation and progress achieved in monitoring of emissions of

[21] J. Swartz, China's National Emissions Trading System: Implications for Carbon Markets and Trade; ICTSD Global Platform on Climate Change, Trade and Sustainable Energy; Climate Change Architecture Series; Issue Paper No. 6; International Centre for Trade and Sustainable Development, Geneva, Switzerland, 2016, available at: http://www.ieta.org/resources/China/Chinas_National_ETS_Implications_for_Carbon_Markets_and_Trade_ICTSD_March2016_Jeff_Swartz.pdf. See also: China Will Start the World's Largest Carbon Trading Market, by John Fialka, ClimateWire on May 16, 2016, Scientific America, available at: https://www.scientificamerican.com/article/china-will-start-the-world-s-largest-carbon-trading-market/.

[22] For reasons of accuracy it is clarified that reference is always made to the European Union rather that the European Community even in cases of events before 2010, the year when the European Union succeeded the European Community as it is provided for by the Lisbon Treaty.

[23] Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC (OJ L 275, 25.10.2003, p.32).

[24] Consolidated version of the Treaty on the Functioning of the European Union, OJ C 326, 26.10.2012, pp. 47 – 390, available at: http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A12012E%2FTXT.

[25] Information available at: https://ec.europa.eu/clima/policies/ets/index_en.htm.

[26] Carbon Market Report 2015, Brussels, 18.11.2015 COM (2015) 576 final, p. 5: *"The system is not only the world's first major carbon market, but it remains the biggest one, covering over three-quarters of the allowances traded on the international carbon market."*, available at: http://ec.europa.eu/clima/policies/strategies/progress/docs/com_2015_576_annex_1_en.pdf. Additionally, *"…It includes more than 11,000 factories, power stations, and other installations in 30 countries—all 27 EU member states plus Iceland, Norway, and Liechtenstein."* at http://carbonmarketwatch.org/category/eu-climate-policy/eu-ets/, latest access: 13.11.2016.

[27] Directive 2009/29/EC of the European Parliament and of the Council of 23 April 2009 amending Directive 2003/87/EC so as to improve and extend the greenhouse gas emission allowance trading scheme of the Community, OJ L 140, 5.6.2009, p. 63, available at: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:140:0063:0087:en:PDF.

[28] In this regard see: Proposal for a Directive of the European Parliament and of the Council amending Directive 2003/87/EC to enhance cost-effective emission reductions and low carbon investments, Brussels, 15.7.2015 COM (2015) 337 final 2015/148 (COD), available at: https://ec.europa.eu/transparency/regdoc/rep/1/2015/EN/1-2015-337-EN-F1-1.PDF.

[29] Recital 22.

greenhouse gases. As a result, being a living instrument that cannot ignore the changes and tendencies around it, it seeks to reach its ultimate aim, namely the reduction of greenhouse gases[30] within the framework of a market of emissions allowances[31].

As it is already stressed, climate change occupies public discussions and debates for the last decades. The EU ETS was entered into force even before the Kyoto Protocol[32], although the former was adopted as a means for achieving EU compliance with the obligations deriving from the latter[33]. For these reasons the introductory chapter provides a number of necessary definitions in order to clarify what climate change is and which are the actors involved in dealing with it. Going back to the period of time when the global community realized the rising importance of environmental issues for future welfare and sustainable development is also a part of the first introductory chapter. It would be an omission not to include under the headings of the first chapter the legal framework and its specificities as far as regulating steps and measures to combat climate change by reducing greenhouse gases are concerned.

However, as everyone is aware of, humanity enters a new era of imperative changes and settings of high rules and standards. This is a starting point for addressing environmental problems by new ambitious goals. This is the time for establishing a common agreement learning by the past mistakes and the previous attempts no matter whether they were successful or not. The Paris Agreement[34] is now in force sending a clear signal to all stakeholders, investors, businesses, civil society and policy-makers that the global transition to clean energy is here to stay and resources have to shift away from fossil fuels. Paris Agreement sets out a global action plan to put the world on track to avoid dangerous climate change by limiting global warming to well below 2°C – and pursue efforts to limit the temperature increase to 1.5°C.[35] On 5 October, the EU

[30] Art. 1 of the Directive 2003/87/EC.
[31] Recital 7 to the preamble of the Directive 2003/87/EC highlights the need to preserve the integrity of internal market while respecting EU competition law.
[32] 1997 Kyoto Protocol to the UN Framework Convention on Climate Change (UNFCCC)2303 UNTS 148 / [2008] ATS 2 / 37 ILM 22 (1998), available at: http://unfccc.int/resource/docs/convkp/kpeng.pdf.
[33] The EU ETS Directive entered into force on 25 October 2003 (see art. 32 of the Directive) while the Kyoto Protocol entered into force on 16 February 2005.
[34] Paris Agreement (adopted 12 December 2015, entered into force 4 November 2016).
[35] See: Questions and answers on the Paris Agreement, available at: https://ec.europa.eu/clima/policies/international/negotiations/paris/docs/qa_paris_agreement_en.pdf.

formally ratified[36] the Paris Agreement, thus enabling its entry into force on 4 November 2016[37]. The structural reform[38] of the EU ETS is a procedure that has already started. The European Commission has submitted a proposal[39] on 15 July 2015 and many countries and member - states have made several comments both on the general steps towards the structural reform and the establishment and operation of a Market Stability Reserve mechanism[40]. It is evident that the EU ETS is going to follow all these developments. All these matters are discussed in the first introductory chapter. The main purpose of the present thesis, namely the assessment of the effectiveness of the EU ETS under the pressure of climate change would not be complete in the absence of all the aforementioned information.

The main body of the thesis is divided in two main parts. Both of them correspond to the major challenges of the implementation of the EU ETS. The operation of a market of allowances characterizes the EU ETS. As a result, this market should be subject to EU competition rules. Access to the market and non- discrimination as general principles of the EU competition law should always be adhered to. Regarding to the EU ETS questions are raised as to whether small companies can access the market under the same terms as the big and economically thrived ones. These concerns become more intense during the auction phase when allowances are no longer allocated for free.

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[36] "Ministers approve EU ratification of Paris Agreement", 30.9.2016, available at: http://ec.europa.eu/clima/news/articles/news_2016093001_en.htm, and "Paris Climate Agreement to enter into force as EU agrees ratification". 4.10.2016, available at: http://ec.europa.eu/news/2016/09/20160930_en.htm. Moreover, "EU gives green light to ratifying Paris climate deal", 30.9.2016, available at: https://www.theguardian.com/environment/2016/sep/30/eu-gives-green-light-to-activate-paris-climate-deal.

[37] "Paris climate change agreement enters into force", 4.11.2016, available at: https://www.theguardian.com/environment/2016/nov/04/paris-climate-change-agreement-enters-into-force, C. Mooney and B. Dennis, "The Paris climate agreement is entering into force. Now comes the hard part.", available at: https://www.washingtonpost.com/news/energy-environment/wp/2016/10/04/the-paris-climate-agreement-is-entering-into-force-now-comes-the-hard-part/ and "Paris Climate Agreement to enter into force on 4 November", available at: http://www.un.org/sustainabledevelopment/blog/2016/10/paris-climate-agreement-to-enter-into-force-on-4-november/.

[38] Structural reform of the EU ETS, available at: https://www.google.gr/#q=structural+reform+of+the+eu+ets, latest access: 13.11.2016 and Revision for phase 4 (2021-2030), available at: https://ec.europa.eu/clima/policies/ets/revision/index_en.htm.

[39] *Supra* n. 23.

[40] Proposal for a Decision of the European Parliament and of the Council concerning the establishment and operation of a market stability reserve for the Union greenhouse gas emission trading scheme and amending Directive 2003/87/EC, available at: http://ec.europa.eu/clima/policies/ets/reform/docs/com_2014_20_en.pdf. And http://climateobserver.org/open-and-shut/market-stability-reserve-msr/.

Initiatives provided to the companies participating in the scheme should be examined in the light of state aid rules. It is true that some of them may be contrary to the rule set by art. 107 para 1 TFEU (ex art. 87 TEC). According to it: *"Save as otherwise provided in the Treaties, any aid granted by a Member State or through State resources in any form whatsoever which distorts or threatens to distort competition by favouring certain undertakings or the production of certain goods shall, in so far as it affects trade between Member States, be incompatible with the internal market."*. However, benefits that are provided by the States to entities that are operational under the EU ETS may fall into the scope of application of the third paragraph of the TFEU article mentioned above. In other words, despite being state aids these initiatives may be considered compatible with the internal market if they aim at engaging measures for environmental protection as an area of common European interest. State aid rules may also apply when the competent authorities of the member states allocate the allowances. The relevant case law of the Court of Justice of the European Union (CJEU) enlightens cases when a company received more allowances than the tonnes of CO2 that it was supposed to emit. Anything relevant with the operation of the market that the EU ETS establishes is analysed in the first part of the present thesis under the heading *"The compatibility of the EU Emissions Trading Scheme with the EU Competition Law rules.*

Enforcement and compliance are important for the successful implementation of the EU ETS. The proper operation of the scheme requires strict rules. At the same time, the actors involved should have an adequate period of time to adjust their actions with the requirements of the scheme. Following the preamble[41] to the Directive 2003/87/EC, the EU ETS respects the fundamental rights and observes the principles recognised in particular by the Charter of Fundamental Rights of the European Union (CFR)[42]. But is this the case when high penalties are imposed on small emitters and companies that cannot bear the administrative burden deriving from the EU ETS implementation? The balance between the maintenance of the integrity of the emissions trading scheme and the protection of fundamental rights is examined in the second part of the thesis under the title *"The relationship between the practical effectiveness of the EU Emissions*

[41] Recital 27.
[42] Charter of Fundamental Rights of the European Union, OJ C 326, 26.10.2012, available at: http://www.europarl.europa.eu/charter/pdf/text_en.pdf.

Trading Scheme and Fundamental Rights". The penalties under consideration are provided for by art. 16 of the emissions trading Directive. Each of the paragraphs, four in number, will be examined carefully accompanied by the relevant references of case-law and other academic material. What is assessed is the proportionality of the penalties, their relationship with other compliance measures and their character as criminal or administrative.

Regarding the last but of course not the least chapter, it is important to have an overall picture on what was discussed. The conclusions focus on the actual impact that competition law and human rights rules have on the effectiveness of the EU ETS. It is clear enough that if inconsistencies with fundamental EU principles enshrined in the Treaties are identified, the effectiveness of the system is automatically aggravated. Competition and human rights challenges correspond to the market operation and the need for compliance to the rules respectively. Effective implementation of the system is not just closely related to but dependent on them. Proposals for future amelioration and adaption of the system to the current developments is discussed under the light of the aforementioned principles. It would be an omission not to mention that the CJEU has crystalized so far a stable and explicit position on the alignment of the EU ETS.

2. How it all started: The Framework Convention of Climate Change of the United Nations.

The year 1972 is a landmark in the history of environmental protection as part of human planning and policy. The United Nations Conference on the Human Environment[43] at its 21st plenary meeting[44] adopted the Stockholm

[43] "An Intergovernmental Conference of Experts on the Scientific Basis for Rational Use and Conservation of the Resources of the Biosphere, sponsored by the United Nations Educational, Scientific and Cultural Organization (UNESCO) in September 1968, first suggested the idea of a declaration on the environment. Resolution 1448 of 6 August 1969 of the Economic and Social Council (see also United Nations, Economic and Social Council [ECOSOC]) and UNGA Resolution 2581 [XXIV] of 15 December 1969, convening the Stockholm meeting, supported the objective of adopting basic premises to guide the future actions on the environment.", D. Shelton, Stockholm Declaration (1972) and Rio Declaration (1992), Encyclopaedia entries, MPEPIL, OPIL, Oxford University Press, 2015, available at: http://opil.ouplaw.com/view/10.1093/law:epil/9780199231690/law-9780199231690-e1608, latest access: 20 November 2016.

[44] G. Handl, Declaration of the United Nations Conference on the Human Environment Stockholm, 16 June 1972, Introductory Note, Audio-visual Library of International Law, available at: http://legal.un.org/avl/ha/dunche/dunche.html.

Declaration which is considered to be the first international environmental law document. Environment and development are the key issues that the Declaration deals with in 26 principles[45]. Apart from this Declaration, an Action plan containing 109 recommendations and a Resolution were also among the outcomes of this Conference. The legacy left to humanity after the end of the Conference was so impactful that has shaped the EU environmental policies according to some commentators, academics and other scientists.[46] They claim that the establishment of the Environmental and Consumer Protection Directorate[47] in 1973 and the first Environmental Action Program in 1972[48] was influenced by the work produced in the environmental field during 1972. At this point, an early but useful conclusion can be drawn regarding the relationship of the EU and the global community in terms of environmental policy. Similarly to the action plans and any other measures adopted for environmental protection, the EU ETS itself emerged as a part of the EU environmental and climate policy in the framework of the Kyoto Protocol.[49] The impact and interaction between the EU and international trends is unnegotiable, despite the fact that the EU is an international actor *seeking to export its preferred standards to the rest of the world*.[50] The question that reasonably arises is whether the EU ETS as it is developed so far would be the same should it be a pure EU initiative encompassing all the concerns and priorities that the EU has set. The answer appears to be neither obvious nor difficult at the same time. The EU could not keep a distance from the perception of environmental concerns as presented and shared by the rest of the world. The increased interest and research collaboration on the field

[45] Declaration of the United Nations Conference on the Human Environment, Rio, 1992.
[46] Björn-Ola Linnér and Henrik Selin, The Thirty Year Quest for Sustainability: The Legacy of the 1972 UN Conference on the Human Environment, Paper presented at Annual Convention of International Studies Association, Portland, Oregon, USA, February 25 – March 1, 2003, as part of the panel "Institutions and the Production of Knowledge for Environmental Governance" (co-author Henrik Selin), p. 3.
[47] See about the role and the mission of the Directorate General: Environment DG Information Brochure An introduction to the Directorate-General for the Environment of the European Commission and to sources of information on EU environmental policy, European Commission, available at: http://ec.europa.eu/dgs/environment/pdf/information_brochure_en.pdf.
[48] "The European Commission began the practice of periodically issuing Community Environmental Action Programmes in the early 1970s. These programmes set out forthcoming legislative proposals and discussed broader perspectives on EU environmental policy.", available at: http://www.ieep.eu/work-areas/environmental-governance/environmental-action-programmes/k/environmental-action-programme/.
[49] A. Jordan and C. Adelle, Environmental Policy in the EU: Actors, Institutions and Processes, 3rd Edition, Routledge, 2013, p. 373
[50] *Supra* note 50.

of environment created a common picture and perspective on the direction to which humanity should move. In any case, the EU could reserve its right to regulate more strictly the steps that need to be taken for meeting its international obligations.

In 1987 the idea of sustainable development[51] was incorporated in the report *"Our Common Future"*[52], widely known as the Brundtland Report[53], published form from the United Nations World Commission on Environment and Development (WCED).[54] The report aimed at discussing environment and development as a single issue while encapsulating the values deriving from the Stockholm Declaration of 1972.[55] As environmental concern was globally rising re-examining the relevant critical issues in order to formulate innovative, concrete, and realistic action proposals was deemed necessary. No one denies the importance of the declaratory reports that were produced since 1972. However, all these initiatives paved the way for strengthening international cooperation on environment and development. It was high time for assessing and proposing new forms of cooperation that would bound states to achieve change.[56]

Following the progress that was done since 1972, the Earth Summit in Rio in 1992 (United Nations Conference on Environment and Development), adopted the Rio Declaration on Environment and Development[57], the Agenda 21[58] and the Forest

[51] More information available at: http://www.iisd.org/topic/sustainable-development.
[52] Report of the World Commission on Environment and Development: Our Common Future, Transmitted to the General Assembly as an Annex to document A/42/427 - Development and International Co-operation: Environment, 1987, available at: http://www.un-documents.net/our-common-future.pdf.
[53] "The World Commission on Environment and Development, chaired by former Norwegian Prime Minister Gro Harlem Brundtland, alerted the world twenty years ago to the urgency of making progress toward economic development that could be sustained without depleting natural resources or harming the environment.", more information available at: http://www.un.org/esa/sustdev/csd/csd15/media/backgrounder_brundtland.pdf.
[54] P. Dauvergne, Handbook of Global Environmental Politics, Edward Elgar Publishing, 2005, p. 492.
[55] D. I. Wirth, The Rio Declaration on Environment and Development: Two Steps Forward and One Back, or Vice Versa, Georgia Law Review, Vol. 29, No. 3, 1995, p. 611 – 612, available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2634707.
[56] C. Sneddon, R.B. Howarth, R.B. Norgaard, Sustainable development in a post Brundtland world, Ecological Economics, 2006, p. 254.
[57] Rio Declaration on Environment and Development, UN Doc. A/CONF.151/26 (vol. I); 31 ILM 874 (1992), available at: http://www.unep.org/Documents.Multilingual/Default.asp?DocumentID=78&ArticleID=1163.
[58] Agenda 21: Programme of Action for Sustainable Development, U.N. GAOR, 46th Sess., Agenda Item 21, UN Doc A/Conf.151/26 (1992), available at: https://sustainabledevelopment.un.org/content/documents/Agenda21.pdf.

Principles[59]. The Rio Declaration contained principles of paramount importance that were meant to be established as the cornerstones of international environmental law. The *"polluter pays"* principle[60] and the necessity of an *environmental impact assessment, as a national instrument, undertaken for proposed activities that are likely to have a significant adverse impact on the environment*[61] are core principles of the Rio Declaration. The main idea was to link environmental protection with economic development for favourable long term results in safeguarding the common environment.[62] On top of that legally binding agreements were opened for signature, such as the Convention on Biological Diversity[63], the UN Convention to combat Desertification[64] and the UN Framework Convention on Climate Change[65]. Compliance to the Rio Agreements would be ensured by the Commission on Sustainable Development (CSD).[66]

[59] T. W. Schneider, A non-legally-binding Instrument as an Alternative to a Forest Convention, Work Report of the Institute for World Forestry 2006/4, available at: http://literatur.vti.bund.de/digbib_extern/dk039296.pdf.

[60] OECD, Glossary of Statistical Terms, available at: https://stats.oecd.org/glossary/detail.asp?ID=2074, latest access: 22 December 2016 and S. E. Gaines, The Polluter-Pays Principle: From Economic Equity to Environmental Ethos, 26 Tex. Int'l L. J. 463 (1991)

[61] N. Craik, The International Law of Environmental Impact Assessment – Process, Substance and Integration, Cambridge University Press, 2008; Sands *et al.*, Principles of International Environmental Law, 3rd Edition, Cambridge University Press, 2012, p. 602.

[62] A. Ghafoor Awan, Relationship between environment and sustainable economic development: a theoretical approach to environmental problems International Journal of Asian Social Science, 2013 3(3), p. 746 – 747, available at: http://www.aessweb.com/pdf-files/741-761.pdf.

[63] UN Convention on Biological Diversity, [1993] ATS 32 / 1760 UNTS 79 / 31 ILM 818 (1992) available at: https://www.cbd.int/doc/legal/cbd-en.pdf.

[64] UN Convention to Combat Desertification in Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa, 1954 UNTS 3; 33 ILM 1328 (1994), available at: http://www.unccd.int/en/about-the-convention/Pages/Text-overview.aspx.

[65] UN Framework Convention on Climate Change, 1771 UNTS 107; S. Treaty Doc No. 102-38; U.N. Doc. A/AC.237/18 (Part II)/Add.1; 31 ILM 849 (1992), available at: http://unfccc.int/files/essential_background/background_publications_htmlpdf/application/pdf/conveng.pdf.

[66] The UN Commission on Sustainable Development (CSD) was established by the UN General Assembly in December 1992 to ensure effective follow-up of United Nations Conference on Environment and Development (UNCED), also known as the Earth Summit. From its inception, the CSD was highly participatory in structure and outlook, by engaging in its formal proceedings a wide range of official stakeholders and partners through innovative formulae. More information available at: https://sustainabledevelopment.un.org/csd.html, latest access: 21 December 2016.

The outcome of the Earth Summit in Rio was historic[67] as far as combatting climate change is concerned. The level of understanding[68] phenomena such as global warming was rising and the actors of civil society seemed to be ready to commit themselves in making expectation for change a reality. The foundation of modern environmentalism[69] with emphasis on climate change was set by the opening for signature of the UN Framework Convention on Climate Change, which finally entered into force on 21 March 1994.[70] Its target was to *"stabilize greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system"*.[71] No binding limits on greenhouse gas emissions[72] for individual countries were set. The fact that there is no binding limit for the GHG emissions reductions meant that measurable commitments[73] instead of enforcement mechanisms such as the ones that constituted the compliance process under the Kyoto Protocol were adequate. As it was named, it was a framework convention drawing the lines on how future international conventions and agreements could be implemented and on how they could set binding limits on greenhouse gases emissions. Currently, the convention enjoys broad legitimacy, due to its nearly universal membership, numbering to the 197 signatories.[74]

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[67] For further analysis on the "… major paradigm shift at Rio, from international 'environmental law' to a new (and yet to be defined) 'law of sustainable development" see: P. H. Sand, International Environmental Law After Rio, 4 EJIL (1993), p. 378, available at: http://www.ejil.org/pdfs/4/1/1209.pdf.

[68] D. Bodansky, The History of the Global Climate Change Regime, p. 24, available at: http://graduateinstitute.ch/files/live/sites/iheid/files/sites/admininst/shared/doc-professors/luterbacher%20chapter%202%20102.pdf.

[69] *Supra* n. 52.

[70] "The Convention entered into force on 21 March 1994, in accordance with Article 23, that is on the ninetieth day after the date of deposit of the fiftieth instrument of ratification, acceptance, approval or accession.", available at: http://unfccc.int/essential_background/convention/status_of_ratification/items/2631.php.

[71] L. Boisson de Chazournes, Kyoto Protocol to the United Nations Framework Convention on Climate Change, United Nations Audio-visual Library of International Law, 2008, p. 1, available at: http://legal.un.org/avl/pdf/ha/kpccc/kpccc_e.pdf.

[72] L. Tamiotti *et al.*, Trade and Climate Change: A Report by the United Nations Environment Programme and the World Trade Organization, WTO Publications, 2009, p. 70.

[73] X. Wang and G. Wiser, The Implementation and Compliance Regimes under the Climate Change Convention and its Kyoto Protocol, RECIEL 11 (2) 2002, p. 184, available at: http://www.ciel.org/Publications/Wang_Wiser.pdf.

[74] UNFCCC, Status of Ratification of the Convention, available at: http://unfccc.int/essential_background/convention/status_of_ratification/items/2631.php.

3. The adoption of the Kyoto Protocol and the role of the EU.

Resolution 45/212 of 1990[75] established the Intergovernmental Negotiating Committee which finally in 1992 agreed on the UNFCCC during the United Nations Conference on Environment and Development in Rio de Janeiro. The importance[76] of the UNFCCC lies in a number of factors that were considered pioneer at that period of time. This international framework Convention that was stressed the vulnerability of the climate system while focusing at the same time on mitigation and adaptation to the adverse effects.[77] Setting climate change to the highest level of attention was an undeniable success that could be completed only if international cooperation[78] was achieved. Transfer of the know- how, technologies etc. from the developed to the developing countries was one of the practical aspects of this international cooperation.[79] However, as it is already stated, it was not a binding agreement but a convention setting the framework for further global action. For this reason, the First Conference of the Parties (COP1) in 1995 in Berlin was under the mandate to guide negotiations on a protocol to strengthen the commitments under the UNFCCC. Within this framework, the Ad Hoc Group on the Berlin Mandate[80] was established in order to assess and set specific GHG emissions reductions in a defined and clear commitment period. At the same year the Second Assessment Report[81] characterized the adoption of the UNFCCC a *"great political development"* and highlighted the existence of a *"discernible human influence to global climate"*. The

[75] Resolution 45/212, A/RES/45/212, 71st Plenary Session, 21 December 1990, available at: http://www.un.org/documents/ga/res/45/a45r212.htm.
[76] F. Wang, UNFCCC: an important trial in addressing global climate governance issues, 2013, available at: https://www.greenearthcitizen.org/unfccc-a-strategic-step-in-earth-climate-governance/ and T. Ryding, Climate protection between hope and despair, 20 years of the UNFCCC, 2012, available at: http://www.greenpeace.org/international/Global/international/publications/RioPlus20/20-Years-of-UNFCCC.pdf.
[77] Regarding vulnerabilities and adaptation see: United Nations Framework Convention on Climate Change: Handbook. Bonn, Germany: Climate Change Secretariat, 2006, available at: https://unfccc.int/resource/docs/publications/handbook.pdf.
[78] UNFCCC, Cooperation and Support, available at: http://unfccc.int/cooperation_and_support/items/2664.php, latest access: 4 December 2016.
[79] Technology, available at: http://unfccc.int/technology/items/2681.php.
[80] Decision FCCC/CP/1995/7/Add.1/ Decision 1/CP.
[81] Second Assessment Report of the Intergovernmental Panel on Climate Change, 1995, available at: https://www.ipcc.ch/pdf/climate-changes-1995/ipcc-2nd-assessment/2nd-assessment-en.pdf.

findings of this report which was endorsed by the COP2 intensified the negotiations for the adoption of a protocol that would set specific targets and mechanisms with respect to the UNFCCC.

After two years, on 11 December 1997, under the COP3 the Kyoto Protocol was adopted and opened for signature.[82] The Kyoto Protocol was adopted in pursuit of the ultimate objective of the UNFCCC as stated in its art. 2[83] while being guided by art. 3[84] of the UNFCCC. According to its article 25 para. 1 it entered into force "*on the ninetieth day after the date on which not less than 55 Parties to the Convention, incorporating Parties included in Annex I which accounted in total for at least 55 per cent of the total carbon dioxide emissions for 1990 of the Parties included in Annex I, deposited their instruments of ratification, acceptance, approval or accession".* Following the aforementioned requirement the 16th of February 2005 was the date when the Kyoto Protocol became effective.[85] Its literally last minute ratification by the Russian Federation on 23 October 2004 allowed its future implementation.[86] This was an important step given the refusal of USA[87] and Australia[88] to become parties of the Protocol.

The Kyoto Protocol builds upon the same infrastructure as designed by the UNFCCC.[89] These related environmental documents promote the same principles:

1. Equity[90] in the commitment of parties to protect the climate.

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[82] 1997 Kyoto Protocol to the UN Framework Convention on Climate Change (UNFCCC), 2303 UNTS 148 / [2008] ATS 2 / 37 ILM 22 (1998), available at: http://unfccc.int/resource/docs/convkp/kpeng.pdf.
[83] Oppenheimer M. and Petsonk A., Article 2 of the UNFCCC: Historical Origins, Recent Interpretations, 2004, available at: https://www.princeton.edu/step/people/faculty/michael-oppenheimer/recent-publications/Article-2-of-the-UN-Framework-Convention-on-Climate-Change.pdf.
[84] Regarding Intra- generational equity and common but differentiated responsibilities: C. Regwell in The Oxford Handbook of International Climate Change Law, Oxford University Press, 1st Edition, 2006 and K. McManus, The principle of 'common but differentiated responsibility' and the UNFCCC, Climatico Special Features - November 2009, available at: http://www.climaticoanalysis.org/wp-content/uploads/2009/12/kmcmanus_common-responsibilities.pdf.
[85] Kyoto Protocol, available at: http://unfccc.int/kyoto_protocol/items/2830.php.
[86] N. Paton Walsh, Russia's vote saves Kyoto Protocol, 24 October 2004, available at: https://www.theguardian.com/world/2004/oct/23/society.russia.
[87] P. Reynolds, Kyoto: Why did the US pull out?, 30 March 2001, available at: http://news.bbc.co.uk/2/hi/americas/1248757.stm.
[88] Australia rejects Kyoto Protocol, 7 June 2002, available at: https://www.timeshighereducation.com/news/australia-rejects-kyoto-protocol/169527.article.
[89] *Supra* note 12 p. 41.
[90] E. Page, Equity and the Kyoto Protocol, POLITICS: 2007 VOL 27(1) p. 8 - 9, available at: http://www.gci.org.uk/Documents/Page_.pdf.

2. Recognition of developing countries' special needs[91] and circumstances "especially those that are particularly vulnerable to the adverse effects of climate change".[92] This principle is reflected in para. 14 of art. 3 of the Protocol in a crystal clear and comprehensive way: *"Each party included in Annex I shall strive to implement the commitments mentioned in par. 1[93] (of art. 3) in such a way to minimize adverse social, environmental and economic impacts on developing country Parties, particularly those identified in art. 4 par. 8 and 9 of the Convention. In line with the relevant decisions of the Conference of the Parties on the implementation of those paragraphs, the Conference of the Parties serving as the meeting of the Parties to this Protocol shall, at its first session, consider what actions are necessary to minimize the adverse effects of climate change and/or the impacts of response measures on Parties referred to in those paragraphs. Among the issues to be considered shall be the establishing of funding, insurance and transfer of technology."*.
3. Precautionary measures[94], meaning action that should be taken to "anticipate, prevent or minimize the causes of climate change and mitigate its adverse effects".
4. Promotion of sustainable development[95] and growth[96].

A series of mechanisms[97] is also provided in order to facilitate the realization of these principles, although the signatories to the Protocol must meet their targets

[91] A. Denny Ellerman, Henry D. Jacoby and Annelène Decaux, The Effects on Developing Countries of the Kyoto Protocol and CO2 Emissions Trading, available at: http://web.mit.edu/globalchange/www/MITJPSPGC_Rpt41.pdf.
[92] J. E. Viñuales, The Rio Declaration on Environment and Development: A Commentary, Oxford University Press, 1st Edition, 2015, pp. 217 – 225.
[93] "The Parties included in Annex I shall individually or jointly, ensure that their aggregate anthropogenic carbon dioxide equivalent emissions of greenhouse gases listed in Annex A do not exceed their assigned amounts, calculated pursuant to their quantified emissions limitation and reduction commitments inscribed in Annex B and in accordance with the provisions of this Article, with a view to reducing their overall emissions of such gases by at least 5 per cent below 1990 levels in the commitment period 2008 to 2012.".
[94] J.P. van der Sluijs and W. Turkenburg, Climate Change and the Precautionary Principle. In: Elizabeth Fisher, Judith Jones and René von Schomberg, Implementing The Precautionary Principle, Perspectives and Prospects, ELGAR, 2006, p. 245-269, available at: http://www.nusap.net/downloads/Climate_Change_and_the_Precautionary_Principle.pdf.
[95] C. Voigt, Sustainable Development In Practice: The Flexibility Mechanisms Of The Kyoto Protocol, The New International Law, Vol. 35, 2010, pp. 241 – 260.
[96] J. Keane and G. Potts, Achieving "Green Growth" in a carbon constrained world, October 2008, available at: https://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/3326.pdf.
[97] UNFCCC, The Kyoto Protocol Mechanisms, available at: https://cdm.unfccc.int/about/cdm_kpm.pdf.

primarily at a national level[98]. However, many commentators doubt if these mechanisms can actually assist the signatories to deliver their commitments since no sanctions are provided for in case of non – alignment with the Protocol.[99] The aforementioned combination of internationally operational mechanisms along with the nationally adopted policies was a compromise between the approach that the EU and the US adopted; while the EU insisted on national policies, the US was less focused on domestic measures with the aim of avoiding disproportionate economic burdens to national economies. Regarding the mechanisms that are provided for, under the Kyoto Protocol there are three market – based[100] mechanisms, namely International Emissions Trading (art. 17), Clean Development Mechanism (CDM in art. 12) and Joint Implementation (JI in art. 6). These supportive mechanisms operate as cost – effective ways for meeting the targets set by the parties, while contribute in stimulating green investments.

More specifically, as far as International Emissions Trading is concerned, art. 17 of the Kyoto Protocol provides for:

"The Conference of the Parties shall define the relevant principles, modalities, rules and guidelines, in particular for verification, reporting and accountability for emissions trading. The parties included in Annex B may participate in emissions trading for the purpose of fulfilling their commitments under art. 3. Any such trading shall be supplemental to domestic actions for the purpose of meeting quantified emission limitation and reduction commitments under that article.".

The concept of market economy[101] is of paramount importance for the functioning of the International Emissions Trading. In essence, traditional market mechanisms are adapted to the specificities of the Emissions Trading. As a result, a new market is created, where specific rules apply. GHG are the new commodity for the purposes of this market. Carbon dioxide is the principle greenhouse gas, which is now tracked and

[98] Find footnote for national mechanisms under the Protocol.
[99] M. Common and S. Stagl, Ecological Economics: An Introduction, Cambridge University Press, 2005, p. 515.
[100] A. Marcu, Expanding Carbon Markets through New Market-based Mechanisms - A synthesis of discussions and submissions to the UNFCCC, CEPS Special Report No. 60, 2012, p.1, available at: https://www.ceps.eu/system/files/Expanding%20Carbon%20Markets%20through%20NMMs.pdf.
[101] See in general: K. Polanyi, The Great Transformation, 1944.

traded like any other commodity. The "carbon market" is thus the new market directly linked to the targets that the Annex B parties have set. This can be explained by defining the targets for reducing emissions that the Annex B parties have accepted as the levels of allowed emissions (which are divided into "assigned amount units"), over the 2008 – 2012 commitment period. Under art. 17 of the Protocol, countries that have emission units to spare (permitted but not used) can sell their excess capacity to other countries that have exceeded their targets. However, emissions units are not the only type of units that can be transferred under the International Emissions Trading Scheme. The most usually transferable units are the following ones:

- A removal unit (RMU) on the basis of land use, land- use change and forestry activities (LULUCF) such as reforestation.
- An emission reduction unit (ERU) generated by a joint implementation project.
- A certified emission reduction (CER) generated from a clean development mechanism project activity.

Each of these ones should be equal to a tonne of CO2, while their transfers and acquisitions are tracked and recorded through the Kyoto Protocol registry systems. Additionally, the secure transfer of emission reduction between the countries is ensured through an international transaction log.

Emissions Trading was an instrument that was already used even before the Kyoto Protocol. What changed after the entry into force of the Protocol was the inclusion of a new commodity, namely the right to emit a certain amount of GHG or carbon dioxide equivalent. Bringing emissions trading in Europe was decided by EU politicians in the nineties who borrowed this idea and tried to reshape it according with the political and legal requirements that applied in the European continent. At this point, a distinction should be made between two emissions trading schemes that were in force under the Kyoto Protocol. On the one side, there is the regional and biggest emission trading scheme operating in Europe targeting at private entities and installations. This is of course the EU ETS. The EU after long discussions and careful planning, established the scheme which runs with its own rules with respect with the fundamental competition and other relevant principles provided for by primary EU Law (Treaty of the EU, Treaty on the Functioning of the EU, Charter of Fundamental Rights of the EU). The main

actors participating in the scheme were private entities. In cases when an entity is fully committed to fulfilling the obligations under the emissions trading scheme, the possibility to reduce the GHG it emits rises. On the other side, the aforementioned art. 17 of the Kyoto Protocol describes the International Emissions Trading for public entities, namely the parties (countries) to the Annex I. It is also possible that parties to the Annex B can participate by trading ERUs, CERs and RMUs with the other Annex B parties. The complexity of the International Emissions Trading and the broad and lacking in detail definition of art. 17 of the Kyoto Protocol made countries, e.g. China, to oppose to the adoption of the scheme.

Turning back to the commitments deriving from the participation to the Kyoto Protocol, a stop at the year 2001 is mandatory. On 10 November of that year[102], the Seventh Conference of the Parties adopted the Marrakesh Ministerial Declaration[103]. Through this Ministerial Declaration the linkage between sustainable development and climate change were strengthened. The agreement[104] that was the outcome of this session of the Conference of the Parties set the guidelines for putting the Kyoto Protocol into force, despite the fact that the Bush administration decided the withdrawal of the USA. Some commentators argued that the refusal of the USA to negotiate, increased the commitment of the remaining parties to reach an agreement, and freed up the negotiators to accept provisions they had opposed when the US was viewed as the principal beneficiary.[105] Of course there is also the opposite opinion according to which a stronger Protocol was not produced due to the withdrawal of the US.[106]

The fact that during the seventh session of the Conference of the Parties in Marrakesh the EU Commission presented a legislative package including three major proposals was considered as a counterbalance after the rejection of the US to further

[102] United Nations, Yearbook of the United Nations 2001, Volume 55, Department of Public Information, UN, New York, p. 955.
[103] The Marrakesh Ministerial Declaration, Decision 1/CP. 7, FCCC/CP/2001/13/Add.1, available at: http://unfccc.int/resource/docs/cop7/13a01.pdf#page=54.
[104] A. Browne, 'Historic' deal saves Kyoto, but America stays outside, 11.11.2001, available at: https://www.theguardian.com/environment/2001/nov/11/globalisation.climatechange.
[105] M.H. Babiker, H.D. Jacoby, J.M. Reilly, D.M. Reiner, The evolution of a climate regime: Kyoto to Marrakech and beyond, Environmental Science & Policy 5 (2002), p. 197.
[106] M. Vespa, Climate Change 2001: Kyoto at Bonn and Marrakesh, Ecology Law Quarterly, Volume 29, 2002, p. 417, available at: http://scholarship.law.berkeley.edu/cgi/viewcontent.cgi?article=1686&context=elq.

negotiate. These three proposals outlined the details for EU' s commitment to the Kyoto Protocol[107], the foundations of the European Climate Change Programme[108] and the establishment of the aforementioned EU Emissions Trading Scheme[109]. Since 2001 the EU is a key player in reinforcing climate policies and setting climate – friendly and ambitious targets through the revival of environmental trends and policies that dominated again in the public sphere.[110] The European Climate Change Programme[111] that was launched in 2000 is an exceptional example of the strategy that the EU has promoted for complying with the international climate regime. It is worth noting that in 1997, when the Protocol was adopted, the EU had 15 Member – States[112]. The enlargement of the EU in 2004 and 2007 raising the total number of the Member – States to 27[113] was seriously taken into consideration in the process of establishing the EU Emissions Trading Scheme, as harmonization with the EU legislation for countries with an economy in a transitional state[114] was a challenging task. This is extremely important for two main reasons: first, the issue of the responsibility of the EU and its Member – States[115] and second, the EU has managed to influence a number of different layers, meaning from national to international, while shaping climate change and

[107] Proposal of the Commission for a Council Decision concerning the approval, on behalf of the European Community, of the Kyoto Protocol to the United Nations Framework Convention on Climate Change and the joint fulfilment of commitments thereunder, COM (2001) 579 final, Brussels, 23 October 2001, available at: http://www.europarl.europa.eu/meetdocs/committees/rett/20011218/6543121aen.pdf.

[108] Communication from the Commission on the implementation of the 1st phase of the European Climate Change Programme, COM (2001) 580 final, Brussels, 23 October 2001, available at: http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1481988549256&uri=CELEX:52001DC0580.

[109] Proposal for a Directive of the European Parliament and of the Council establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC, COM (2001) 581 final, Brussels, 23 October 2001, available at: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2001:0581:FIN:EN:PDF.

[110] Dr. C. Hey, EU Environmental Policies: A short history of the policy strategies, EU Environmental Policy Handbook, para. 26, available at: http://www.eeb.org/publication/chapter-3.pdf.

[111] More information about the European Climate Change Programme available at: https://ec.europa.eu/clima/policies/eccp_en, latest access: 17 December 2016.

[112] Belgium, Denmark, Finland, France, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, United Kingdom, Sweden, Germany and Austria.

[113] The simultaneous accessions concerned the following countries, sometimes referred to as the "A10" countries: Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, and Slovenia. In 2007, the second enlargement step after the one that took place in 2004 led to Bulgaria and Romania become EU member states

[114] J. De Cendra de Larragán, Distributional Choices in EU Climate Change Law and Policy: Towards a Principled Approach?, Kluwer Law International, 2011, p. 300.

[115] J. de Cendra de Larragán, United we stand, divided we fall: The potential role of the principle of loyal cooperation in ensuring compliance of the European Community with the Kyoto Protocol, Climate Law 1 (2010), pp. 167 – 173.

energy strategies[116]. The Presidency Conclusions of the Göteborg European Council of 15 and 16 June 2001[117] remarked that further progress on the elaboration of the Kyoto Protocol should not be blocked[118]. Sustainable development and climate change were also in the frontline. In 2002 a Council Decision [119] was finally adopted incorporating the Kyoto Protocol into the EU legal order. A few months later, in July 2002, the introduction of the Sixth Community Environment Action Programme aimed at achieving a "*decoupling between environmental pressures and economic growth whilst being consistent with the principle of subsidiarity and respecting the diversity of conditions across the various regions of the European Union"*.[120]

The Europeanization of the international climate regime as a process of convergence[121] between EU Member – States needed one more step to be completed. The Council Directive 96/61/EC concerning integrated pollution prevention and control[122] should be amended in order to follow the new commitments of the Union under the Kyoto Protocol. The proposal for a new directive[123] turned into reality in 2003. The Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC was meant to be the basic legal instrument of the EU for reducing GHG emissions. According to the recital 5 of the preamble to the Directive: *"The Community and its Member States have agreed*

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[116] C. Damro, I. Hardie and D. Mac Kenzie, The EU and Climate Change Policy: Law, Politics and Prominence at Different Levels, Journal of Contemporary European Research, Vol. 4, No. 3, 2008, p. 181, available at: http://www.jcer.net/index.php/jcer/article/viewFile/110/103.

[117] EC (2001b) Presidency Conclusions Göteborg European Council of 15 and 16 June 2001, SN/200/1/01 REV 1, available at: http://aei.pitt.edu/43342/.

[118] H. E. Ott, Climate Policy After the Marrakesh Accords: From Legislation to Implementation, p. 1, available at: http://wupperinst.org/fa/redaktion/downloads/publications/Marrakesh_Accords_Ott.pdf.

[119] Council Decision 2002/358/EC of 25 April 2002 concerning the approval, on behalf of the European Community, of the Kyoto Protocol to the United Nations Framework Convention on Climate Change and the joint fulfilment of commitments thereunder, available at: http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:32002D0358.

[120] Decision No 1600/2002/EC of the European Parliament and of the Council of 22 July 2002 laying down the Sixth Community Environment Action Programme Official Journal L 242, 10 September 2002, p. 1 – 15, available at: http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32002D1600.

[121] J. Albrecht and B. Arts, Climate policy convergence in Europe: an assessment based on National Communications to the UNFCCC, Journal of European Public Policy, 2005, p. 4.

[122] Council Directive 96/61/EC of 24 September 1996 concerning integrated pollution prevention and control, Official Journal L 257, 10 October 1996, p. 26 – 40, available at: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:31996L0061:en:HTML.

[123] *Supra* n. 136.

to fulfil their commitments to reduce anthropogenic green- house gas emissions under the Kyoto Protocol jointly, in accordance with Decision 2002/358/EC. This Directive aims to contribute to fulfilling the commitments of the European Community and its Member States more effectively, through an efficient European market in green-house gas emission allowances, with the least possible diminution of economic development and employment.". However, a few changes were needed and the widely known complementary "Linking Directive"[124] After the end of the first implementation period of the EU ETS in 2007, the Presidency Conclusions of the European Spring Council of 8 – 9 March 2007[125] reiterated the leading role of the EU in achieving the GHG reduction commitments and invited the Commission to review the EU Emissions Trading Scheme in good time with a view to increasing transparency and strengthening and broadening the scope of the scheme and to consider, as part of the EU ETS review, a possible extension of its scope to land use, land-use change and forestry and surface transport.[126]

Having a first assessment of the implementation of the EU ETS, it was the time to properly organize the future learning by the mistakes that were made.[127] 2006 - 2007 was a remarkable period in terms of production of policies and relevant documents. In brief, stepping to a long – term planning regarding energy policy, new targets should be set. This was exactly what the following programmatic documents intended to achieve:

[124] Directive 2004/101/EC of the European Parliament and of the Council of 27 October 2004 amending Directive 2003/87/EC establishing a scheme for greenhouse gas emission allowance trading within the Community, in respect of the Kyoto Protocol's project mechanisms, OJ L 338, 13 November 2004, pp. 18–23, available at: http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32004L0101.
[125] Presidency Conclusions Brussels European Council of 8 and 9 March 2007, 7224/1/07 REV 1, available at: http://www.consilium.europa.eu/ueDocs/cms_data/docs/pressData/en/ec/93135.pdf.
[126] Para. 35, p. 13 of the Presidency Conclusions.
[127] R. Betz and M. Sato, Emissions trading: lessons learnt from the 1st phase of the EU ETS and prospects for the 2nd phase, Climate Policy 6, 2006, pp. 351–359, available at: http://www.eprg.group.cam.ac.uk/wpcontent/uploads/2014/01/emissionstradinglessonslearned.pdf.

- The Communication from the Commission: "An Energy Policy for Europe"[128] is part of the movement begun in March 2006[129] and once again places energy at the heart of European activities. Based on that Energy Package, the Heads of State and Government at the spring European Council on 9 March 2007 adopted a comprehensive energy Action Plan for the period 2007-2009.
- The Communication from the Commission: "Limiting Global Climate Change to 2 degrees Celsius - The way ahead for 2020 and beyond"[130] is a follow – up on the 2005 Communication "Winning the Battle against Global Climate Change",[131] which provided concrete recommendations for EU climate policies and set out key elements for the EU's future climate strategy.
- Contribution of the Council (Energy) to the 2007 Spring European Council.[132]
- The Council Conclusions on the EU objectives for the further development of the international climate regime beyond 2012[133] emphasised *inter alia* that the EU is committed to transforming Europe into a highly energy efficient and low greenhouse-gas-emitting economy.

Moving forward to the second implementation period (2008 – 2012)[134] the EU ETS was subjected to the further transparency and expansion to other sectors demands

[128] Communication from the Commission to the European Council and the European Parliament - an energy policy for Europe, COM/2007/0001 final, Brussels, 10 January 2007, available at: http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:52007DC0001.

[129] Green Paper on a European Strategy for Sustainable, Competitive and Secure Energy, COM/2006/0105 final, Brussels, 8 March 2006, available at: http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:52006DC0105.

[130] Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions - Limiting global climate change to 2 degrees Celsius - The way ahead for 2020 and beyond, COM/2007/0002 final, Brussels, 10 January 2007, available at: http://eur-lex.europa.eu/legal-content/en/TXT/?uri=celex%3A52007DC0002.

[131] Communication from the Commission to the Council, the European Parliament, the European Economic and Social committee and the Committee of the Regions - Winning the Battle Against Global Climate Change, COM/2005/0035 final, Brussels, 9 February 2005, available: http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM:2005:0035:FIN.

[132] Energy Policy for Europe Contribution of the Council (Energy) to the 2007 Spring European Council - Council conclusions 6453/07, Brussels, 15 February 2007, available at: http://register.consilium.europa.eu/doc/srv?l=EN&f=ST%206453%202007%20INIT.

[133] Council Conclusions on the EU objectives for the further development of the international climate regime beyond 2012, 6621/07, Brussels, 21 February 2007, available at: http://register.consilium.europa.eu/doc/srv?l=EN&f=ST%206621%202007%20INIT.

[134] The EU Emissions Trading System: An Introduction, available at: http://climatepolicyinfohub.eu/eu-emissions-trading-system-introduction.

that arose the previous years. The discussion about including aviation[135] in the EU ETS ended in 2008. The Directive[136] of the European Parliament and of the Council for including aviation in the EU ETS raised a number of interesting issues. One of them was the applicability of EU Law outside the EU territory, or, in other words, the issue of jurisdiction.[137] Despite the negative criticism[138], the CJEU in its judgment on the case C – 366/10[139] endorsed the Opinion of the Advocate General Kokkot[140] of the 6th of October 2011, finding the Directive 2008/101/EC in compliance with international law. More specifically, the Court stated that:

- the extension of the EU ETS to aviation infringes neither the principle of territoriality, nor the sovereignty of third countries;
- the EU ETS does not constitute a tax, fee or charge on fuel, which could be in breach of the EU-US Air Transport Agreement;
- the uniform application of the EU ETS to European and non-European airlines alike is consistent with provisions in the EU-US Air Transport Agreement prohibiting discriminatory treatment between aircraft operators on nationality grounds.

[135] Including Aviation in the EU's Emissions Trading Scheme (EU ETS), Background Briefing, European Federation for Transport and Environment, Brussels, 2006, available at: http://www.transportenvironment.org/docs/Publications/2006/2006-12_briefing_aviation_eu-ets.pdf.

[136] Directive 2008/101/EC of the European Parliament and of the Council of 19 November 2008 amending Directive 2003/87/EC so as to include aviation activities in the scheme for greenhouse gas emission allowance trading within the Community, OJ L 8, 13.1.2009, p. 3–21, available at: http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32008L0101.

[137] C. Voigt, Up in the Air: Aviation, the EU Emissions Trading Scheme and the Question of Jurisdiction, in Cambridge Yearbook of European Legal Studies, Vol 14 2011-2012, Bloomsbury, pp. 475 – 506.

[138] India Leads Group of 26 Nations Against EU Aviation Emission Levy, Bridges, Volume 15 - Number 33, available at: http://www.ictsd.org/bridges-news/bridges/news/india-leads-group-of-26-nations-against-eu-aviation-emission-levy, D. Kahya, Air wars: Fears of trade war over EU airline carbon cap, 21 December 2011, available at: http://www.bbc.com/news/business-14325571.

[139] C-366/10, Air Transport Association of America and others v. Secretary of State for Energy and Climate Change, 21 December 2011, ECLI:EU:C:2011:864, available at: http://curia.europa.eu/juris/document/document.jsf;jsessionid=9ea7d0f130d617a247bea17f4629b01fae500f6d2f6d.e34KaxiLc3eQc40LaxqMbN4PahaOe0?text=&docid=117193&pageIndex=0&doclang=en&mode=lst&dir=&occ=first&part=1&cid=93593.

[140] Opinion of Advocate General Kokkot on the case C-366/10, Air Transport Association of America and others v. Secretary of State for Energy and Climate Change, 6 October 2011, ECLI:EU:C:2011:637, available at: http://curia.europa.eu/juris/document/document.jsf;jsessionid=9ea7d0f130d617a247bea17f4629b01fae500f6d2f6d.e34KaxiLc3eQc40LaxqMbN4PahaOe0?text=&docid=110742&pageIndex=0&doclang=en&mode=lst&dir=&occ=first&part=1&cid=93593.

The judgment was considered to have gaps in its reasoning on why the non – discrimination principle would oppose to a limitation of the ETS to the sections of the flights happening within the EU.[141] Others preferred focusing on the fact that the EU should always act in compliance with international law when legislating.[142] It should be an omission not to note that others emphasized on obligation of the EU to comply with the Kyoto Protocol[143]. This is obvious in para. 128 of the aforementioned judgment which reads as follows:

"128. As for the fact that the operator of an aircraft in such a situation is required to surrender allowances calculated in the light of the whole of the international flight that its aircraft has performed or is going to perform from or to such an aerodrome, it must be pointed out that, as European Union policy on the environment seeks to ensure a high level of protection in accordance with Article 191(2) TFEU, the European Union legislature may in principle choose to permit a commercial activity, in this instance air transport, to be carried out in the territory of the European Union only on condition that operators comply with the criteria that have been established by the European Union and are designed to fulfil the environmental protection objectives which it has set for itself, in particular where those objectives follow on from an international agreement to which the European Union is a signatory, such as the Framework Convention and the Kyoto Protocol."

The third phase of the EU ETS will last from 2013 – 2020. In this phases the allowances, as it will be later analysed, are auctioned. Two regulations determine the amount of the allowances to be auctioned.[144] The experience of the previous phases has

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[141] B. Mayer, Case C-366/10, Air Transport Association of America and Others v. Secretary of State for Energy and Climate Change, Judgment of the Court of Justice (Grand Chamber) of 21 December 2011, nyr, CML Rev. 49, 2012, p. 1138, available at: http://www.benoitmayer.com/files/CMLRev.pdf.

[142] I. Bartha, Comment on the Case C-366/10, Air Transport Association of America and Others v. Secretary of State for Energy and Climate Change, 2013, available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2655005.

[143] Eco – Imperialism? The Court's ATAA judgment, 2012, available at: http://europeanlawblog.eu/?p=115.

[144] Commission Regulation (EU) No 1031/2010 of 12 November 2010 on the timing, administration and other aspects of auctioning of greenhouse gas emission allowances pursuant to Directive 2003/87/EC of the European Parliament and of the Council establishing a scheme for greenhouse gas emission allowances trading within the Community, OJ L 302, 18.11.2010, p. 1–41, available at: http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32010R1031, Commission Regulation (EU) No 176/2014 of 25 February 2014 amending Regulation (EU) No 1031/2010 in particular to determine the volumes of greenhouse gas emission allowances to be auctioned in 2013-2020, OJ L 56, 26.2.2014, p.

led to criticism about its failure even before the beginning of that third implementation phase[145]. In the meanwhile, the Copenhagen Climate Summit in 2009[146] was not deemed successful[147] and the need for reform[148] seemed more urgent than ever. Climate change declared present once again and the rise in global temperatures[149] could not justify any kind of delays in taking action. The EU Commission submitted a proposal[150] in 2015 for reforming the EU ETS as a part of the "2030 climate and energy framework"[151] while waiting for the Paris Climate Summit in December 2015. Another failure in terms of setting future targets would be unacceptable.[152]

4. Environmental Protection in the EU after the Lisbon Treaty.

Although the involvement of the EU in the implementation of the UNFCCC and the Kyoto Protocol has been examined, the competence of the EU in regulating environmental protection issues was not analyzed so far. At this point, a brief presentation of the framework regarding environmental protection in the

11–13 available at: http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2014.056.01.0011.01.ENG,

[145] EU Emissions Trading System: Failing at the third attempt, Carbon Trade Watch, 2011, available at: http://www.carbontradewatch.org/downloads/publications/ETS_briefing_april2011.pdf.

[146] Fifteenth Session of the Conference of the Parties to the United Nations Framework Convention on Climate Change and Fifth Session of the Meeting of the Parties to the Kyoto Protocol December 7-18, 2009. Copenhagen, Denmark, available at: http://www.c2es.org/international/negotiations/cop-15/summary.

[147] D. Shukman, Paris climate summit: Don't mention Copenhagen, 16 September 2015, available at: http://www.bbc.com/news/science-environment-34274461, J. Vidal, A. Stratton and S. Goldenberg, Low targets, goals dropped: Copenhagen ends in failure, 19 December 2009, available at: https://www.theguardian.com/environment/2009/dec/18/copenhagen-deal.

[148] T. Brookes and T. Nuthall, What did the Copenhagen climate summit achieve?, 21 December 2009, available at: http://news.bbc.co.uk/2/hi/science/nature/8424522.stm, where it is stated that: "It is difficult to foresee the order that may result from the chaos of the Copenhagen climate change conference (COP15), but as the dust settles, traces of a path forward are becoming visible."

[149] A. Voiland, 2009: Second warmest year on record; end of warmest decade, 23 January 2010, available at: http://climate.nasa.gov/news/249/2009-second-warmest-year-on-record-end-of-warmest-decade/.

[150] Proposal for a Directive of the European Parliament and of the Council amending Directive 2003/87/EC to enhance cost - effective emission reductions and low - carbon investments COM (2015) 337 final, Brussels, 15 July 2015, available at: https://ec.europa.eu/transparency/regdoc/rep/1/2015/EN/1-2015-337-EN-F1-1.PDF.

[151] More information on 2030 climate and energy framework available at: https://ec.europa.eu/clima/policies/strategies/2030_en.

[152] L. Skarlett, Carbon Falling, Economies Rising: Expectations for the Paris Climate Summit (Op-Ed), 19 November 2015, available at: http://www.livescience.com/52862-what-to-expect-from-paris-climate-summit.html, The Guardian view on the Paris climate change summit: reasons to be cheerful - Editorial, 4 October 2015, available at: https://www.theguardian.com/commentisfree/2015/oct/04/the-guardian-view-on-the-paris-climate-change-summit-reasons-to-be-cheerful.

EU will allow the further understanding of the choices made and the policies followed. For example, it was stated that the EU, in contrast to the USA[153], was more focused on promoting the adoption of measures at a national level. This can be explained to some extent after taking into consideration the fact that environmental protection is a concurrent and not an exclusive competence of the EU. The term "concurrent competence" defines a situation when Member – States retain their right autonomously to regulate a field only as long as the Union has not exercised its regulatory powers.[154] According to art. 4 paras 1 and 2 TFEU *"The Union shall share competence with the Member States where the Treaties confer on it a competence which does not relate to the areas referred to in art. 3 and 6. Shared competence between the Union and the Member States applies in the following principal areas: […] (e) environment;"*.

The principle of concurrent competence of the EU is applied in accordance with the principle of subsidiarity.[155] This is something that the CJEU has declared under the occasion of formulating its answer to preliminary questions that were raised in terms of environmental issues. One of these occasions was the case 114/01 *AvestaPolarit Chrome*[156], where a national court had asked for a definition of the term "waste" under the light of the Directive 75/442. In order to be able to answer properly the question, the CJEU examined a number of issues including the competence of the EU to regulate environmental issues and its relationship with the relevant national competencies.

Looking back at the history of environmental protection in the EU, the fact that the Treaty of Rome of 1957 did not mention anything about environmental concerns does not mean that the EU was not interested in them. The Single European Act[157] in 1986 was the first document that included provisions regarding environmental protection, but the need to develop a community environmental strategy was clearly

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[153] For further analysis on the differences of environmental approaches in the EU and the USA see: C. J.M. Kimber, A Comparison of Environmental Federalism in the United States and the European Union, Md. L. Rev. 1658 (1995).

[154] R. Schütze, The European Community' s Federal Order of Competences – A retrospective analysis *in* 50 Years of the European Treaties: Looking Back and Thinking Forward – Essays in European Law, Bloomsbury, 2009, para. 52.

[155] N. de Sadeleer, Principle of Subsidiarity and the EU Environmental Policy, JEEPL 9.I (2012), 63 – 70, available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2293315.

[156] C-114/01, AvestaPolarit Chrome, ECLI:EU:C:2003:448.

[157] Single European Act, OJ L 169 of 29.6.1987, available at: http://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=URISERV:xy0027&from=EN.

declared in the Treaty of Maastricht in 1992. All the reforms of the Treaties that ended up in the Lisbon TFEU evolved the concept of environmental protection into one of the core principles of the EU both taken alone and in combination with economic growth and the internal market. It would be an omission not to mention that currently art. 3 para 3 TEU defines the improvement of the quality and the protection of the environment as one of the targets of the EU *("3. 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.).* It is interesting to note that economic growth is presented next to environmental protection in this article, following the global trends towards sustainable development. Besides, this is the context in which everything takes place in the EU. Internal market as defined by the TFEU is the forum in which all the initiatives in the sectors that fall into the scope of competence of the EU take place. After the entry into force of the Lisbon Treaty, art. 191 TFEU (ex art. 174 TEC) identifies the objectives and the principles of the EU environmental policy while being a new legal basis for the measures adopted to combat climate change. Art. 191 TFEU reads as follows:

"1. Union policy on the environment shall contribute to pursuit of the following objectives:

- *preserving, protecting and improving the quality of the environment,*
- *protecting human health,*
- *prudent and rational utilization of natural resources,*
- *promoting measures at international level to deal with regional or worldwide environmental problems, and in particular combating climate change.*

2. Union policy on the environment shall aim at a high level of protection taking into account the diversity of situations in the various regions of the Union. It shall be based on the precautionary principle and on the principles that preventive

action should be taken, that environmental damage should as a priority be rectified at source and that the polluter should pay.

In this context, harmonization measures answering environmental protection requirements shall include, where appropriate, a safeguard clause allowing Member States to take provisional measures, for non-economic environmental reasons, subject to a procedure of inspection by the Union.

3. In preparing its policy on the environment, the Union shall take account of:

- *available scientific and technical data,*
- *environmental conditions in the various regions of the Union,*
- *the potential benefits and costs of action or lack of action,*
- *the economic and social development of the Union as a whole and the balanced development of its regions.*

4. Within their respective spheres of competence, the Union and the Member States shall cooperate with third countries and with the competent international organisations. The arrangements for Union cooperation may be the subject of agreements between the Union and the third parties concerned.

The previous subparagraph shall be without prejudice to Member States' competence to negotiate in international bodies and to conclude international agreements.".

The means and procedures for the achievement of the targets that the art. 191 TFEU sets are described in the next article of the TFEU. Art. 192 TFEU is the legal basis of the broad EU competence in the adoption of measures in the field of environmental protection, since it provides for that within the framework of the ordinary legislative procedure[158] the European Parliament and the Council shall proceed in the adoption of a regulation, directive or decision based on a proposal from the Commission. This provision does not refer only to legislative initiatives but to any other measures that may be deemed necessary for ameliorating the level of environmental protection. The CJEU has accepted, for example, that *"for the purposes of the implementation of environmental policy, any harmonisation of criminal law, […],*

[158] Art. 289 in combination with 294 TFEU.

must be ruled out even where it is necessary in order to ensure the effectiveness of Community law.".[159]

A broad margin of discretion is also acknowledged by the CJEU to the EU legislature in areas which involve political, economic and social choices on its part, and in which it is called upon to undertake complex assessments.[160] As a result, the legality of a measure adopted in those fields can be affected only if the measure is manifestly inappropriate having regard to the objective which the competent institution is seeking to pursue.[161] In any case, the series of objectives, principles and criteria provided for by the Treaties must be respected when implementing environmental policies and when the CJEU tries to strike a fair balance between the objectives set and the complexity of their implementation.[162] If the EU takes environmental measures in the occasion of other policies, the legal basis for them shall be decided after assessing all the factual elements and the relevant objective criteria.[163] Art. 192 should apply when the primary purpose of the measures that are taken is environmental protection. It follows that if a Union measure pursues a twofold purpose or has a twofold component, without any indication that one of them is predominant, then a various of the correspondent legal bases should apply.[164] The main body of the EU environmental law so far consists of a number of Directives regulating waste management, pollution prevention, e.tc. At the time of writing, according to the Directory of EU legislation in force, 720 regulatory acts directly regulating environmental issues are engaged.[165]

Special attention should be paid in the second paragraph of art. 192 TFEU, which declares that by way of derogation from the ordinary legislative procedure the Council acting unanimously in accordance with a special legislative procedure and after consulting the European Parliament, the Economic and Social Committee and the

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[159] C-176/03, Commission of the European Communities v. Council of the European Union, ECLI:EU:C:2005:542, para 52.
[160] C-344/04, IATA and ELFA v. Department for Transport, ECLI:EU:C:2006:10, para 80, and case – law cited there.
[161] Joined Cases C-27/00 and C-122/00 Omega Air and Others, ECLI:EU:C:2002:161, para 64.
[162] C-284/95, Safety Hi-Tech Srl v S. & T. Srl, ECLI:EU:C:1998:352, para 37.
[163] C-178/03, Commission of the European Communities v. Council of the European Union, ECLI:EU:C:2006:4, paras 41 seq..
[164] *Supra* n. 197, para 43.
[165] Directory of EU legislation in force, Environment, available at: http://eur-lex.europa.eu/browse/directories/legislation.html, latest access: 24 December 2016.

Committee of the Regions, shall adopt provisions primarily of a fiscal nature, measures affecting town and country planning, quantitative management of water resources or affecting, directly or indirectly, the availability of those resources, land use, with the exception of waste management, and, last but not least measures significantly affecting a Member State's choice between different energy sources and the general structure of its energy supply. All the measures included in this paragraph should serve the purposes of art. 191 TFEU.

Environmental protection is enhanced by the inclusion of a provision (art. 37) in the CFR that sets a principle rather than a right to the environment.[166] According to this article, *"a high level of environmental protection and the improvement of the quality of the environment must be integrated into the policies of the Union and ensured in accordance with the principle of sustainable development."*. All of the three primary EU law documents link environmental protection with sustainable development

Apart from the specific penalties that the aforementioned regulatory acts provide for, the traditional compliance mechanisms of the EU are followed. More specifically, the Commission promoting the general interest of the Union as the Guardian of the Treaties[167] exercises its specific powers deriving from art. 258 and 260 TFEU. In this respect contribute both the national courts when formulating preliminary questions to the CJEU and the latter when interpreting EU legislation for replying these questions.

5. The structure of the EU Emissions Trading Scheme.[168]

The EU ETS was set up in 2005 and is the world's first and biggest international emissions trading system[169] working under the cap and trade principle. "Cap" sets a limit to the emissions covering the main sources of pollution with the

[166] EU Network of Independent Experts of Fundamental Rights, Commentary of the Charter of Fundamental Rights, 2006, p. 315, available at: http://ec.europa.eu/justice/fundamental-rights/files/networkcommentaryfinal_en.pdf.
[167] Art. 17 TFEU.
[168] For reasons of accuracy and clarity and due to the technical nature of the information provided, the original wording and phrasing of the EU ETS Directive are maintained in this sub- chapter.
[169] Price on Carbon – Putting the Market to Work, Cap and Trade – European Union ETS, available at: https://priceoncarbon.org/pricing-mechanisms/cap-trade/, latest access: 24 December 2016.

aim to reduce the pollutants over the time.[170] Within the cap, companies receive or buy emission allowances which they can trade with one another as needed. They can also buy limited amounts of international credits from emission-saving projects around the world. The second constitutional element of this principle, namely the world "trade" reveals something that has already been discussed in the previous sub- chapters. A market of allowances in which all the relevant rules and procedures are in force permits the reduction of emissions and promotes innovation steps[171] that the parties can take. Cap and trade is considered to have a number of benefits due to its flexibility. In other words, there is certainty about the maximum quantity of GHG emissions for the period of time over which system caps are set, a source of revenue for the governments coming from auctioning procedure, cost – effectiveness and minimization of the risks for the budgets of the Member – States.[172] Following the definition of the EU ETS Directive, "*'allowance' means an allowance to emit one tonne 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;"*[173]

The whole structure of the EU ETS is directly linked with the concept of time. The operation of the EU ETS was divided in three main periods. The cap for the first period started in mid-2005 until 2007[174] and the 2008-12 cap was not finalized until late 2007, just before the second trading period began.[175] This second phase was concurrent with the first commitment period of the Kyoto Protocol[176]. The third and the last period as it was known in the Directive 2003/87/EC began in 2013 and was meant to last for about

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[170] Environmental Defence Fund, How cap and trade works - Learn how this key mechanism works to reduce emissions, available at: https://www.edf.org/climate/how-cap-and-trade-works, latest access: 24 December 2016.
[171] R. Calel and A. Dechezlepretre, Environmental Policy and Directed Technological Change: Evidence from the European carbon market, latest version: 2014, pp. 2 -4, available at: http://personal.lse.ac.uk/dechezle/Calel_Dechezlepretre_2014.pdf.
[172] EU Commission, EU ETS Handbook, p. 5, available at: http://ec.europa.eu/clima/sites/clima/files/docs/ets_handbook_en.pdf, latest access: 24 December 2016.
[173] Art. 3(a) of the EU ETS Directive.
[174] See Annex, Picture/Table (4), Key features of the EU ETS across trading phases.
[175] A.-D. Ellerman and P. L. Joscow, The European Union' s Emissions Trading Scheme in perspective, Pew Centre on Global Climate Change, 2008, p. 3, available at: http://www.c2es.org/docUploads/EU-ETS-In-Perspective-Report.pdf.
[176] EU Commission - Climate Action, Kyoto 1st commitment period (2008–12), available at: https://ec.europa.eu/clima/policies/strategies/progress/kyoto_1_en, latest access: 24 December 2016.

seven years (until 2020).[177] The allocation of allowances was differentiated in these three periods. In the first learning by doing phase, the allowances were allocated for free, something that was significantly weakened in the second period. From 2008 – 2012, the number of free allowances was reduced. The third and the last period, which significantly differs from the previous two periods, is dominated by auctioning. As the free allocation decreases each year[178], the allowances that will be allocated for free are very limited and only for specific purposes.[179]

The EU ETS Directive provides for a decentralized[180] system for the allocation of allowances, carried out primarily by the competent national authorities. Art. 18 of the EU ETS Directive provides for that the Member – States shall proceed to all the administrative arrangements. From 1 January 2005 and on, Member – States shall ensure that the installations that undertake the activities that are included in Annex I must hold a permit that is issued by the competent national authorities, if the aforementioned activities result in GHG emissions. The application lodged for holding the permit shall include a description of the installation, its activities and the technology used, the raw and auxiliary materials, the sources of emissions of gases from the installation and the measures that are planned to monitor and report emissions. A short non – technical summary should also be attached to the application. The permit that the installation may be granted will allow the emission of gases from all or from the part of the installation. The capacity of the operator to monitor or report the emissions is a pre – condition for the permit.

Member – States are responsible for communicating to the Commission the national allocation plans (NAPs) for each year. This is an obligation that Member – States still bear, and probably will continue to bear even after the entry into force of the revised EU ETS. For the first phase (2005 – 2007) this communication to the Commission and to the other Member – States should have been completed by the 31 March the latest, whereas for second (2008 – 2012) and the third (2013 – 2020) phase it shall be

[177] *Supra* n. 209.
[178] EU Commission – Climate Action, Free Allocation, available at: https://ec.europa.eu/clima/policies/ets/allowances_en#tab-0-0, latest access: 21 December 2016.
[179] For the allocation of free allowances for the first two phases of the EU ETS, see art. 10 of the EU ETS Directive.
[180] M. Wråke *et al.*, What Have We Learnt from the European Union's Emissions Trading System?, 2012, available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3357882/.

published and notified at least 18 months before the beginning of the relevant period. The Commission shall answer within three months on whether the NAP will be accepted or rejected. The reports submitted by the Member – States are verified in accordance with the criteria set out in Annex V and the competent authority is informed thereof.

From 1 January 2005 – 31 December 2007, the total quantity of allowances that will be allocated and the amount allocated to each installation will be decided by the Member – States according to the NAP that they have submitted three months before the beginning of this period. From 1 January 2008 – 31 December 2012, Member – States are under the responsibility to allocate the total amount of allowances that they are going to decide 12 months before the beginning of this period (art. 11). A proportion of the total number of allowances will be issued by the competent authorities by 28 February of the years referred to in the first two paragraphs of art. 11 of the EU ETS Directive. It is mandatory that the allowances allocated on an annual basis should be reconized for serving the obligations of the operator under the EU ETS. They are valid for emissions during the periods for which they are issued. Each year the Member - States shall submit to the Commission a report on the application of this Directive with particular attention to the arrangements for the allocation of allowances, the operation of registries, the application of the monitoring and reporting guidelines, verification and other issues relating to compliance with the Directive and on the fiscal treatment of allowances, if any.

Member – States' critical role under the scheme is proven by two additional major responsibilities. First, they have to ensure that the allowances can be transferred between persons in the EU or persons in third countries where such allowances are recognized in accordance with the procedure referred to in art. 25 without restrictions other than those contained in, or adopted pursuant to the EU ETS Directive (art. 12 para 1). Second, Member - States shall ensure that, *by 30 April each year at the latest, the operator of each installation surrenders a number of allowances equal to the total emissions from that installation during the preceding calendar year as verified in accordance with art. 15* (art. 12 para 3). The accurate accounting of the issue, holding, transfer and cancellation of allowances is ensured through the establishment of a registry which shall be available to the public with the aim of enhancing transparency.

The successful implementation of the scheme requires discipline and compliance on behalf of the operators, the competent authorities and the Member – States. Operators' major obligation under the scheme is surrendering the allowances they received as by the 30th of October of each year. Any type of behavior that derogates from this obligation falls into the scope of application of art. 16, which is going to be t in the center of examination in the second part of the present thesis dedicated to the compatibility of the EU ETS Directive with fundamental rights. In general, according to para 1 of art. 16, the penalties that the Member – States lay down in order to ensure the implementation of the Directive, shall be effective, proportionate and dissuasive. However, the Directive itself provides for that any operator who has not surrendered a sufficient number of allowances by 30 April of each year to cover its emissions for the preceding year shall be held liable for the payment of an excess emissions penalty, without being released at the same time from the obligation to surrender this number of allowances. During the first three years of implementation, the penalty imposed shall be 40 euros for each tone of carbon dioxide equivalent emitted by that installation for which the operator has not surrendered the allowances. From 2008 the penalty is higher reaching the amount of 100 euros per each tone emitted. In some cases, the penalty is not a financial burden but the publication of the names of the operators who haven' t surrendered the allowances. *Force majeure* can be invoked only under specific circumstances provided for by the Directive (art. 29).

6. Changes of the EU Emissions Trading Scheme after the signing of Paris Agreement on climate change.

During the course of the EU ETS implementation according to the rules that were described above, new developments at an international level highlighted the need for more intensive environmental commitments and policies aiming at reducing GHG emissions. In 2009, the year when the Copenhagen Summit took place, the EU launched the climate and energy package consisting of: Directive 2009/29/EC[181] on the ETS post-2012, Decision 406/2009/EC[182] on the effort

[181] *Supra* n. 27.
[182] Decision No 406/2009/EC of the European Parliament and of the Council of 23 April 2009 on the effort of Member States to reduce their greenhouse gas emissions to meet the Community's

of Member States to reduce their GHG emissions in non-ETS sectors, Directive 2009/28/EC[183] promoting the use of energy from renewable energy sources and Directive 2009/31/EC[184] organizing a legal framework on carbon capture and storage. The failure of the Copenhagen Conference was apparent and the sense that was dominant after its end was pure disappointment. But even under these condition, the Copenhagen Accord[185] kept in the frontline four critical issues: first, the need to reduce global emissions so as to hold the increase in global temperature below 2 degrees Celsius; second, the continuation of the dual track climate negotiations under the UNFCCC; third, the establishment of an international system for monitoring, reporting and verification; and fourth, the increase in the future funding. It is also true that despite the initial refusal of the USA to participate in the Kyoto Protocol under the Bush administration, President Obama re- engaged in climate diplomacy even without domestic support for signing an international agreement[186].

Another step closer to a new great agreement was taken in 2010. Everyone tried to leave Copenhagen in the past and this was confirmed in Cancun in 2010.[187] This set of decisions explicitly included a timely schedule for UNFCCC signatories to review the progress they make towards their expressed objective of keeping the average global temperature rise below 2 °C , something that could be reached only if collective effort was made. Transparency, development and transfer of technology and increase of

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greenhouse gas emission reduction commitments up to 2020, OJ L 140, 5.6.2009, p. 136–148, available at: http://eur-lex.europa.eu/eli/dec/2009/406/oj.

[183] Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC, OJ L 140, 5.6.2009, p. 16–62, available at: http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=celex%3A32009L0028.

[184] Directive 2009/31/EC of the European Parliament and of the Council of 23 April 2009 on the geological storage of carbon dioxide and amending Council Directive 85/337/EEC, European Parliament and Council Directives 2000/60/EC, 2001/80/EC, 2004/35/EC, 2006/12/EC, 2008/1/EC and Regulation (EC) No 1013/2006, OJ L 140, 5.6.2009, p. 114–135, available at: http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32009L0031.

[185] Copenhagen Accord, FCCC/CP/2009/11/Add.1, available at: http://unfccc.int/documentation/documents/advanced_search/items/6911.php?priref=600005735#beg.

[186] R. Falkner *et al.*, International climate policy after Copenhagen: towards a 'building blocks' approach, Centre for Climate Change Economics and Policy Working Paper No. 25/ Grantham Research Institute on Climate Change and the Environment Working Paper No. 21, 2010, p. 13 available: http://www.lse.ac.uk/GranthamInstitute/wp-content/uploads/2014/02/WP21_climate-policy-copenhagen.pdf. For more recent developments under the Paris Agreement: Obama Administration Announces New Financing and Innovation Actions for Renewable Energy, 12 December 2016, available at: http://www.lexology.com/library/detail.aspx?g=d00d2e42-7464-4cb9-be23-121dcae757c3.

[187] UNFCCC, Cancun Climate Change Conference - November 2010, available at: http://unfccc.int/meetings/cancun_nov_2010/meeting/6266.php, latest access: 27 December 2016.

funding were among the main targets for the following years. The road to Paris was open.

Back to Europe, as the third implementation period of the EU ETS had just started, a study was released verifying that "*unilateral EU action on combating climate change has not necessarily affected the competitiveness of European industry vis-à-vis countries with less stringent climate policies".*[188] The EU ETS was already the subject of numerous studies that attempted to assess its effectiveness.[189] Later in 2014, the European Council Conclusions[190] introduced new ambitious targets that were incorporated after one year in a Commission proposal of a Directive amending the Directive 2003/87/EC. Besides, the EU had to submit at the latest of the first quarter of 2015[191], as agreed in Warsaw[192] its contribution[193] and suggestions for the new international climate agreement. On 6 March, Latvia, holding the Presidency of the EU Council, and the European Commission on behalf of the EU and its Member – States communicated the EU' S Intended Nationally Determined Contribution to the new climate change agreement. It became more specific on 17 July, when the EU Commission launched the proposal for the EU ETS reform.[194] The spirit of this Directive Proposal is summarized in the recital 20 in which it is stated that: *"This Directive seeks to contribute to the objective of a high level of environmental protection in accordance with the principle of sustainable development in the most economically efficient manner while providing installations adequate time to adapt and providing for*

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[188] Carbon Leakage and Competitiveness Assessment, Ecorys, 2014, more information available at: http://www.ecorys.com/news/ecorys-study-eu-ets-has-not-driven-industry-out-europe.

[189] T. Laing *et al*., Assessing the effectiveness of the EU Emissions Trading System, Centre for Climate Change Economics and Policy Working Paper No. 126/ Grantham Research Institute on Climate Change and the Environment Working Paper No. 106, 2013, p. 4 available at: http://www.lse.ac.uk/GranthamInstitute/wp-content/uploads/2014/02/WP106-effectiveness-eu-emissions-trading-system.pdf.

[190] Council Conclusions, EUCO 169/14, Brussels, 24 October 2014, available at: http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/ec/145397.pdf.

[191] European Commission, EU welcomes progress on international climate action at Warsaw conference, 23 November 2013, available at: http://europa.eu/rapid/press-release_MEMO-13-1044_en.htm.

[192] Warsaw Climate Change Conference - November 2013, available at: http://unfccc.int/meetings/warsaw_nov_2013/meeting/7649.php, latest access: 25 December 2016.

[193] UN Climate Change Secretariat, Press Release - UN Climate Change Conference in Warsaw keeps governments on a track towards 2015 climate agreement, 23 November 2013, available at: http://unfccc.int/files/press/news_room/press_releases_and_advisories/application/pdf/131123_pr_closing_cop19.pdf.

[194] European Parliament, Post - 2020 reform of the EU Emissions Trading System, available at: http://www.europarl.europa.eu/RegData/etudes/BRIE/2016/583851/EPRS_BRI(2016)583851_EN.pdf.

more favorable treatment of specially affected persons in a proportionate manner to the maximum extent compatible with the other objectives of this Directive.".

Although the proposal is based on the same principles and mechanisms as the ones that entered into force in 2003, there are significant changes. The commitment to combat climate change by cutting emissions in a market environment is still prominent. This time the EU is planning to reduce the emissions 40% below the 1990 levels and maintain at the same time the international competitiveness of the EU. Sustainable development is the key element of the EU ETS, promoting not only the idea of a healthy environment but also the opportunity for growth and jobs. Competition rules and fundamental rights are respected. The proposal seeks to intervene in coordination issues among Member – States by strengthening their reporting obligations. The principle of subsidiarity dictates that as climate change is a transboundary problem, only measures taken at an EU level can serve more effectively the purpose of the Directive. The new ambitious[195] policies should be in consistency with the existing policies both at national and EU level. It is very important for Member – States to implement the EU ETS applying a consistent substantive and procedural legal framework (enforcement measures and penalties). Synergies among stakeholders[196] and the Market Stability Reserve mechanism[197] can assist in this direction.

Limited changes are provided to the rules that are in force. What changes, though, is a more targeted approach to the allocation of allowances. The auctioning remains the general rule, with free allocation being the exception mainly to installations in sectors and sub-sectors at genuine risk of carbon leakage. The latter is addressed by predictable, robust and fair rules. Apart from transparency, auctioning produces revenues that can be used for climate financing actions in vulnerable third countries, including adaptation

[195] Communication from the Commission to the European Parliament and the Council, The Road from Paris: assessing the implications of the Paris Agreement and accompanying the proposal for a Council decision on the signing, on behalf of the European Union, of the Paris agreement adopted under the United Nations Framework Convention on Climate Change, COM(2016) 110 final, Brussels, 2 March, 2016, available at: https://ec.europa.eu/transparency/regdoc/rep/1/2016/EN/1-2016-110-EN-F1-1.PDF.
[196] However, stakeholders were in strong disagreement regarding the reform of the EU ETS. See: B. Moore, EU Stakeholders Divided over Reforming the EU Emissions Trading System, 2014, available at: http://environmentaleurope.ideasoneurope.eu/2014/06/26/eu-stakeholders-divided-over-reforming-the-eu-emissions-trading-system/.
[197]

to the impacts of climate. The public sector of climate finance seems to rise, as well as technology transfer and capacity building.

The Proposal for the new EU ETS Directive is in line with the principles of subsidiarity and proportionality. More specifically regarding proportionality, a fair balance is achieved among all the interests that seem to be in conflict. An impact assessment confirms that the measures and the amendments of the proposal do not go beyond what is necessary in order to achieve the objectives of implementing the EU's greenhouse gas emission reduction target for 2030 in a cost-effective manner while at the same time ensuring the proper functioning of the internal market.

The following four provisions of the proposal contain the most significant changes that the Commission had introduced.

- Auction share (Art. 10): A relevant share as a percentage figure, taking into account the different elements determining this share in 2013 to 2020 is set. To the benefit of certain lower-income Member States for the purposes of solidarity, growth and interconnections 10% of the EU ETS allowances to be auctioned by the Member States will continue to be distributed.
- Free allocation and carbon leakage provisions (Art. 10a and 10b): Update of the benchmarks for the determination of the free allocation to industry in order to reflect the technological progress realised over time in the relevant sectors. Sectors deemed to be exposed to a risk of carbon leakage will continue to receive a higher allocation than others who have a higher ability to pass on relevant costs in product prices. Free allocations will be periodically updated, while incentives to innovate are fully maintained and the administrative burden and costs for Member States, operators and the Commission remain reasonable.
- Installations with low emissions (small emitters) (Art. 27 and 11(1)): The higher administrative cost under the EU ETS for installations with low emissions led the European Commission to propose their exclusion from the system. In order to remain excluded from the scheme they have to make an equivalent contribution to emission reductions. Member States may also exclude further installations as of 2021.

- Innovation support (Art. 10a (8)): 400 million allowances are dedicated for promoting innovation. An extra 50 million allowances is added to this amount from the allowances that remain unused in 2013 to 2020 and would otherwise be placed in the Market Stability Reserve in 2020.
- In order to ease administrative costs, the proposal foresees that allowances issued for one trading period remain valid for later periods.

The EU has also suggested the inclusion of the marine sector[198] in the EU ETS as emissions from international shipping activities are growing. In general, including transport in the EU ETS is a very challenging mission that has faced many barriers so far.[199] However, on Thursday 15th December 2016 the European Parliament's Environment Committee in its report on the revision of the scheme decided to include shipping in the EU ETS reform, triggering the opposition of Danish Shipowners' Association[200].[201] A few days earlier, a study[202] presented the demand for liquid fossil fuels in the EU transport sector over the years 2010 to 2030. Its findings were indicative for the need to include shipping activities in the EU ETS.

The whole discussion on the expansion of the EU ETS to other sectors is directly linked to the achievement of the new targets that the EU promised to reach under the Paris Agreement.[203] On 5 October 2016, the threshold for entry into force of the Paris

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[198] European Commission, Reducing emissions from the shipping sector, available at: https://ec.europa.eu/clima/policies/transport/shipping_en, latest access: 26 December 2016.

[199] Sectoral expansion of the EU ETS - A Nordic perspective on barriers and solutions to include new sectors in the EU ETS with special focus on road transport, Norden, 2015, pp. 49 – 68, available at: http://www.norden.org/sv/nordiska-ministerraadet/ministerraad/nordiska-ministerraadet-foer-miljoe-mr-m/institutioner-samarbetsorgan-och-arbetsgrupper/arbetsgrupper/miljoe-och-ekonomigruppen-meg/projekt-1/emissions-trading-and-energy-taxes-what-are-the-possibilities-and-barriers-for-expanding-the-sectoral-coverage-of-the-eu-ets-in-the-nordic-countries/project-report-temanord-2015-574.

[200] Split European Parliament puts shipping in jeopardy, Danish Shipowners' Association, 15 December 2016, available at: https://www.shipowners.dk/en/presse/nyheder/split-european-parliament-puts-shipping-in-jeopardy/.

[201] Industry stakeholders react on the EU ETS decision, Green4Sea, 16 December 2016, available at: http://www.green4sea.com/industry-stakeholders-react-on-the-eu-ets-decision/.

[202] R. Vergeer, The share of aviation and maritime transport in the EU's transport related fossil fuel demand, Delft, CE Delft, 2016, available at: https://www.transportenvironment.org/sites/te/files/publications/2016_11_CE_Delft_7G93_Share_of_aviation_and_maritime_transport_DEF.pdf.

[203] Shipping must be covered by ETS or climate fund – MEPs, Transport and Environment, 30 January 2016, available at: https://www.transportenvironment.org/news/shipping-must-be-covered-ets-or-climate-fund-%E2%80%93-meps.

Agreement was achieved.[204] EU Ministers at a meeting[205] of the Environment Council in Brussels approved the EU ratification of the Agreement. The main target is to *"hold the increase in the global average temperature to well below 2°C above pre-industrial levels and pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change."*. The Agreement builds upon the same principles and necessities as the UNFCCC, but in a more intensified way. The concept of sustainable development is dominant: finance flows consistent with a pathway towards low greenhouse gas emissions and climate - resilient development, progress over time and rapid reductions according to the best available science, support to the developing countries, safeguarding of food security and eradication of poverty. The system that the Agreement establishes provides support to the developing countries while stressing the need for *nationally determined contributions reflecting the highest possible ambition*, according to the its wording.

Parties' cooperation is a *conditio sine qua non* for the proper implementation of the Agreement. Signatories have to promote environmental integrity, transparency, accuracy, completeness, clear and understandable information, technology development and innovation. Non – market tools such as mitigation, adaptation (art. 7), finance, technology transfer and capacity- building play a central role. Mechanisms that were already established during the previous years such as the Warsaw International Mechanism for Loss and Damage associated with Climate Change Impacts will be useful in averting, minimizing and addressing loss and damage associated with the adverse effects of climate change. To all these ends, an expert – based committee operates as a mechanism which facilitates the implementation of the Agreement and promotes compliance.

Even after all these changes, the rationale behind the EU ETS remains the same. This is also exactly the case for the problems arising from the implementation of the

[204] UNFCCC, The Paris Agreement, available at: http://unfccc.int/paris_agreement/items/9485.php, latest access: 26 December 2016.
[205] European Commission, Ministers approve EU ratification of Paris Agreement, 30 September 2016, available at: http://ec.europa.eu/clima/news/articles/news_2016093001_en.

scheme. The two following chapters are going to present two interrelated issues: competition rules and fundamental rights protection under the EU ETS.

III. PART 1 – The compatibility of the EU Emissions Trading Scheme with the EU Competition Law rules.

1. How the EU ETS affects the concept of Internal Market.

Recital 5 to the preamble of the EU ETS Directive clarifies that: *"The Community and its Member States have agreed to fulfil their commitments to reduce anthropogenic green- house gas emissions under the Kyoto Protocol jointly, in accordance with Decision 2002/358/EC. This Directive aims to contribute to fulfilling the commitments of the European Community and its Member States more effectively, through an efficient European market in green- house gas emission allowances, with the least possible diminution of economic development and employment."*. The establishment of a market requires the application of the appropriate rules as stated in recital 7 according to which *"Community provisions relating to allocation of allowances by the Member States are necessary to contribute to preserving the integrity of the internal market and to avoid distortions of competition."*.

The prevention of competition distortions is one of the most important elements for the proper functioning of the internal market. Both art. 3 para 3 TEU and Protocol 27 on the Internal Market and Comeptition define as a system in which competition is not distorted. There is no definition of the internal market apart from the one that the aforementioned provisions introduce as an exclusive competence of the EU.[206] A more detailed definition attempted by literature describes internal market as the coalescence of the markets from the individual Member – States to a uniform economic area through the movement of goods, people, services and capital where equality of opportunity is the rule for the actors involved.[207] Case – law that has been developed so far emphasizes on the traditional, included in the Treaties, definition of internal market. It seems that internal market is presented as an institution and the undistorted competition as a means

[206] A. Jones and B. Sufrin, EU Competition Law: Text, Cases, and Materials, 6th Edition, Oxford University Press, 2016, p. 33.
[207] Art. 26 (2) TFEU and W. Frenz, Handbook of EU Competition Law, Springer, 2016, p. 3.

and at the same time as an indication for the unhindered functioning of this market. In *TeliaSonera Sverige*[208], the CJEU, in the framework of the preliminary ruling procedure, focused on the interpretation of art. 102 TFEU with regard to the criteria on the basis of which a pricing practice causing margin squeeze should be held to constitute an abuse of a dominant position. The importance of undistorted competition was the basis of the Court' s analysis.[209]

Competition rules in the internal market contribute in uniformity between Member – States with different legal backgrounds. The freedom of competition has to be seen as a public interest in the process of European integration and not only as a *per se* target. Although consumer' s protection or other interests may seem to prevail sometimes, the purpose of competition rules is to protect competition as such and remove all the barriers that jeopardize the integrity of the internal market. The judgment of the CJEU in *Consten S.à.R.L. and Grundig*[210] constitutes a landmark in identifying the internal market as a reference point for applying EU competition rules. If the competition is not distorted, it is automatically more effective and it is easier to promote consumers' welfare and a fair allocation of resources.

Internal market and competition rules are affected by new developments and are not purely economic in nature. Sustainable development is in favour of a balanced economic growth in a highly competitive market combining social and economic factors. In other words, sustainable development in the internal market is translated as a conjunction of ecological growth and economic development. The progress that is made from 2003 with the Directive 2003/87/EC to 2015 with the Commission Proposal for amending the EU ETS Directive is remarkable. The reference to the market in 2003 turned into shaping a new ETS at a Union level according to the requirements of sustainable development in 2015. Besides, internal market is an evolving concept.[211]

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[208] C-52/09, TeliaSonera Sverige AB, ECLI:EU:C:2011:83, para 20, available at: http://curia.europa.eu/juris/document/document.jsf?text=&docid=81796&pageIndex=0&doclang=EN&mode=lst&dir=&occ=first&part=1&cid=412605.

[209] A. Ezrachi, EU Competition Law: An Analytical Guide to the Leading Cases, Hart Publishing, 4th Edition, p. 204.

[210] Joined cases 56 and 58-64, Établissements Consten S.à.R.L. and Grundig-Verkaufs-GmbH v Commission of the European Economic Community, ECLI:EU:C:1966:41.

[211] European Commission, The European Union Explained – Internal Market, 2014, pp. 3 -4, available at: http://europa.eu/pol/index_en.htm.

The internal market which will be free of distortions of any kind provides equality of opportunity to the operating actors. Reasonably enough, it is very difficult, almost impossible, to guarantee exactly the same conditions for all the economic actors. What is intended in the course of internal market, is to create an environment in which all the operating entities will be at a comparable level, meaning that their development should. At this point, it would be an omission not to mention that the absolute equity is not inherent in competition. Following the CJEU, *competition on the merits may, by definition, lead to the departure from the market or the marginalisation of competitors that are less efficient and so less attractive to consumers from the point of view of, among other things, price, choice, quality or innovation.*[212]

At the same time, it is quite easy to crystalize the wrong impression of primacy of the internal market and competition rules among all the other principles and freedoms enshrined in the Treaties. For example, despite the fact that competition may be referred to in different chapters of the Treaties that regulate different purposes, this does not mean that competition is the dominant objective of the EU. This is something that happens with other concepts as well, one of them being the environment. Nothing can be considered as absolutely independent in the Treaties, the EU aims at harmonization and convergence to the greatest extend possible.

Enforcement and compliance are constitutional elements of this system. The European Commission has developed a number of mechanisms and methods to ensure that the integrity of the internal market and the objectives of competition are well maintained (public consultation, legal actions over infringements, internal market scoreboard e.tc.

All these principles should be adapted accordingly in order to serve the EU ETS. Operators under the scheme should be at an equal starting point during their participation. The differences and their development stage should not restrict their freedom to be competitive. All the relevant competition rules that apply, have a twofold mission: first, to preserve the market that the EU ETS establishes while maintaining the integrity of the scheme; and second, to support the functioning of the internal market

[212] C-209/10, Post Danmark A/S, ECLI:EU:C:2012:172, para 22.

by avoiding any potential distortions. The questions that are raised seek to whether and which competition rules are infringed by the EU ETS.

2. The allocation of allowances as the starting point for the participation in the EU ETS.

As it was stated in the introductory chapter, the EU ETS establishes a market with a new commodity, namely carbon. This is why it is widely known as a carbon market where the prices are set according to the principles of offer and demand. If an installation emits GHG, then it falls under the scope of application of the scheme. In order to be able to continue to emit, the installation must have a permit. At a second stage, following the estimation reports submitted, a specific number of allowances should be allocated to the installations. During the first and the second phases of the EU ETS, the 95 and 90% of the allowances respectively would be allocated for free by the governments. The amendment of art. 10 in 2009 made auctioning rather than free allocation the rule for acquiring allowances from 2013 onwards. An *a contario* interpretation of art. 10 reveals that auctioning was also possible under the first two phases of the EU ETS for the remaining 5 or 10% that was not allocated by the governments.

There was much discussion about the legal nature of the allowances given the absence of harmonization and a definition by the EU institutions.[213] Their fiscal treatment across Europe is also unclear. The market that has emerged the last decade has developed its own dynamics and is quantity based[214] (predetermined quantity of emissions allowances). Reports[215] on the progress of the carbon market state that 23

[213] Carbon Market Glossary, Legal nature of emission allowances, available at: http://www.emissions-euets.com/carbon-market-glossary/968-legal-nature-of-emission-allowances, latest access: 28 December 2016.

[214] O. Sartor, Climate Brief N°12 – The EU ETS carbon price: To intervene, or not to intervene?, p. 1, available at: http://www.cdcclimat.com/IMG/pdf/12-02_climate_brief_12_-_the_eu_ets_carbon_price_-_to_intervene_or_not_to_intervene.pdf.

[215] Report from the Commission to the European Parliament and the Council: Climate action progress report, including the report on the functioning of the European carbon market and the report on the review of Directive 2009/31/EC on the geological storage of carbon dioxide (required under Article 21 of Regulation (EU) No 525/2013 of the European Parliament and of the Council of 21 May 2013 on a mechanism for monitoring and reporting greenhouse gas emissions and for reporting other information at national and Union level relevant to climate change and repealing Decision No 280/2004/EC, under Article 10(5) and Article 21(2) of the Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 establishing a scheme for greenhouse gas emissions allowance trading within

Member - States *described variably the legal nature of an emission allowance within their legal system as financial instruments*[216]*, intangible assets, property rights and commodities*[217]. Other Member States treat allowances as financial instruments, defining them as property rights, or consider them as state property. This is the reason why Denmark asked for a legislation revision.[218]

The definition of the legal nature of emissions allowances is necessary in order to determine their fiscal treatment, the nature of the benefit granted to the installation in a potential state – aid case and the link between the carbon prices and the allowances in a specific period of time. Neither the market or the governements use the source of allowances as a criterion for distinguishing them.[219] In any case, the fact that they can be sold or transferred *makes them assets in their own right*.[220]

This was a simplified, but necessary description for the EU ETS for explaining that the issues regarding competition are mainly provoked by the allocation of allowances. The first major concern was relevant to the granting of state aid due to the free allocation of allowances.[221] The most usual ways of granting this type of state aid are: over –

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the Community and amending Council Directive 96/61/EC and under Article 38 of Directive 2009/31/EC of the European Parliament and of the Council on the geological storage of carbon dioxide), COM/2015/0576 final, Brussels, 18.11.2015, available at: http://eur-lex.europa.eu/legal-content/en/TXT/?uri=CELEX%3A52015DC0576.

[216] Commission Staff Working Document Impact Assessment Accompanying the document Commission Delegated Regulation supplementing Regulation (EU) No 600/2014 of the European Parliament and of the Council with regard to definitions, transparency, portfolio compression and supervisory measures on product intervention and positions {C(2016) 2860 final} {SWD(2016) 156 final}, 18.5.2016, SWD(2016) 157 final, p. 61, available at: http://ec.europa.eu/finance/securities/docs/isd/mifid/160518-impact-assessment_en.pdf.

[217] Art. 2 para 1 of the Commission Regulation (EC) No 1287/2006 of 10 August 2006 implementing Directive 2004/39/EC of the European Parliament and of the Council as regards record-keeping obligations for investment firms, transaction reporting, market transparency, admission of financial instruments to trading, and defined terms for the purposes of that Directive, OJ L 322M, 2.12.2008, p. 253–277, available at: http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:32006R1287&qid=1435404298025. See also: Internal Electricity Market Glossary, Commodity (MiFID definitions), available at: http://www.emissions-euets.com/internal-electricity-market-glossary/699-commodity-mifid-definitions, latest access: 28 December 2016 and Consultation Paper ESMA's guidelines on information expected or required to be disclosed on commodity derivatives markets or related spot markets under MAR, 30 March 2016, ESMA/2016/444, p. 13, available at: https://www.esma.europa.eu/sites/default/files/library/2016-444_cp_on_mar_gl_on_information_on_commodities.pdf.

[218] *Supra* n. 275.

[219] A. Cook, Emissions Rights: From costless activity to market operation, Accounting Organizations and Society 34, (2009), p. 460.

[220] *Supra* n. 277, p. 461.

[221] M. Stoczkiewicz, Free allocation of EU ETS emission allowances to installations for electricity production from state aid law perspective, Environmental Economics 3, issue 3, 2012, p. 99.

allocation to individual installations (exceeding the total number of allowances that the installation actually needs) or/and allocating for free more than it is allowed. The next sub – chapters present state – aid theory developed by the CJEU and its application reflected on the position that the European Commission has adopted when assessing NAPs submitted by the UK, the Netherlands and Denmark.

3. State – Aid requirements and environmental protection (art. 107 para 1 TFEU and relevant case - law).

Back in 2008 the European Commission released its Guidelines on State Aid for environmental protection[222] after the ambitious attempt in 2005 to reform State Aid rules[223] with focus on more targeted and effective aid. The Commission Guidelines included observations on the tradable emission permits.[224] The basic points of the considerations in the Guidelines are summarized as follows:

- State Aid may be involved in tradable permit schemes in various ways (Member States grant permits and allowances below their market value and this is imputable to Member States),
- If the allowances granted to an individual undertaking do not cover the totality of its expected needs, the undertaking must either reduce its pollution, or buy supplementary allowances on the market, thus paying a compensation for its pollution,
- No over-allocation of allowances can be justified and provision must be made to avoid undue barriers to entry in order to prevent competition distortions.
- The measures taken have to be proportionate and necessary. In the cases of aid in tradable emission permits, conditions and criteria for granting exceptions and reductions ensure proportionality provided that the beneficiary does not receive

[222] Community guidelines on State aid for environmental protection, OJ C 82, 1.4.2008, p. 1–33, available at: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2008:082:0001:0033:en:PDF.
[223] State Aid Action Plan Less and better targeted state aid: A roadmap for state aid reform 2005–2009 COM(2005) 107 final, Brussels, 7.6.2005, available at: http://ec.europa.eu/competition/state_aid/reform/saap_en.pdf and J. J. Piernas López, The Concept of State Aid Under EU Law: From internal market to competition and beyond, Oxford University Press, 2015, p. 61.
[224] *Supra* n. 282, State Aid Action Plan, p. 11.

excessive advantages, and that the selectivity of the measure is limited to the strict minimum.

Before examining state aid under the EU ETS it is necessary to present an overview of the rule that art. 107 TFEU (ex art. 87 para 1 TEC) sets. This article reads as follows:

1. *Save as otherwise provided in the Treaties, any aid granted by a Member State or through State resources in any form whatsoever which distorts or threatens to distort competition by favoring certain undertakings or the production of certain goods shall, in so far as it affects trade between Member States, be incompatible with the internal market.*

Art. 107 para 1 TFEU introduces a negative presumption[225] according to which state aid measures are prohibited regardless of their form.[226] State aid rules also apply, for example, in tax matters.[227] Some forms of state aid are more easily identifiable, while others are not and the most usual case is granting tax or social security benefits. In order to protect internal market from potential distortions and given the lack of a definition of state aid, the interpretation of the characteristics that are included in art. 107 (1) is broad.[228] As a result, European Commission has identified a number of measures that are considered as state – aid including: grants, tax relief, debt to capital conversions, debt write – offs, equity loans, government compensation guarantees, interest subsidies, lease reductions, loss of revenue, at parafiscal taxes, reimbursable grants, social security reductions, soft loans, tax allowances/ prime fiscal, tax based reductions, tax deferment/ cancellation, tax rate reductions.[229] It is now clear that the concept of state aid is wider than subsidies as the former may imply interventions in various forms.[230] The CJEU itself has made a distinction between the concepts of state aid and subsidy:

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[225] M. Sánchez Rydelski, The EC State Aid Regime – Distortive Effect of State Aid on Competition and Trade, Cameron May International Law Policy, 2006, p. 150.
[226] E. Szyszczak, Research Handbook on European State Aid Law, Edward Elgar Publishing, 2011, p. 194.
[227] Case 173-73, Italian Republic v Commission of the European Communities, ECLI:EU:C:1974:71, available at: http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A61973CJ0173.
[228] H. van Vliet, State Resources and *PreussenElektra*: When is a State Aid not a State Aid?, in Droit Des Aides D' etat Dans la CE by Francisco Santaolalla Gadea, Kluwer Law International, 2008, p. 85.
[229] All the relevant information regarding state aid cases identified by the Commission are available in the reports in the following official website: http://ec.europa.eu/competition/state_aid/register/.
[230] F. Wishlade, Regional State Aid and Competition Policy, Kluwer Law International, 2003, p. 5 and M. Slotboom, A Comparison of WTO and EC Law: Do Different Objects and Purposes Matter for Treaty Interpretation?, Cameron May International Law Policy, 2005, p. 99.

"The treaty contains no express definition of the concept of subsidy or aid referred to under art. 4(c). A subsidy is normally defined as a payment in cash or in kind made in support of an undertaking other than the payment by the purchaser or consumer for the goods or services which it produces. An aid is a very similar concept, which, however, places emphasis on its purpose and seems especially devised for a particular objective which cannot normally be achieved without outside help. The concept of aid is nevertheless wider than that of a subsidy because it embraces not only positive benefits, such as subsidies themselves, but also interventions which, in various forms, mitigate the charges which are normally included in the budget of an undertaking and which, without, therefore, being subsidies in the strict meaning of the word, are similar in character and have the same effect."[231]

The wording that the Court used in *Steenkolenmijnen* case indicates that the concept of state aid is determined to a great extent by the effects to the internal market. The *effects – based test* was the one followed by the Court in case C – 290/ 83.[232] In that case, the French Republic was considered to be in breach of its obligations under art. 5 EEC Treaty regarding competition maintenance enshrined in art. 92 seq. of the same Treaty. More specifically, the National Agricultural Credit Fund to pay an allowance to the poorest farmers ("solidarity grant" in the form of a lump sum payment accorded to all farmers whose turnover was less than FF 250, 000). The Court found out that the measure was equivalent to state aid and it could negatively affect competition in the agricultural sector.

It seems that state aid is a benefit/ measure provided to a specific entity or sector in order to promote a type of activities and treat the recipients more favorable than the competitors. A measure can be classified[233] as state aid by the Commission, the CJEU

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[231] Case 30-59, De Gezamenlijke Steenkolenmijnen in Limburg v High Authority of the European Coal and Steel Community, ECLI:EU:C:1961:2, available at: http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A61959CJ0030. See also: L. Hancher, EU State Aids, Sweet and Maxwell, 4th Edition, pp. 51 – 52.

[232] C – 290/ 83, Commission of the European Communities v French Republic, ECLI:EU:C:1985:37, available at: http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A61983CJ0290.

[233] T-67/94, Ladbroke Racing Ltd v. Commission of the European Communities, ECLI:EU:T:1998:7, para 52, available at: http://curia.europa.eu/juris/document/document.jsf;jsessionid=9ea7d0f130d608a7651be5fe49a5b71eeb186c410d56.e34KaxiLc3eQc40LaxqMbN4PahaRe0?text=&docid=43612&pageIndex=0&doclang=en&mode=lst&dir=&occ=first&part=1&cid=750284.

and the national courts that are going to order recovery[234] if they declare a measure as a state aid. There are four conditions that need to be fulfilled cumulatively[235] on order to declare a type of aid provided by a state as incompatible with internal market:

- The aid provided should be granted through state resources or be the result of state intervention attributable to the state.
- The aid should confer an advantage to its individual recipient or to the sector that aims to favour. This characteristic of state aid is widely known as "selectivity" of the measure taken. The position of the recipient should be improved from a financial, usually, perspective, or at least not adversely affected/ deteriorated.
- The measure affects trade between Member – States.
- The measure threatens to distort competition.

The analysis of the aforementioned four constitutional elements of the state aid definition will follow adapted to the characteristics of the EU ETS. This sub – chapter aims at indicating whether the concept of state aid is inherent in the EU ETS structure.

3.1 Aid Provided Through State Resources or the Result of State Intervention.

Two concepts are critical in terms of linking state aid rules with EU ETS. The first one is the national authorities that are under the responsibility to implement the technicalities of the scheme at a national level and the second one is the concept of allowances. The notion of state resources/ state interventions is widely interpreted[236] and this wide interpretation

[234] C-415/03, Commission of the European Communities v. Hellenic Republic, ECLI:EU:C:2005:287, available at: http://curia.europa.eu/juris/document/document.jsf?text=&docid=59312&pageIndex=0&doclang=en&mode=lst&dir=&occ=first&part=1&cid=751910, C-369/07, Commission of the European Communities v. Hellenic Republic, ECLI:EU:C:2009:428, available at: http://curia.europa.eu/juris/document/document.jsf?text=&docid=77549&pageIndex=0&doclang=en&mode=lst&dir=&occ=first&part=1&cid=752016.

[235] C. Maczkovics, A wind of change? On the concept of state aid, 2014, available at: http://www.lexology.com/library/detail.aspx?g=1d9ff3bb-eefe-41ca-b8fb-d4e30c1bef9f.

[236] R. Schütze, European Union Law, Cambridge University Press, 2015, p. 765.

serves the purpose of preventing any potential distortion of the internal market. In this section *Stardust Marine* case will be of significant use. Starting from the opinion of AG Jacobs, it is possible to extract an *a contrario* argument regarding public authorities' participation in the process of granting state aid. AG Jacobs reiterated the Court' s settled case – law in order to prove that *"State resources are not involved where the public authorities at no stage enjoy or acquire control over the funds which finance the economic advantage in issue.".* [237] A reverse reading of this sentence reflects that if public authorities enjoy or acquire this kind of control, then state resources are involved in granting the advantage. The judgment[238] of the Court in Stardust Marine case, that has received important criticism[239], did not consider that a measure taken by a public undertaking is *per se* state aid. A number of indicators need to be met according to the Court in order to declare the involvement of state resources. More specifically,

- integration of the public undertaking into the structures of the public administration,
- the nature of the undertaking' s activities,
- the exercise of these activities on the market in normal conditions of competition with private operators,
- the legal status of the undertaking (in the sense of its being subject to public law or ordinary company law),
- the intensity of the supervision exercised by the public authorities over the management of the undertaking,
- any other indicator showing an involvement by the public authorities in the adoption of a measure or the unlikelihood of their not being involved.

[237] Opinion of Advocate General Jacobs, Case C-482/99 French Republic v. Commission of the European Communities, ECLI:EU:C:2001:685, para 38, available at: http://curia.europa.eu/juris/document/document.jsf?text=&docid=46970&pageIndex=0&doclang=en&mode=lst&dir=&occ=first&part=1&cid=714168.

[238] C-482/99, French Republic v. Commission of the European Communities, ECLI:EU:C:2002:294, paras 50 seq., available at: http://curia.europa.eu/juris/document/document.jsf?text=&docid=47344&pageIndex=0&doclang=EN&mode=lst&dir=&occ=first&part=1&cid=714168.

[239] *Supra* n. 285, Rydelski, p. 46.

Control of the resources remains, reasonably enough, the key point in stepping into the state aid world. Another question to be answered is whether we have a transfer of state resources in cases when State acts as a regulator and creates assets that distributes to undertakings.[240] This is the case for the EU ETS. Member – States assess the needs of the undertakings in their territory and decide the total amount of allowances that they will allocate. Undertakings own the allowances and use them according to their needs. However, before declaring that there is a transfer of state resources in cases of over – allocation for example, we first need to find out is the assets that are transferred have an economic value. The issue of the legal nature of allowances that has already been discussed in the second sub – chapter of the second part under the heading *"The allocation of allowances as a starting point for the participation in the EU ETS"* can shed light on this. To this end, it has also been successfully highlighted that operators receive the economic advantage at the time when the allowances allocated free of charge are deposited to their accounts.[241]

Apart from that focus should be paid in art. 10(3) of the EU ETS Directive as amended in 2009 ("*Member States shall determine the use of revenues generated from the auctioning of allowances. At least 50 % of the revenues generated from the auctioning of allowances referred to in paragraph 2, including all revenues from the auctioning referred to in paragraph 2, points (b) and (c), or the equivalent in financial value of these revenues, should be used for one or more of the following: to reduce GHG, to develop renewable energies, to take measures to avoid deforestation e.tc."*). Member – States have to inform the Commission as far the use of revenues is concerned, but the way they are going to use them remains at their discretion. It has been recently supported that during the third EU ETS phase, the limited discretion of Member – States and not the fact that they have to pay for acquiring allowances reduces the possibilities for competition distortions.[242]

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[240] *Supra* n. 218, Stoczkiewicz, p. 101 – 102.
[241] C. De Gasperi, Making State Aid Control "Greener": the EU Emission Trading System and its Compatibility with Article 107 TFEU, European State Aid Law Quarterly; 2010, pp. 792 -793.
[242] C. Marrioti, Theory and Practice of Emissions Trading in the European Union: Some Reflections on Allowance Allocation in Light of the DK Recycling Case, p. 15, available at: http://europeanpapers.eu/en/system/files/pdf_version/EP_EF_2016_I_057_Caterina_Mariotti.pdf.

Attribution to the state[243] is relevant to the comparison between revenues from auctioning and revenues from free of charge allocation. If the examination of the criteria described above end up in the conclusion that we have a state authority transferring state resources that confer a benefit to the recipient, then the aid is imputable to the State. The aid must be granted either directly or indirectly.[244] The direct transfer of state resources is unequivocally attributable to the state.[245] The same happens when Member – States choose to follow the derogation of 10c by allocating the allowances for free. The attribution or non – attribution to a Member – State is dependent on its discretionary power. In this respect, it is interesting to note that when a Member – State implements a measure as the result of a clear and precise EU provision, then it is unlikely that the transposition and implementation of that rule will be attributable to the Member - State.[246]

3.2 The conferral of a selective advantage to the recipient.

[243] See indicatively: Joined cases 67, 68 and 70/85, Kwekerij Gebroeders van der Kooy BV and others v Commission of the European Communities, ECLI:EU:C:1988:38, available at: http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A61985CJ0067; C-305/89, Italian Republic v Commission of the European Communities, ECLI:EU:C:1991:142, available at: http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A61989CJ0305; C-345/02, Pearle BV, Hans Prijs Optiek Franchise BV and Rinck Opticiëns BV v Hoofdbedrijfschap Ambachten, ECLI:EU:C:2004:448, available at: http://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:62002CJ0345&from=EN; T-358/94, Compagnie nationale Air France v Commission of the European Communities, ECLI:EU:T:1996:194, available at: http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A61994TJ0358; T-351/02, Deutsche Bahn AG v. Commission of the European Communities, ECLI:EU:T:2006:104, http://curia.europa.eu/juris/document/document.jsf?text=&docid=55528&pageIndex=0&doclang=en&mode=lst&dir=&occ=first&part=1&cid=770198.

[244] K. Van de Casteele and D. Grespan, Granted by a Member State or through State resources in any form whatsoever": State resources and imputability, EU Competition Law Volume IV – State Aid, Book One, Claeys and Casteels, 2008.

[245] J. de Sepibus, The European Emission Trading Scheme Put to the Test of State Aid Rules, NCCR Trade Regulation Working Paper No. 2007/34, p. 7, available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1088716.

[246] T – 30/99, Bocchi Food Trade International GmbH v. Commission of the European Communities, ECLI:EU:T:2001:96, p. 31, available at: http://curia.europa.eu/juris/document/document.jsf?text=&docid=45912&pageIndex=0&doclang=en&mode=lst&dir=&occ=first&part=1&cid=842481; T – 174/00, Biret International SA v. Council of the European Union, ECLI:EU:T:2002:2, p. 33 available at: http://curia.europa.eu/juris/document/document.jsf?text=&docid=46999&pageIndex=0&doclang=EN&mode=lst&dir=&occ=first&part=1&cid=843236.

A selective advantage is perceived as the improvement of the financial situation of an undertaking. However, even in the absence of an economic advantage, if a state intervention prevents the deterioration of an undertaking' s position, this is considered as a selective advantage as well. The fact that not only positive benefits but also interventions of various forms may constitute a selective advantage under specific circumstances is reflected in the Court' s settled case – law.[247] An example of a state intervention that is not a direct transfer of an economic advantage was examined by the CJEU in the case C – 487/06 P.[248] In that case, the Court examined whether the Court of First Instance (General Court) *erred in law by failing to have regard to the fact that the AGL was a measure of general application given that it established a fiscal levy the conditions of which were defined in objective and abstract terms and was thus a normative act of general application which affected a potentially unlimited number of operators in the United Kingdom.*[249] It follows that if a limited number of undertakings or a specific undertaking is exempted from the imposition of an economic burden which is imposed on other competitors, a selective advantage is granted. In the same case the Court declared that selectiveness is determined *within the context of a particular legal system*, if the undertakings under concern are in a *comparable legal and factual situation*.[250] Differentiation which derives from the nature or the overall structure of a system of charges is not covered by state aid rules. In a more recent case of 2014[251], the General Court had to decide on

[247] C-156/98, Federal Republic of Germany v Commission of the European Communities, ECLI:EU:C:2000:467, para 25, available at: http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A61998CJ0156; Joined Cases C-328/99 and C-399/00, Italian Republic and SIM 2 Multimedia SpA v Commission of the European Communities, ECLI:EU:C:2003:252, para 35, available at: http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A61999CJ0328; C-126/01, Ministre de l' économie, des finances et de l' industrie and GEMO SA, ECLI:EU:C:2003:622, para 28, available at: http://curia.europa.eu/juris/document/document.jsf;jsessionid=9ea7d2dc30d566b0b86cc61a484c8ca3b1cc34cdecd2.e34KaxiLc3qMb40Rch0SaxyKbxb0?text=&docid=48413&pageIndex=0&doclang=en&mode=lst&dir=&occ=first&part=1&cid=805148.

[248] C – 487/06 P, British Aggregates Association v. Commission of the European Communities, ECLI:EU:C:2008:757, available at: http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A62006CJ0487.

[249] See para 13 of the judgment.

[250] J. Kociubiński, Selectivity Criterion in State Aid Control, Wroclaw Review of Law, Administration & Economics, Vol 2:1, pp. 4 -5, available at: https://www.degruyter.com/view/j/wrlae.2012.2.issue-1/wrlae-2013-0016/wrlae-2013-0016.xml.

[251] T-219/10, Autogrill España, SA v. European Commission, ECLI:EU:T:2014:939, available at: http://curia.europa.eu/juris/document/document.jsf?text=&docid=159375&pageIndex=0&doclang=en&mode=lst&dir=&occ=first&part=1&cid=856891.

annulment of art. 1(1) and 4 of the Commission Decision 2011/5/EC of 28 October 2009 on the tax amortisation of financial goodwill for foreign shareholding acquisitions implemented by Spain. It was considered as a landmark[252] judgment in terms of determining that the European Commission has to prove not only that a tax measure deviates from the normal system of taxation, but it also has to indicate a well-defined category of aid beneficiaries before the aid is granted.

The broad criterion of selectivity (geographic[253] or material[254] de jure or de facto[255]) was also analyzed by the Luxembourg Courts in a number of occasions. In 2000, the Court of First Instance[256] clarified that it is not necessary to define in advance the recipient of the advantage, but a specific class of undertakings needs to be at least identified.[257] The fact that the aid is granted to an indefinite number of recipients, not individually identified, based on a series of objective criteria within the framework of a predetermined overall budget allocation is not enough for classifying a state aid case in the light of art. 107 para 1 TFEU.

Within the context of the EU ETS, it is possible to find a selective advantage in two different levels: first, in the case of a distinction between undertakings of a different sector; and second, between undertakings of different sectors that are generally covered by the EU ETS. The process of allocating the allowances will be examined with scrutiny for finding out if there is granting of a selective advantage. More specifically, if, despite

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[252] Ph. Nicolaides, A Surprising Interpretation of the Concept of Selectivity, 2014, available at: http://stateaidhub.eu/blogs/stateaiduncovered/post/953.

[253] T-308/00 RENV, Salzgitter AG v. European Commission, ECLI:EU:T:2013:30, para 38, available at: http://curia.europa.eu/juris/document/document.jsf?text=&docid=132661&pageIndex=0&doclang=en&mode=lst&dir=&occ=first&part=1&cid=839016.

[254] C – 143/99, Adria-Wien Pipeline GmbH and Wietersdorfer & Peggauer Zementwerke GmbH v. Finanzlandesdirektion für Kärnten, ECLI:EU:C:2001:598, para 41, available at: http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A61999CJ0143; A. Bartosch, "Is there a need for a rule of reason in European State Aid law?: Or how to arrive at a coherent concept of material selectivity?" (2010) 47 CMLR 731.

[255] Joined Cases C-78/08 to C-80/08, Ministero dell' Economia e delle Finanze, Agenzia delle Entrate v. Paint Graphos Soc. coop. arl (C-78/08), Adige Carni Soc. coop. arl, in liquidation v Agenzia delle Entrate, Ministero dell' Economia e delle Finanze (C-79/08), and Ministero delle Finanze v. Michele Franchetto (C-80/08), ECLI:EU:C:2011:550, paras 5 – 8, available at: http://curia.europa.eu/juris/document/document.jsf?text=&docid=109241&pageIndex=0&doclang=en&mode=lst&dir=&occ=first&part=1&cid=841201; C. Herwig *et al.*, State Aid Law of the European Union, Oxford University Press, 2016, p. 134

[256] T – 55/99, Confederación Española de Transporte de Mercancías (CETM) v. Commission of the European Communities, ECLI:EU:T:2000:223, para 40, available at: http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A61999TJ0055.

[257] *Supra* n. 313, paras 48 and 52.

the fact that in the post – 2013 period allowances will be auctioned, a Member – State allocates them for free to specific undertakings of to one sector covered by the EU ETS, we will possibly identify a state aid case falling in the scope of application of art. 107 para 1 TFEU. Beneficiaries of this scenario would not be able to get the additional allowances under normal market condition. Moreover, the allowances that can be further sold or transferred can generate additional revenues for their initial recipient. A more detailed example from the CJEU case – law will be analyzed in the next sub – chapter.

3.3 Measures that threaten to distort competition.

The *raison d'être* of state aid control is the prevention of competition distortions in the internal market. Even a measure that has not distorted competition but threatens to do so under specific circumstances is not acceptable as compatible with the internal market.[258] The issue of competition distortion is linked to the selectivity issue. Competition has to be fair, meaning that it has to provide to all the stakeholders equal participation opportunities under comparable factual or legal circumstances. In 1991, the European Commission introduced competition policy as "*an important Community instrument used both to promote economic integration and to ensure an efficient allocation of resources. Effective competition is the main stimulus to innovation and higher productivity which underpins policies designed to increase economic growth and welfare. Not only does competition lead to higher output but it also enables consumers to obtain a fair share of this growth. Living standards therefore depend on the maintenance of effective competition."*[259]. The aim of competition rules is to ensure a normal development of the internal market without state interventions. As a result, *the need for aid is assessed and taken from the standpoint of the community*[260], in order to avoid any competition

[258] F. Yves Jenny, Competition and State Aid Policy in the European Community, Fordham International Law Journal, Volume 18, Issue 2, 1994, P. 535, available at: http://ir.lawnet.fordham.edu/cgi/viewcontent.cgi?article=1412&context=ilj.

[259] European Commission, XXth Report on Competition Policy, 1991, p. 13, available at: http://bookshop.europa.eu/is-bin/INTERSHOP.enfinity/WFS/EU-Bookshop-Site/en_GB/-/EUR/ViewPublication-Start?PublicationKey=CM6091410.

[260] Case 730/79, Philip Morris Holland BV v Commission of the European Communities, ECLI:EU:C:1980:209, para 26, available at: http://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:61979CJ0730&from=FR.

distortions through the adoption of measures at a national level that will rather favour an individual/ number of undertakings than facilitate market development.

3.4 Measures that affect trade between Member – States.

In the *Philip Morris* case in 1980 the Court declared that *when state financial aid strengthens the position of an undertaking compared with other undertakings competing in intra-community trade the latter must be regarded as affected by that aid*.[261] This presumption of a state measure affecting trade and competition between EU Member – States applies to the EU ETS as an EU wide market. The effect may be more obvious in specific sectors, such as electricity which are liberalized in the EU internal market.[262] Free allocation of the emissions allowances under the EU ETS, even in the transitional period, was considered possible to have an effect on trade and distort competition among Member - States. This is the reason why auctioning needed to become the rule after the post - 2013 period.

4. Looking for State – Aid Infringements in National Allocation Plans during the first years.

The EU introduced the EU ETS in 2005. However, some Member – States had already established their national schemes that were wider than the one that the EU ETS Directive was about to introduce. The diversity among the measures adopted by the national schemes was possible to undermine integration and unity. Since the very beginning, European Commission was very careful regarding the evaluation of the national emissions trading schemes in the light of the state aid prohibition enshrined in the Treaties. This sub – chapter examines three of the most famous cases of national schemes that were found to be in breach of the state aid prohibition rules. In particular, the Danish, the UK and the Dutch emissions trading

[261] *Supra* n. 321, para 11.
[262] Directive 96/92/EC of the European Parliament and of the Council of 19 December 1996 concerning common rules for the internal market in electricity, O. J. L 027, 30 January 1997, p. 0020 – 0029, available at: http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A31996L0092; W. Lise *et al.*, A game theoretic model of the North-western European electricity market—market power and the environment, Energy Policy 34 (2006), p. 2123, available at: http://www.claudiakemfert.de/wp-content/uploads/2016/03/Kemfert_Emelie.pdf.

schemes were not declared to align with the requirements of the Treaties. It should be noted that all of these three countries were signatories to the Kyoto Protocol not only as Member – States of the EU but also as individual states.

4.1 The Danish approach of the ETS.

Beginning with the oldest of the three cases, Denmark, a dedicated supporter[263] of the emissions trading scheme, made a commitment to reduce by 5% its GHG emissions as by 2000. The Danish parliament (*Folketing*) adopted a number of necessary decisions during the years 1990-1997 as well as two Governmental energy action plans[264], that aimed at the emissions' reduction by 21% in 2005 compared to 1988.[265] The 21% reduction was agreed as a result of the burden sharing agreement between the EU and its Member – States under the Kyoto Protocol.[266] However, despite the considerable progress, Denmark received a significant proportion of the EU GHG reductions, in the form of *offset by extra carbon dioxide emissions in the period 1994-97 caused by a significant increase in electricity export*.[267] Old and environmentally outdates coal-fired power plants caused this export increase.[268] Until 1990 the emissions of sulphur dioxide (SO2) and oxides of nitrogen (NOx) were regulated through (non-tradable) emission allowances[269] leaving the freedom of choice to the power companies as far as technology was concerned. Agreements and instructions to the power producers were the means through which governmental energy plans were implemented without jeopardizing producer' s market share due to the additional costs. Technological development was allowed to thrive in Denmark through the way that the market operated.

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[263] J. Birger Skjærseth and J. Wettestad, EU Emissions Trading: Initiation, Decision-making and Implementation, Routledge, 2016, p. 90.
[264] Energy 2000 and Energy 21
[265] See Appendix 1 of the 2106th Council meeting Conclusions Luxembourg, 16-17 June 1998, available at: http://europa.eu/rapid/press-release_PRES-98-205_en.htm?locale=en.
[266] Art. 4 of the Kyoto Protocol.
[267] S. Lauge Pedersen, The Danish CO2 Emissions Trading System, RECIEL 9 (3) 2000, p. 223, available at: http://onlinelibrary.wiley.com/doi/10.1111/1467-9388.t01-1-00271/abstract and https://www.thepmr.org/system/files/documents/Danish%20Co2%20Emissions%20Trading%20System.pdf.
[268] The low rainfall level in Sweden and Norway are also found among the reasons for the increase of the exports from Denmark.
[269] Executive Order no. 885 of 18 December 1991 on limitation of emission of sulphur dioxide and nitrogen oxides from power plants as amended by Executive Order no. 321 of 4 June 1998.

No matter how pleased everyone was by the operation of the electricity market in Denmark was, it was necessary for the country to introduce changes in order to regulate in a uniform and non- discriminatory way the total emissions of GHG in specific sector. The EU Electricity Market Directive[270] and the EU ETS[271] proposal contributed in this direction. In June 1999, the CO2 Quota Act along with the Electricity Supply Act[272] passed from the Danish Parliament and one month later they were notified to the European Commission for examining the compatibility of the new Danish legislation with the state aid rules. The core element of the new legislation that was declared as state aid by the European Commission was grandfathering for the initial allocation of allowances based on the findings of the 1994 – 1998 period. In other words, the allocation of allowances only to the producers that were operational in the Danish market from 1994 – 1998 was an advantage in favour of them, discriminating against new entries in the market. The latter could not receive allowances since there was no historical record for them for the aforementioned period.

4.2 The UK ETS: Providing incentives to the participants.

Denmark was not the only country that had designed a national emissions trading scheme. In 2001, UK notified to the European Commission the details for its national emissions trading scheme.[273] From the very first observations included in the letter that was sent to the Commission it is clear that the scheme proposed by the UK differed from the one that the EU has also proposed. The activities that the EU had included in its proposal for the 2003/87/EC, were quite different from those that were eligible under the direct participation concept in the UK scheme. A brief description of the national scheme is focused on two main points: First, there were the "direct participants", namely those companies who are granted an incentive[274] *in return for*

[270] *Supra* n. 324.
[271] European Commission Green Paper on greenhouse gas emissions trading within the European Union, COM (2000)87 of 8 March 2000, available at: http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A52000DC0087.
[272] Bill 235 on CO2 Quotas for Electricity Production.
[273] State aid No N 416/2001 – United Kingdom Emission Trading Scheme, C (2001)3739fin, Brussels, 28.11.2001, available at: http://ec.europa.eu/competition/state_aid/cases/135755/135755_433140_25_2.pdf.
[274] By virtue of an order made under section 153 of the Environment Protection Act (1990).

absolute emission reductions for which they bid in an auction. Apart from the direct participants in the emissions trading scheme, there were also other participants in programs, such as the emission reduction project or participants simply opening a trading account. Trade of emission allowances, which were allocated for free to the participants, was possible among the participants of the different mechanisms if they managed to reduce emissions further below their target. However, direct emissions from electricity or heat generation, emissions from facilities within a target unit covered by a Climate Change Agreement, emissions from land and water transport, methane emissions from landfill sites covered by the Landfill Directive and emissions from households cannot count for the direct participants as emissions under the scheme. According to UK, the national program could achieve a higher level of protection than required by EU Standards. The European Commission perceived the allowances allocated for free to the direct participants, as advantage.[275] The fact that the allowances were purchased and sold in a market among the participants revealed that they had a value, even though they were allocated for free to the direct participants. This was exactly the advantage that they were granted. Direct participants could acquire for free an asset that could be further sold and gain a considerable value.

The counter argument regarding the voluntary nature of the participation to the scheme, was not decisive in persuading the Commission about the compatibility of the scheme with the state aid prohibition.[276] A deadline for the amendment was set, but UK sent another letter to the Commission stating that it was impossible to reach it. Finally, by a new decision[277] in 2005, the European Commission declared the proposed by the UK amendments inadmissible. The UK raised an action for annulment before the Court of First Instance and managed to annul the decision of 12 April 2005.[278]

4.3 The case of the Belgian "green certificates".

[275] S. Weishaar, Towards Auctioning: The Transformation of the European Greenhouse Gas Emissions Trading System, Kluwer Law International, 2009, p. 151.
[276] Decision of 7 July 2004 C (2004) 2515/4 final.
[277] Decision of 12 April 2005 C (2005) 1081 final.
[278] T-178/05, United Kingdom of Great Britain and Northern Ireland v. Commission of the European Communities, ECLI:EU:T:2005:412, available at: http://curia.europa.eu/juris/document/document.jsf?text=&docid=56138&pageIndex=0&doclang=en&mode=lst&dir=&occ=first&part=1&cid=233157.

The aforementioned cases can be compared with the case of the Belgian scheme for the promotion of renewable sources of energy, namely the case of the *"green certificates"*. The importance of this case lies in the prior release of the *Preussen Elektra* judgment in 2001.[279] Belgian distribution companies were obliged to purchase on an annual basis a number of green certificates. Those certificates were only used as a proof for the fact that the relevant electricity was produced from renewable energy sources. The European Commission did not consider the certificates as transfer of state resources.

4.4 The NOx case in the Netherlands.

The third and, maybe, the most famous case was the widely known as the NOx Case.[280] Although the NOx ETS is not a part of the EU ETS[281], it is an exceptional example of a national scheme that was considered to be state aid. A few preliminary remarks on the Dutch policy on environmental protection would definitely highlight the pioneer approach that the Netherlands promoted even before the first EU coordinated steps. The evolution of the Dutch climate policy started in 1989 when a national target for stabilizing CO2 emissions by 2000 at 1990 levels in the National Environmental Policy Plan was adopted. In 1991, the governmental policy document on climate change[282] included targets for other GHG as well. The fact that these policy plans were not legally binding, even until 2010,[283] led the Dutch government in taking steps for mandatory regulation.

The long story of the Dutch scheme that was told before the Luxembourg Courts under different circumstances three times[284] started in January 2005. It was then when

[279] J. Bielecki *et al.*, Electricity Trade in Europe: Review of Economic and Regulatory Challenges, Kluwer Law International, 2004, p. 293.
[280] C – 279/08 P, European Commission v. Kingdom of the Netherlands, ECLI:EU:C:2011:551, available at: http://curia.europa.eu/juris/liste.jsf?language=en&num=C-279/08%20P.
[281] M. Huijbers, NOx Emissions Trading Scheme Repealed in the Netherlands — Global Impacts?, 27 January 2013, available at: http://ehsjournal.org/http:/ehsjournal.org/marlies-huijbers/nox-emissions-trading-scheme-repealed-in-the-netherlands-global-impacts/2013/.
[282] Nota Klimaatverandering.
[283] M. Peeters, Climate Law in The Netherlands: The Search towards a National Legislative Framework for a Global Problem, Electronic Journal of Comparative Law, vol. 1 4.3 (December 2010), p. 7, available at: http://www.ejcl.org/143/art143-13.pdf.
[284] Apart from the two cases that follow, there was also one order of the CJEU in the case C-388/03 of 8 June 2004 in which the CJEU referred the case to the General Court. The latter requested the Kingdom of the Netherlands and the Federal Republic of Germany (intervener) to submit their observations as

a credit and trade system that covered 250 big installations was introduced.[285] It was supported by Germany, France, Slovenia and the UK. Under the scheme the installations that participated were allowed to emit, but they had to compare the amount of their emissions to a benchmark set by the government. There were two potential options: the company either earns emissions credits in the case of over- compliance with the benchmark or needs to buy additional emissions credits in case of failure to comply with the aforementioned benchmark. The target that the installations have to reach is set by a legal act. No government creation and distribution to entities takes place.[286] As a result, the only intervention from the state is the establishment of the rules that support the system. It is interesting, though, the fact that the European Commission declared the Dutch system as state aid. This opinion was not endorsed by the General Court.[287] Finally, by a judgment of 2011[288] the Court set aside the judgment of the General Court in case T-233/04 *Netherlands v Commission*, but confirming at the same time that the measure was a state aid on selectivity grounds.[289]

All the aforementioned indicative examples have been discussed for a long period of time, as they appeared during the first implementation phase of the EU ETS, or even a bit earlier. A major challenge in 2000 was the need to avoid interferences of the existing national schemes that would undermine the integrity of the EU ETS despite the inevitable interaction among them.[290] The lessons that were learned from these cases shaped the policy of the European Commission from 2004 onwards as far as the

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regards the admissibility of that action from the order of the Court in Case C-164/02 Netherlands v Commission of 2004.

[285] OECD, Greenhouse Gas Emissions Trading and Project-based Mechanisms, OECD Global Forum on Sustainable development: Emissions Trading – CATEP Country Forum, 17 – 18 March 2003, Paris, p. 193.

[286] M. Peeters et al., Climate Law in EU Member States: Towards National Legislation for Climate Protection, Edward Elgar, 2012, p. 95.

[287] T-233/04, Kingdom of the Netherlands v. Commission of the European Communities, ECLI:EU:T:2008:102, available at: http://curia.europa.eu/juris/document/document.jsf?text=&docid=71054&pageIndex=0&doclang=en&mode=lst&dir=&occ=first&part=1&cid=391031. The General Court decided to annul the Commission Decision C(2003) 1761 final of 24 June 2003 on State aid N 35/2003 concerning the emission trading scheme for nitrogen oxides notified by the Kingdom of the Netherlands.

[288] *Supra* n. 342.

[289] W. Sauter and H. B. B. Vedder, State aid and selectivity in the context of emissions trading: Comment on the NOx case, European Law Review, September 2011, pp. 332 seq., available at: https://pure.uvt.nl/portal/files/1453539/ELRev_3_2012_WS_and_HV_Offprint.pdf.

[290] C. Boemare *et al*., The evolution of emissions trading in the EU: tensions between national trading schemes and the proposed EU directive, Climate Policy 3S2 (2003), p. 114, available at: http://www2.centre-cired.fr/IMG/pdf/boemare_quirion_sorrell.pdf.

allocation of allowances and the NAPs was concerned.[291] The European Commission asked for more transparency and simplicity in the NAPs.

An early conclusion can support the inherent character of state aid in the EU ETS. It is undeniable that in the majority of cases we have a transfer of state resources that grant an advantage to the recipients. However, it remains to examine if these advantages are justifiable under the third paragraph of art. 107 TFEU.

7. The exception of art. 107 para 3 applied in terms of the EU ETS.

The second and the third paragraphs of art. 107 TFEU introduce exceptions to the rule of prohibition of state aid. These two paragraphs are read as follows:

"2. The following shall be compatible with the internal market:

(a) aid having a social character, granted to individual consumers, provided that such aid is granted without discrimination related to the origin of the products concerned;

(b) aid to make good the damage caused by natural disasters or exceptional occurrences;

(c) aid granted to the economy of certain areas of the Federal Republic of Germany affected by the division of Germany, in so far as such aid is required in order to compensate for the economic disadvantages caused by that division. Five years after the entry into force of the Treaty of Lisbon, the Council, acting on a proposal from the Commission, may adopt a decision repealing this point.

3. The following may be considered to be compatible with the internal market:

[291] Communication from the Commission on guidance to assist Member States in the implementation of the criteria listed in Annex III to Directive 2003/87/EC establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC, and on the circumstances under which force majeure is demonstrated, COM (2003)0830 final, Brussels, 7.1.2004, available at: http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52003DC0830&from=EN; Communication from the Commission - "Further guidance on allocation plans for the 2008 to 2012 trading period of the EU Emission Trading Scheme" COM (2005) 0703 final, Brussels, 22.12.2005, available at: http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52005DC0703&from=EN.

(a) aid to promote the economic development of areas where the standard of living is abnormally low or where there is serious underemployment, and of the regions referred to in Article 349, in view of their structural, economic and social situation;

(b) aid to promote the execution of an important project of common European interest or to remedy a serious disturbance in the economy of a Member State;

(c) aid to facilitate the development of certain economic activities or of certain economic areas, where such aid does not adversely affect trading conditions to an extent contrary to the common interest;

(d) aid to promote culture and heritage conservation where such aid does not affect trading conditions and competition in the Union to an extent that is contrary to the common interest;

(e) such other categories of aid as may be specified by decision of the Council on a proposal from the Commission."

The third paragraph of art. 107 TFEU explicitly describes the cases under which the European Commission has the discretion (*"may"*) to declare an aid compatible with the internal market. Settled case – law[292] reflects the broad discretion that the Commission enjoys when estimating whether or not to apply the requirements of art. 107 para 3 in cases of state aid. Social[293], environmental and cultural issues can justify the provision of state aid breaking thus the prohibition rule enshrined in this article. Apart from the exceptions that this paragraphs sets, there are also other reasons that are

[292] T – 149/95, Établissements J. Richard Ducros v. Commission of the European Communities, ECLI:EU:T:1997:165, para 63, available at: http://curia.europa.eu/juris/document/document.jsf?text=&docid=43446&pageIndex=0&doclang=EN&mode=lst&dir=&occ=first&part=1&cid=24823; Joined cases T-244/93 and T-486/93, TWD Textilwerke Deggendorf GmbH v. Commission of the European Communities, ECLI:EU:T:1995:160, para 82, available at: http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A61993TJ0244; Case 310/85, Deufil GmbH & Co. KG v Commission of the European Communities, ECLI:EU:C:1987:96, para 18, available at: http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A61985CJ0310; T-380/94, Association internationale des utilisateurs de fils de filaments artificiels et synthétiques et de soie naturelle (AIUFFASS) and Apparel, Knitting & Textiles Alliance (AKT) v Commission of the European Communities, ECLI:EU:T:1996:195, para 55, available at: http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A61994TJ0380; C-225/91, Matra SA v. Commission of the European Communities, ECLI:EU:C:1993:239, para 41, available at: http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A61991CJ0225.

[293] For example, see State Aid N 495/2009 – Latvia, Electric and electronic waste sorting and recycling facility in Tume, Brussels C (2010), para 20, available at: http://ec.europa.eu/competition/state_aid/cases/232806/232806_1080784_34_1.pdf.

exempted from the rule of the first paragraph. They are found in secondary EU law documents, and more specifically in the block exemptions[294] regulation of 2014 and the *de minimis*[295] regulation of 2015.

Granting of state aid for environmental protection was an issue of concern since 1975. It was then when the polluter pays principle seemed to be in conflict with environmental targets for the first time. In its fourth report on competition policy, the European Commission emphasized on proportionality assessments in terms of environmental state aid. More specifically, it was stated that *"environmental policies both at national and at Community level should be based, not on the general grant of aids by states, which simply means that the public pays in the end, but by the imposition of obligations (standards and levies enabling the authorities to make polluters bear the cost of protecting the environment. The State aids should be granted only when the objectives considered essential for the environment are seriously in conflict with other social or economic objectives also of priority importance. Basically, they should be granted only when it is apparent that existing undertakings are not in a position to support the new costs facing them and where social or economic difficulties might arise in certain industries or geographical areas which only financial intervention by the State could avoid."*.[296]

The first guidelines on environmental protection were published in 1994[297] and were updated in 2001[298] and 2008[299]. In 2008, apart from the revision of the Guidelines, European Commission launched the general block exemptions regulation[300] which

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[294] Commission Regulation (EU) No 651/2014 of 17 June 2014 declaring certain categories of aid compatible with the internal market in application of Articles 107 and 108 of the Treaty, OJ L 187, 26.6.2014, p. 1–78, available at: http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1404295693570&uri=CELEX:32014R0651.

[295] Council Regulation (EU) 2015/1588 of 13 July 2015 on the application of Articles 107 and 108 of the Treaty on the Functioning of the European Union to certain categories of horizontal State aid (codification), OJ L 248, 24.9.2015, p. 1–8, available at: http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2015.248.01.0001.01.ENG.

[296] European Commission, Fourth Report on Competition Policy, Brussels – Luxembourg, 1975, para 176, available at: http://ec.europa.eu/competition/publications/annual_report/ar_1974_en.pdf.

[297] Community guidelines on State aid for environmental protection, OJ C 72, 10.3.1994, pp. 3–9, available at: http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A31994Y0310(01).

[298] Community guidelines on State aid for environmental protection, OJ C 37, 3.2.2001, pp. 3-15, available at: http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32001Y0203(02).

[299] Community guidelines on State aid for environmental protection, OJ C 82, 1.4.2008, pp. 1–33, available at: http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A52008XC0401(03).

[300] Commission Regulation (EC) No 800/2008 of 6 August 2008 declaring certain categories of aid compatible with the common market in application of Articles 87 and 88 of the Treaty (General block

included cases of state aid that were considered compatible with the internal market. In 2004, a new set of horizontal rules was adopted. The New Guidelines on State Aid for Environmental Protection and Energy 2014-2020[301] are wider in scope since they now cover energy infrastructure, energy capacity and reductions from electricity levies while they provide for higher thresholds for individual notifications[302]. There are differences between the guidelines and the block exemptions regulation. In particular, the regulation is more extensive in the areas that it covers. It also includes the aid provide for the relocation of undertakings.[303]

Although the scope of application of art. 107 para 3 seems to be quite broad, the Commission has focused so far on the second and the third points regarding environmental protection targets and state aid. Environment has been an issue of public interest both for the EU and the Member - States. This is the reason why the integration obligation of art. 11 TFEU[304] dictates that under specific circumstances state aid for environmental protection can be acceptable. However, there is not a hierarchy among the EU objectives in which environmental protection prevails over the others. Permitting state aid is an exceptional measure when all the others available cannot achieve satisfactorily a target of high importance.

Before justifying the provision of a state aid, another step should be taken. Proportionality test under the light of art. 107 para 3 is special. It always needs to be examined and, therefore, adapted to each of the cases of the third paragraph. The assessment of the proportionality in cases that fall into the scope of application of the third point of paragraph three deals with two conflicting interests: environmental protection and competition free of distortions which treats equally all the actors involved.

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exemption Regulation), OJ L 214, 9.8.2008, pp. 3–47, available at: http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:32008R0800.

[301] Communication from the Commission — Guidelines on State aid for environmental protection and energy 2014-2020, OJ C 200, 28.6.2014, pp. 1–55, available at: http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52014XC0628(01).

[302] P. Nicolaides, The New Guidelines on State Aid for Environmental Protection and Energy, 2014-2020, 2 May 2014, available at: http://stateaidhub.eu/blogs/stateaiduncovered/post/1.

[303] J. Nowag, Environmental Integration in Competition and Free-Movement Laws, Oxford University Press, 2016, pp. 184 – 185.

[304] Art. 11 TFEU (ex art. 6 TEC): "Environmental protection requirements must be integrated into the definition and implementation of the Union's policies and activities, in particular with a view to promoting sustainable development."

First of all, the benefit that will be granted will have to lead to the accomplishment of a clearly defined environmental target. According to the wording of the 1994 guidelines the target has to be *specific, well –defined, qualitatively important and make an exemplary and clearly identifiable contribution to the common European interest*. The environmental benefit in which the state aid has contributed needs to be well designed with actual possibilities of being delivered. Assumptions and general estimations are not adequate for guaranteeing that the aid that will be granted will indeed have a positive environmental friendly outcome. The overall effects of the measure should be positive. Transparency has significantly contributed in making the effect – criterion more efficient in the proportionality examination. Whether the aid was necessary or not is directly linked to the incentive – effect principle. According to the latter, a measure is necessary when the beneficiary would not have acted as they finally did, in case the aid was not provided by the state. Of course, the aid should be the last resort when all the other alternatives have either failed or not existed. This is extremely critical given the fact that other fundamental principles, such as the polluter pays principle seem to lose their traditional function. In situations such as the ones described so far, when granting the aid is unavoidable for achieving environmental protection it is not the polluter the one who pays, but the state. It follows that internalization of the costs (absorbed in firms' production costs) is not yet fully applied. In order to avoid any further competition distortion, it is imperative to link the restriction of competition with the target and balance the incentive – effect principle with the polluter pays principle. A potential additional base for enhancing the legitimacy of the aid is found in highlighting the environmental protection as an aim that is supported both at an international and at an EU law level. The proportionality of the aid should lead in the development of a project of general interest. In this respect, a project that incorporates in general the need to promote technological development[305] cannot by itself justify the granting of an aid that meets proportionality requirements.

The approach adopted for confirming the applicability of art. 107 para 3c is substantially different from the one adopted for assessing the requirements of art. 107 para 2b. Despite the fact that it can also justify aid provided by the state for covering

[305] Joined Cases 62 and 72/87 paras 22 and 25.

environmental protection measures, it was included on the basis or support and solidarity in emergency cases.

It goes without saying that environmental protection, especially combating climate change, is of outmost importance for preserving public interest for the EU and its Member – States. Participation of EU delegates in high level international conferences and the attempts to internationalize the EU perspective and plans for reaching ambitious goals indicates that long – term environmental planning is always on the top of the list of the EU agenda. The EU ETS as the leading instrument of the Union for reducing GHG is a project of public interest. It should not be forgotten that it was a part of the 6th Environmental Action Programme of the EU. It is apparent from the structure of the scheme that a great number of enterprises based in the EU and all the sectors that cover their activities participate in this all – European system which revolves around the concept of the allocation of the allowances. Without them the scheme would collapse and a new substitute would have to fill the gap of GHG reduction regulation. For the time being the two principles (incentive – effects and polluter pays) seem to coexist without any problems. Making the auctioning of allowances the rule from 2013 on enhances efficiency and transparency.[306] The EU ETS is not flawless, but up until now its effects are environmentally positive.

The fact that it is possible to justify state aid under the EU ETS does not automatically lead to the conclusion that all the state aid cases are accepted. Each individual case should be duly examined in order to find out whether or not a measure can really distort competition. The intensity of the measure and the potential short and long term impacts should always be taken into account. It is not just the internal market and competition that have to be protected, but also the integrity of the EU ETS and the accountability of the system in general.

The second part of the present thesis was mainly focused on state aid. This is the most usually contested case regarding the relationship between competition and the

[306] F. Dehousse and T. Zgajewski, Auctioning as the Rule to enhance transparency and Efficiency in The EU Climate Policy after the Climate Package and Copenhagen: Promises and limits, Egmont Paper 38, Academia Press, 2010, p. 28, available at: http://www.egmontinstitute.be/wp-content/uploads/2013/09/ep38.pdf.

EU ETS. General competition principles (unrestricted access to the market, non – discrimination) may also be challenged, but in any case competition is more affected on state aid grounds. On many different occasions it was implied that strict accounting, fair allocation of the allowances and dedication of the participants to the target need to be ensured. This is exactly the basic idea of the third part of the thesis under the heading *"The relationship between the practical effectiveness of the EU Emissions Trading Scheme and Fundamental Rights"*. Placing an effective system in force means that it can also be enforced without exceeding what the necessary limits. The penalties that are provided for by art. 16 of the EU ETS Directive play a vital role in the enforcement procedure. However, we have seen many times penalties that are considerably high and threaten to or violate fundamental rights and freedoms. Given the fact that the EU is governed by the rule of law and that fundamental rights and freedoms have always been a part of the Union' s core principles, any review of the effectiveness of the EU ETS without examining its compatibility with fundamental rights enshrined in the CFR would be incomplete.

IV. PART 2 - The relationship between the practical effectiveness of the EU Emissions Trading Scheme and Fundamental Rights.

1. Fundamental Rights concerns that the EU Emissions Trading Scheme raises.

The heading of the second part of this thesis can be reformulated very easily into a trickier one, which corresponds directly to the challenges that are inherent in the nature of the EU ETS. In other words, it is an excellent case – study in order to examine if environmental protection and long – term planning can meet the need for short – term fundamental rights protection. However, anyone could argue that environmental protection is just an indirect target that is set through the proper functioning of the EU ETS. GHG reductions is the direct goal of the scheme. Strict accounting and proper allocation of allowances are also among the targets of the scheme. In any case, alleging that environmental protection is an indirect EU ETs goal is not but an easily rebutted observation. The EU ETS is the parade horse of the EU for combatting climate change, the major environmental issue of our times. As a result, no one can steadily argue that the EU ETS does not aims at environmental protection.

The technical details that form the EU ETS may also present fundamental rights implications. As it is already mentioned, if an operator does not surrender the number of allowances that are equal to the total number of emissions emitted during the preceding calendar year by the 30th of April, the operator is subjected to the imposition of a penalty as it is provided for by art. 16 of the Directive. The 12th recital of the preamble to the Directive refers to the fact that "*Member States should lay down rules on penalties applicable to infringements of this Directive and ensure that they are implemented those penalties must be effective, proportionate and dissuasive"*. Whether the penalties provided for by art. 16 of the Directive meet the aforementioned characteristics, is going to be examined in the relevant section of part 2. What should

be clarified, though, is that any human rights concerns arising from the Directive under question are mainly triggered by the imposition of art. 16 penalties.

1.1 A fundamental rights tradition in the EU: from general principle to the CFR introduction.

All the secondary EU law documents have to be in line with the rules that the Treaties have established over the years. Before 2009, fundamental rights formed an integral part of the EU law as general principles. A judicial control of their respect from the side of Member States permitted gradually the development of settled case law which was followed even before the introduction of the CFR. After 2009, the CJEU analyses are more targeted and focus on the interpretation of the specific provisions of the CFR. Currently, art. 6 TEU lists three formal sources of EU human rights law. First, the CFR was proclaimed in 2000[307], and upgraded to the same binding legal status as the treaties by the Lisbon Treaty in 2009[308]. Second, the ECHR has been long referred to "as a special source of inspiration"[309] for EU human rights principles. It will become legally binding on the EU when the EU accedes to the ECHR, as art. 6(2) TEU now mandates. Third, as it was stated in the beginning of this paragraph the "general principles of EU law", namely a body of legal principles, including Human Rights, have been articulated and developed by the CJEU over the years, drawing elements from national constitutional traditions, the ECHR and other international Treaties to which the Member – States are signatories.

It is clear that these three sources overlap to a great extent. The main body of the CFR provisions are based on the ECHR. Legal confusion is created due to the fact that in the European continent there are two legal texts regulating human rights and two Courts that examine potential human rights violations. The one is the ECtHR in

[307] M.-J. Schmitt, The Charter of Fundamental Rights of the European Union - Reading Guide - In the light of the European Convention for the Protection of Human Rights and Fundamental Freedoms and of the European Social Charter (revised), 2008, available at: https://rm.coe.int/CoERMPublicCommonSearchServices/DisplayDCTMContent?documentId=09000016802f5eb7.

[308] The Treaty of Lisbon: introduction, available at: http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv%3Aai0033.

[309] The non-written sources of European law: supplementary law, available at: http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv%3Al14533.

Strasbourg whose mandate is to safeguard the implementation of the ECHR. The second is the CJEU in Luxembourg which, among others, may interpret secondary EU law in line with the CFR and general EU principles in the course of the preliminary ruling procedure. In this respect, it should be noted that in the course of the procedure that follows an action for annulment, the General Court may also declare an EU act as being contrary to the CFR. All the 28 EU Member States are signatories to the ECHR. This means that they are bound by both the CFR and the ECHR. The CJEU has made clear that it views the CFR as the principal basis on which the EU Court will ensure that human rights are observed. One of the problems that the accession of the EU to the ECHR would solve, is the avoidance of conflicting judgments on issues that are relevant to EU law. The CFR is address, according to its art. 51 *to the institutions, bodies, offices and agencies of the Union with due regard for the principle of subsidiarity and to the Member States only when they are implementing Union law.*

1.1.1 EU Fundamental rights as general principles in the Court' s case law prior to the Lisbon Treaty.

In some cased that are dated back to the 1950s and 1960s, the Court initially resisted attempts by litigants to invoke rights and principles recognized by national laws being unwilling to treat them as part of the Community's legal order. Although legitimate expectations, proportionality and natural justice were fundamental principles common to the legal systems of most or all Member States, it was not earlier than during the 1970s, when the CJEU developed its fundamental rights case law. Long before the entry into force of the Lisbon Treaty and the EU Charter of Fundamental Rights became binding, the CJEU recognized a number of fundamental rights in the guise of general principles of EU law.

In the *Stauder* case[310], the Court responded positively to an argument based on the fundamental right to human dignity. The applicants alleged that it was violated by the domestic implementation of an EU provision concerning a subsidized butter scheme for welfare recipients. Having construed the EU measure in a manner consistent with the protection for human dignity, the CJEU declared that it contains nothing capable of

[310] Case 29-69, Erich Stauder v City of Ulm – Sozialamt, ECLI:EU:C:1969:57.

prejudicing the fundamental human rights enshrined in the general principles of EU law, which the CJEU safeguards. This approach was elaborated upon the famous *Internationale Handegesellschaft* case[311], in which the German Constitutional Court was asked to set aside an EU measure concerning forfeiture of an export-license deposit which was alleged to conflict with German constitutional rights and principles such as economic liberty and proportionality. Later, in the *Nold* case[312], which was relevant to the drastic impact on the applicant's right to a livelihood of the EU's regulation of the market in coal, the Court identified international human rights agreements and common national constitutional traditions as the two primary sources of inspiration for the general principles of EU law. This case-by-case recognition of fundamental rights in the CJEU jurisprudence did not constitute a comprehensive system of fundamental rights protection covering all areas of EU action. Until 2000, due to the lack of reference to specific fundamental rights EU legislation, EU citizens could not know with certainty whether their rights had been violated and which mechanisms could be the best support for bringing their claims before a European Court.[313]

1.1.2 EU fundamental rights in the post - Lisbon era.

On 1 December 2009, the Lisbon Treaty entered into force and the CFR became the legally binding catalogue of fundamental rights of the EU legal order.[314] It could be better described as the creative distillation of the rights contained in the various European and International agreements and national constitutions which the CJEU had already recognized as *"sources of inspiration"* for human rights' protection in the EU. Surprisingly enough, there were voices that doubted

[311] Case 11-70, Internationale Handelsgesellschaft mbH v. Einfuhr- und Vorratsstelle für Getreide und Futtermittel, ECLI:EU:C:1970:114.
[312] Case 4-73, J. Nold, Kohlen- und Baustoffgroßhandlung v. Commission of the European Communities, ECLI:EU:C:1974:51.
[313] L. S. Rossi, How Fundamental are Fundamental Principles? Primacy and Fundamental Rights after Lisbon, 27 YEL (2008) p. 78, available at: http://web.unitn.it/files/download/14918/rossi.pdf.
[314] J. Kokott and C. Sobotta, The Charter of Fundamental Rights of the European Union after Lisbon, EUI Working Papers, Academy of European Law (2010) No. 2010/06, Distinguished Lectures of the Academy, available at: http://cadmus.eui.eu/handle/1814/15208.

on whether the CFR could add any value to the protection of fundamental rights in EU law.[315]

The CFR fulfils a triple function[316], as it provides grounds for interpretation, judicial review and operates as a source of authority for the 'discovery' of general principles of EU law[317]. Despite the universality and indivisibility of human rights, the jurisdiction of the CJEU is only limited to fields of action that fall within the scope of EU competence and to Member States' activities whenever they act within the scope of EU law. The fact that the CFR stands on an equal footing as the Treaties does not mean that the EU has become a *"human rights organization"*[318] or that *the CJEU has become a second European Court on Human Rights"*[319].

Human rights – based challenges can be brought on three different bases: first, applying provisions of the EU legislation based on protection for human rights; second, when Member - States as agents of EU law implement or enforce EU measures; and third, when Member - States derogate from EU rules or restricting fundamental rights provided for by EU law. As far as this third ground is concerned, the ERT case in 1991 reaffirm that in any case Member – States should not derogate from EU rules and every exception they make in the course of their actions should be read *in the light of the general principles of law and in particular of fundamental rights.*[320] In the *Familiapress* case[321] clarified that even where a Member State does not rely one of the Treaty based derogations, but on the broader range of *"public interest justifications"* developed by the CJEU for non-discriminatory or *"indistinctly applicable"* national measures, the latter measure will be assessed by the CJEU on the grounds of its compatibility with fundamental rights.

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[315] J.H.H. Weiler, Does the European Union Truly Need a Charter of Rights?, European Law Journal, 6, 2000, pp. 95 – 97.
[316] K. Lenaerts and J. Gutiérrez-Fons, 'The Constitutional Allocation of Powers and General Principles of EU Law', 47 CML Rev (2010) pp. 1656 et seq..
[317] C-555/07, Kücükdeveci v. Swedex GmbH & Co. KG, ECLI:EU:C:2010:21, para. 22.
[318] T. Tridimas, The General Principles of EU Law, 2nd edition. (OUP 2006), p. 613.
[319] K. Lenaerts, Exploring the Limits of the EU Charter of Fundamental Rights, European Constitutional Law Review, 8, p. 377.
[320] C-260/89, Elliniki Radiophonia Tiléorassi AE and Panellinia Omospondia Syllogon Prossopikou v. Dimotiki Etairia Pliroforissis and Sotirios Kouvelas and Nicolaos Avdellas and others, ECLI:EU:C:1991:254, para 43.
[321] C-368/95, Vereinigte Familiapress Zeitungsverlags- und vertriebs GmbH v Heinrich Bauer Verlag, ECLI:EU:C:1997:325, para 24.

The CJEU has also declared that Member - States are not obliged to comply with the general principles of EU law in situations which lie outside its scope (*"Although it is the duty of the court to ensure observance of fundamental rights in the field of community law, it has no power to examine the compatibility with the ECHR of national legislation lying outside the scope of community law"*).[322] Yet as cases such as *Carpenter*[323], *Akrich*[324], and *Ruiz Zambrano*[325] demonstrate, it is often difficult to predict which situations will be deemed to lie outside the scope of application of EU law and therefore to be unreviewable for compliance with EU fundamental rights by the CJEU. The Court has occasionally drawn the Member State's attention to their international obligations under the ECHR.[326]

1.2 The presumption of the EU ETS Directive' s compliance with human rights.

The rising interest of the EU in ensuring compliance with fundamental rights is reflected in secondary EU law documents such as the EU ETS Directive. Apart from the relevant discussions in the pre – adoption procedure, the Directive itself provides a presumption of compliance with human rights, especially in two points. First, the 27th recital of the preamble to the Directive reaffirms that *"The Directive respects the fundamental rights and observes the principles recognized in particular by the Charter of Fundamental Rights of the EU".* Additionally, recital no 30 verifies that the Directive does not go beyond what is necessary in order to achieve the objective of environmental protection through the reduction of GHG emissions.

So far, there are no judgments either of the CJEU or the General Court declaring the incompatibility of the EU ETS Directive with fundamental rights. The two Courts have crystalized a clear position towards allegations that raise the inconsistency of the Directive with the CFR. At the same time, there are no plenty of cases in which the two Courts have examined fundamental rights violations in the EU ETS context.

[322] Case 12/86, Meryem Demirel v. Stadt Schwäbisch Gmünd, ECLI:EU:C:1987:400, para 28.
[323] C-60/00, Mary Carpenter v. Secretary of State for the Home Department, ECLI:EU:C:2002:434.
[324] C-109/01, Secretary of State for the Home Department v. Hacene Akrich, ECLI:EU:C:2003:491.
[325] C-34/09, Gerardo Ruiz Zambrano v. Office national de l' emploi (ONEm), ECLI:EU:C:2011:124.
[326] C-127/08, Blaise Baheten Metock and Others v. Minister for Justice, Equality and Law Reform, ECLI:EU:C:2008:449.

Consequently, the EU ETS Directive is presumed to be lawful and to produce legal effects insofar as it has not been withdrawn, annulled or held invalid in a preliminary ruling.[327]

2. Means of compliance with the EU ETS Directive: are they human rights oriented? – A presentation of art. 16 of the EU ETS Directive.

Directive 2003/87/EC provides for specific penalties in order to ensure compliance with the system that it establishes. In general, it is considered that the penalties of art. 16 are appropriate in order to achieve the objective of the Directive, which is the protection of the environment. Harmonization of the penalties is necessary for the proper implementation of the scheme due to the diversity in enforcement strategies among the Member States. This makes the annual reporting obligation of the Member – States under art. 21 of the Directive one of the cornerstones for the EU ETS development.[328] Besides, the provision of robust information[329] by Member – States as part of their reporting and monitoring obligations is also a necessary condition for ETS price stability.[330] Different legal systems, enforcement cultures and administrative capabilities can lead to uneven approach between Member-States that confers a competitive advantage and threatens to distort competition as

[327] C-137/92 P, Commission of the European Communities v BASF AG and Others, EU:C:1994:247, para. 48; C-245/92 P, Chemie Linz GmbH v Commission of the European Communities, EU:C:1999:363, para. 93; C-344/98 Masterfoods Ltd v HB Ice Cream Ltd, EU:C:2000:689, para. 53; C-475/01, Commission of the European Communities v. Hellenic Republic, EU:C:2004:585, para. 18; C-533/10, CIVAD v. Receveur des douanes de Roubaix and Others EU:C:2012:347, para. 39; C-362/14, Maximillian Schrems v. Data Protection Commissioner, EU:C:2015:650, para. 62; J. Schwarze, Droit Administratif Européen, 2nd edition, Bruylant, 2009, pp. 254-260

[328] Commission Decision 2006/803/EC of 23 November 2006 amending Decision 2005/381/EC establishing a questionnaire for reporting on the application of Directive 2003/87/EC of the European Parliament and of the Council establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC (notified under document number C (2006) 5546), OJ L 329, 25.11.2006, p. 38–63, available at: http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32006D0803.

[329] Directive 2003/4/EC of the European Parliament and of the Council of 28 January 2003 on public access to environmental information and repealing Council Directive 90/313/EEC, OJ L 41, 14.2.2003, p. 26–32, available at: http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32003L0004.

[330] F. Gang *et al*., The Economics of Climate Change in China: Towards a Low-Carbon Economy, Earthscan (Taylor and Francis), 2011, p. 240.

discussed in the first part of the present thesis.[331] In any case, *penalties should be set at levels substantially higher than the prevailing permit price to create the appropriate incentives for compliance*[332] It has been also supported that penalties can be viewed as a "safety" valve on the market, limiting how high prices can go in the face of unexpected events. If excess emissions penalties for tradable permit programs are too high, regulatory authorities may be reluctant to impose them.[333]

For reasons of accuracy, art. 16 reads as follows:

1. Member States shall lay down the rules on penalties applicable to infringements of the national provisions adopted pursuant to this Directive and shall take all measures necessary to ensure that such rules are implemented. The penalties provided for must be effective, proportionate and dissuasive. Member State shall notify these provisions to the Commission by 31 December 2003 at the latest, and shall notify it without delay of any subsequent amendment affecting them.

2. Member States shall ensure publication of the names of operators who are in breach of requirements to surrender sufficient allowances under Article12(3).

3. Member States shall ensure that any operator who does not surrender sufficient allowances by 30 April of each year to cover its emissions during the preceding year shall be held liable for the payment of an excess emissions penalty. The excess emissions penalty shall be EUR 100 for each tonne of carbon dioxide equivalent emitted by that installation for which the operator has not surrendered allowances. Payment of the excess emissions penalty shall not release the operator from the obligation to surrender an amount of allowances equal to those excess emissions when surrendering allowances in relation to the following calendar year.

4. During the three-year period beginning 1 January 2005, Member States shall apply a lower excess emissions penalty of EUR 40 for each tonne of carbon dioxide equivalent emitted by that installation for which the operator has not surrendered allowances.

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[331] J. Kruger and W.A. Pizer, The EU Emissions Trading Directive - Opportunities and Potential Pitfalls, Discussion Papers, RFF, 2004, p. 22, available at: http://www.rff.org/files/sharepoint/WorkImages/Download/RFF-DP-04-24.pdf.

[332] J. Stranland *et al.*, "Enforcing Emissions Trading Programs: Theory, Practice, and Performance" Policy Studies Journal, 2002, 303(3), 343-361.

[333] T. Tietenberg, 2003. "The Tradable Permits Approach to Protecting the Commons: Lessons for Climate Change," Oxford Review of Economic Policy, Vol. 19, No. 3, 400-419.

Payment of the excess emissions penalty shall not release the operator from the obligation to surrender an amount of allowances equal to those excess emissions when surrendering allowances in relation to the following calendar year.

2.1 National Rules for regulating breaches that do not fall within the scope of art. 16 para 3.

More specifically, the first paragraph of art. 16 indicates to the Member – States the need to take all the measures that are required at a national level for addressing the infringement of the Directive provisions as transposed in the national legal order. Member – States had to notify these measures to the European Commission until the 31st of December 2003, as a part of the arrangements they have to make. These penalties are set for breaches that are relevant to monitoring, reporting and verification and not for negligence to surrender the sufficient number of allowances to cover the emissions for the preceding year. For example, if essential data for monitoring and reporting are missing or are not accurate, it is very difficult to properly fulfil these obligations. The effectiveness of the system would be seriously impaired if it is not clear how many allowances must be surrendered.[334] Member States have to put in place a system of penalties that is effective, proportionate and dissuasive, as provided for by the preamble to the Directive and the first paragraph of art. 16.[335] It should be noted that the precise nature of the arrangements will be determined by the level of discretion that is associated with their implementation.[336]

2.2 The "naming and shaming penalty" of the second paragraph.

[334] J. Verschuuren, Report on the legal implementation of the EU ETS at Member State level, ENTRACTE project, 2014, p. 15, available at: http://entracte-project.eu/uploads/media/ENTRACTE_Report_Legal_Studies.pdf.
[335] Recital 12 to the preamble of the EU ETS Directive.
[336] N. Gunningham and D. Sinclair, Designing Smart Regulation, p. 7, available at: https://www.oecd.org/env/outreach/33947759.pdf.

The second paragraph of art. 16 sets a *"naming and shaming"* penalty as a means of preventing operators from breaching their obligation to surrender the allowances, something that has been considered as a novelty.[337] Covered installations are usually conscious about their reputation and therefore this penalty would increase compliance.[338] So far the publication of offences and administrative sanctions including the name of the operator by national supervisors was not so effective due to the inadequate information that the Member – States provide under their reporting obligations of art. 21 of the Directive. For example, in Germany, NGOs do not follow up on the naming and shaming information as the detected infringements are not fraud actions but mistakes due to the complexity of the rules.[339]

The provision of art. 16 para 2 does not t stipulate a time by when the publication of the names of operators that are in breach of requirements to surrender sufficient allowances should take place. Moreover, each member state has transposed the directive into its national legal framework in a different way. The Flemish Department of Environment, Nature and Energy in Belgium intended to communicate on the 2012 non-compliance when all 2012 compliance procedures have been finalised.[340] In the UK, the competent authority in respect of the EU ETS (excluding Scotland), was about to publish a list of non-compliant operators by the 30th of June when *any civil penalties have been issued and the appeal period has expired without an appeal being made, or an appeal has been determined against the appellant or withdrawn*[341]. A more "harmonised approach" on tackling non-compliance in the aviation sector seems to be adopted the last two years.[342]

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[337] F. Fleurke and J. Verschuuren, Enforcing the European Emissions Trading System within the EU Member States: a Procrustean bed? in Environmental Crime and the World, Ashgate, 2015, p. 9, available at: http://entracte-project.eu/fileadmin/entracte/downloads/Floor_Fleurke_Jonathan_Verschuuren.pdf.
[338] N. Gunningham and P. Garbosky, Smart Regulation. Designing Environmental Policy, Oxford University Press, 1998.
[339] S. E. Weishaar, Research Handbook on Emissions Trading, Edward Elgar Publishing, 2016, p. 122.
[340] EU states tread warily on naming and shaming aircraft operators that have failed to comply with EU ETS rules, 15 December 2014, available at: http://www.greenaironline.com/news.php?viewStory=2021.
[341] Consultation Response Document: Implementing the Aviation EU Emissions Trading System Regulation (421/2014) in UK Regulations, p. 8, available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/377689/Government_response_to_consultation_on_Greenhouse_Gas_Emissions_Trading_Scheme_Regulations__Amendments__2014.pdf.
[342] *Supra* n. 406.

A question remains to be answered on whether the presumption of legality is violated by these naming and shaming penalties.[343] As stated above, it has been supported in Germany, that entities do not intentionally infringe their obligations. Furthermore, it is not clear whether the cumulative publication of the non – compliant operators' names and the imposition of the penalties of paragraphs 1, 2 or 4 exceed what is necessary in order to ensure compliance given that the operator is not released from the obligation to surrender the allowances even after the payment of the penalty, as it will be discussed below.

2.3 The "excess emissions penalty" of art. 16 paras 3 and 4 of the EU ETS Directive.

The next two paragraphs of art. 16 describe the *"excess emissions penalty"*. In particular, they guarantee the compliance of operators with their obligation to surrender sufficient allowances to cover their emissions for the preceding year. In this regard, it serves the accurate accounting of allowances ensuring, thus, the proper functioning of the scheme[344], which in turn contributes to environmental protection. Accurate emissions monitoring is undeniably a necessary enforcement component[345] in the absence of which the effectiveness of the system can be considerably impaired. Yet in the context of the US SO2 program, it was observed that the monitoring costs were not insignificant.[346]

These two paragraphs mean that the operator who has not surrendered the sufficient number of allowances to cover the emissions of the previous year by the 30 of April are obliged to pay the penalty regardless of the cause of the omission. The

[343] J. J.W. Pfaeltzer, Naming and Shaming in Financial Market Regulations: A Violation of the Presumption of Innocence?, Utrecht Law Review, 10, 2014.
[344] Point 17 of the Explanatory Memorandum, *supra* n. 138; C-148/14, Bundesrepublik Deutschland Nordzucker AG, ECLI:EU:C:2015:287, para. 28, available at: http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A62014CJ0148; E. Woerdman, The EU Greenhouse Gas Emissions Trading Scheme, University of Groningen Faculty of Law Research Paper No. 2015/34, University of Groningen, 2015. p. 10; L. Atlee and S. Van Cutsem, The European Emissions Trading Directive: The End of the Beginning, the Beginning of the End or Somewhere in Between?, Global Trade and Customs Journal, 1, 2006, p. 98
[345] *Supra* n. 398.
[346] A.D. Ellerman, Markets for Clean Air, The U.S. Acid Rain Program, Cambridge University Press, 2000.

penalty for the first implementation period amounted to 40 euros per tonne emitted and for the second implementation period 100 euros per tonne emitted.

The excess emissions penalty was not imposed very often in different Member – States. Indicatively, in the Netherlands it happened just three times from 2006 -2015, while in the UK, it was imposed 21 times from 2008 -2013.[347] As it will be further examined it is not a penalty whose imposition lies upon Member – States discretion. Subsequently, the CJEU has not received a great number of questions in the course of the preliminary ruling procedure regarding the clarification of the "excess emissions penalty". The *Billerud* case in which the Court examined the proportionality of the penalty follows in the case – law sub – chapter.

3. The penalty of art. 16 paras 3 and 4 of the EU ETS Directive: a criminal penalty under an administrative dress?

The presumption of legality of the EU ETS Directive suggests that the penalty imposed pursuant to art. 16 paras 3 and 4 of the EU ETS Directive complies with art. 16, 17 and art. 49 para 3 of the CFR.

3.1 The penalty is in compliance with art. 16 and 17 CFR and art. 1 para 1 of the First Additional Protocol to the ECHR.

According to the CJEU case-law, the freedom to conduct a business and the right to property are not absolute.[348] The interference with such rights due to the imposition of the penalty to non – compliant operators is justified, in the context of art. 52 para 1 CFR. Indeed, the penalty aims at safeguarding environmental protection as an EU objective of general interest[349] and respects the

[347] *Supra* n. 403, p. 17.
[348] Case C-295/03 P Alessandrini and Others v. Commission, EU:C:2005:413, para. 86; Joined Cases C-120/06 P and C-121/06 P FIAMM, EU:C:2008:476, para. 183; Case C-12/11 McDonagh, EU:C:2013:43, para. 60; Case T-19/01 Chiquita Brands and Others v Commission, EU:T:2005:31, para. 220; Case T-330/10 ATC and Others v Commission, EU:T:2013:451, para. 188.
[349] *Supra* n. 366 Nordzucker; Point 2 of the Explanatory Memorandum on the proposal for a directive of the European Parliament and of the Council establishing a scheme for greenhouse gas emission

principle of proportionality, since it is both appropriate and necessary to achieve the aim pursued. As it has already been mentioned, art. 37 CFR establishes a general principle to a high level of environmental protection.[350]

Environmental protection is also acknowledged by the ECtHR as a purpose of general interest that justifies the restriction to the peaceful enjoyment of their possessions enshrined in art. 1 para 1 of the First Additional Protocol to the ECHR.[351] Both the CFR and the ECHR provisions accept that certain restrictions are permissible under specific circumstances. The most usual example that is raised is the deprivation of property for serving the public interest.[352] According to the ECtHR' s settled case – law, any restriction of the right to property requires the prior justification of this restriction on a legal basis which will be accessible to the public and whose implementation results will be foreseeable. The private interest of the individual whose rights were limited and the public interest that is served should be assessed and a fair balance should be struck between them.[353]

The intervention of any public authority, which enjoys a wide margin of appreciation in deciding with regard to the choice of the means of enforcement,[354] should also be assessed under the light of the proportionality principle.[355] In cases when the adoption of a measure entails complex economic and political assessments , the evaluation of the national authorities should prevail unless it is manifestly unreasonable.[356]

It is interesting to note that the ECtHR has accepted that art. 1 of the First Additional Protocol *does not necessarily secure a right to continue to enjoy one's property in a pleasant environment*.[357] However, if certain activities could affect the environment adversely the value of the property could be seriously reduced to an extent

allowance trading within the Community and amending Council Directive 96/61/EC, COM (2001) 581 final.

[350] FRA/ Council of Europe, Handbook on European law relating to access to justice, 2016, p. 172.

[351] Manual on Human Rights and the Environment, Council of Europe Publishing, 2012, p. 61 et seq.

[352] *Supra* n. 373, p. 63.

[353] Brosset-Triboulet and Others v. France, no 34078/02, ECHR, 2010, para 80.

[354] Fredin v. Sweden, no. 12033/86, ECHR, 1991, para 51; ZANTE – Marathonisi A.E. v. Greece, no. 14216/03, ECHR, 2007. para 50.

[355] Pine Valley Developments Ltd and Others v. Ireland, no. 12742/87, ECHR, 1991.

[356] Kapsalis and Nima-Kapsali v. Greece, decision of 23 September 2004.

[357] *Supra* n. 373, p. 63.

that makes it almost impossible to sell it. In these cases, a partial or a *de facto* expropriation are possible.

Environmental protection is not guaranteed in a specific article of the ECHR, since the latter does not envisage an *actio popularis* to protect environment.[358] Complaints regarding environmental cases can be brought under art. 2[359] or 8[360] ECHR as they affect individuals' well – being.

Access to information has been confirmed by the Court of Strasbourg as a right of major importance when serious health effects are possible.[361] In this respect, all those who seek all the relevant information should not be deprived of an effective and accessible procedure.[362]

In the case of *Hamer v. Belgium*[363], related to the demolition of a holiday home, built in 1967 by the applicant's parents without a building permit, the Court declared environment as an asset whose protection was a matter of considerable and constant concern to the public and hence to the authorities. Any kind of other economic imperatives and even some fundamental rights such as the right to property should not be given precedence over environmental protection, particularly if the state had adopted legislation on the subject.

At this point it should be recalled that the legislative choice of the "excess emissions" penalty provided for in art. 16 para 3 and 4 of the EU ETS Directive was based on complex economic and technical considerations.[364] Following the position that both European Courts have adopted so far, the proportionality review of the restriction of aforementioned rights pursuant to the CFR should be conducted in the light of the wide margin of discretion conferred on the EU legislature, when intervening in an area entailing political, economic and social choices.[365] The same assessment

[358] The incompatibility of actio popularis with the Convention system has been confirmed also in Ilhan v. Turkey, no 22277/93, ECHR, 2000., paras 52-53.
[359] For example, see Öneryıldız v. Turkey No. 48939/99, ECHR, 2004, paras. 111–118.
[360] For example, see Hatton and Others v. the United Kingdom, no. 36022/97, ECHR, 2003.
[361] McGinley and Egan v. the United Kingdom, Nos. 21825/93 and 23414/9440, 9 June 1998, para. 101.
[362] Giacomelli v. Italy, no. 59909/00, ECHR, 2006.
[363] Hamer v. Belgium, no. 21861/03, ECHR, 2008.
[364] Case C-203/12 Billerud Karlsborg and Billerud Skärblacka, EU:C:2013:664, paras 35- 36.
[365] Case C-101/12 Schaible, EU:C:2013:661, paras 27, 47; Case T-614/13 Romonta v Commission, EU:T:2014:835, paras 59, 63; Case T-190/12 Tomana, EU:T:2015:222, paras 291, 296; Opinion of AG Bot in Case C-283/11 Sky Österreich, EU:C:2012:341, paras 49-50.

would also happen when examining the proportionality of the restriction under art. art. 1 of the First Additional Protocol to the ECHR.

Last but not least, the argument that is raised regarding the disproportionate character of the penalty when the latter is linked to the allowance price during the second EU ETS period is unfounded. It is true that the allowance price in the second trading period was significantly lower than expected.[366] In any case, this does not mean that the penalty should not be high enough for ensuring compliance with the EU ETS system.[367] When adopting the EU ETS Directive back in 2003, the EU legislature could neither predict the carbon price in a ten year' s time nor vote in favour of continuous amendments of the EU ETS in cases of social, economic or political changes. Both of these options could not provide certainty and stability regarding the penalties that would be imposed in a non – compliance situation and, thus, the lack of certainty would further be translated into undermining the effectiveness of the EU ETS.

3.2 Review of the penalty in the light of art. 49 para 3 of the CFR.

In order to find out whether or not the penalty that is provided for by art. 16 paras 3 and 4 of the EU ETS Directive is criminal in nature, the settled case – law of the ECtHR should be taken into consideration. The Court of Strasbourg has developed three criteria that are examined when assessing whether or not a penalty is equated with a criminal charge.

The first time when the ECtHR declared that a penalty was criminal in nature despite its different classification under the national law was in 1976 in the case *Engel and others v. the Netherlands*.[368] The facts of the case are the following ones: the applicants were all soldiers serving in the Netherlands' armed forces. Various penalties were inflicted on them on different occasions as a result of offences against military discipline. Under the Dutch law, two legal bases were in force when similar

[366] COM (2012) 652 final, The State of the Carbon Market in 2012, p. 10.
[367] B. Swift, How Environmental Laws Work: An Analysis of the Utility Sector's Response to Regulation of Nitrogen Oxides and Sulfur Dioxide Under the Clean Air Act, 14 Tulane Environmental Law Journal, 2000, p. 404, available at: http://ceepr.mit.edu/files/papers/Reprint_157_WC.pdf.
[368] Engel and Others v. the Netherlands, nos 5100/71, 5101/71, 5102/71, 5354/72, 5370/72, ECHR, 1976.

circumstances were invoked: first, the disciplinary code; and second the military criminal law. A penalty of three days' strict arrest for having disregarded his two previous punishments was imposed on Mr Engel. The applicant challenged the arrest decision before the Supreme Military Court, relying among others on the ECHR provisions. The Supreme Military Court did not set aside the contested decision. Mr Engel raised a complaint before the Court of Strasbourg alleging a violation of art. 6 ECHR. His argument was based on the repressing character of the penalty inflicted on him that could transform an administrative penalty into a criminal one. In essence, despite the fact that the penalty was considered as being disciplinary according to the national legislation, the objective that it pursued was analogous to the general goals set by criminal law.

The ECtHR held that the facts of the case indicated the existence of a criminal penalty. In order to reach this conclusion, it examined two criteria that were used afterwards in similar cases. The first one was the legal classification of the penalty under domestic law and the second was the very nature of the offence in combination with the severity of the penalty which the individual is liable to occur. Later, the second criterion was divided in two separate ones. The CJEU has accepted the application of these criteria in a number of cases.[369]

Regarding the penalty of art. 16 paras 3 and 4 of the EU ETS Directive, the *Engel criteria* should apply as follows:

As a starting point, the penalty is imposed on installations by national authorities established under administrative law. Art. 18 of the EU ETS Directive provides for that Member – States have to make all the necessary administrative arrangements in order to ensure the implementation of the Directive. The establishment of a national environmental authority whose mandate is to monitor everything that concerns the EU ETS Directive is one of the national measures that should be adopted. This indicates that the national provisions which transpose art. 16 para 3 and 4 of the Directive into the Member – States legal orders are of administrative nature. So far, there is no reporting from Member – States stating that the specific penalties provided for by the Directive are of criminal or civil nature. It should be clarified though, that this is the

[369]For example, see C-489/10, Łukasz Marcin Bonda, ECLI:EU:C:2012:319, para 37.

case for art. 16 paras 3 and 4. The discretion of Member – States is wider when it comes to the implementation or the first paragraph of art. 16.

With respect to the second criterion, a number of factors should be examined. Firstly, while criminal provisions are normally addressed to the general public, art. 16 paras 3 and 4 are directed towards a specific group of operators possessing a particular status[370] namely those who conduct activities listed in Annex I of the EU ETS Directive. Secondly, the main purpose of the penalty does not retain a punitive character, which is the customary distinguishing feature of criminal penalties.[371] It rather serves as a means to ensure compliance of the operators with their surrendering obligation under art. 12 para 3 of the EU ETS Directive. It is wrong to believe that the penalty under question is not inflicted on objective grounds. No criminal intent is established.[372] On top of that, the predefined amount of the lump sum penalty provided for therein may not be varied according to the nature and seriousness of the operator's conduct. These elements render the application of the second criterion void and highlight that the penalty is dissimilar to a criminal sanction.

Thirdly, as far as the severity of the penalty is concerned, it is not unlimited but rather calculated in proportion to the tonnes of gas emitted, thus not exceeding the amount of 100€ per tonne.[373]

4. The Luxembourg Courts' case – law on human rights and the EU ETS.

The fact that the "excess emissions penalty" was not imposed many times by Member – States can reasonably lead to the conclusion that the relevant case – law is not extensive. In this sub – chapter, two cases are examined. The one (Arcelor Atlantique) was brought before the General Court and the other, the Billerud case, was examined in the course of the preliminary ruling procedure.

[370] Opinion of AG Mengozzi in Case C-418/11 Textada Software, EU:C:2013:50, para. 76; Ezeh and Connors v. The United Kingdom, nos. 39665/98 and 40086/98, ECHR, 2003, para. 103.
[371] Öztürk v. Germany, no. 8544/79, ECHR, 1984, para. 53.
[372] Ellerman A. – D., Convery, De Perthuis, Pricing Carbon – The EU ETS, p. 6.
[373] Sergey Zolotukhin v. Russia, no. 14939/03, ECHR, 2009, para. 56.

4.1 Europe' s biggest emitter before the Luxembourg Courts: Arcelor Atlantique et Lorraine cases.

Arcelor SA is a steel company with business locations in a number of EU countries (Luxembourg, Germany, France, Belgium and Spain). After a merger in 2006 it was renamed in ArcelorMittal.[374] In any case, the company is one of the major greenhouse emitters in Europe.

Arcelor, along with other steel companies in France, requested the competent national authorities to repeal art. 1 of Decree No 2004-832 in so far as it made the decree applicable to installations in the steel sector. That Decree provided for the detailed rules for the application of the Order no 2004-330 which transposed in the French legal order the Directive 2003/87. The national authorities did not answer the requests of the applicants. As it is described in paragraph 20 of the judgment that was decided by the CJEU the companies *brought an action before the Conseil d' État for judicial review of the implied decisions rejecting those requests, asking for those authorities to be ordered to effect the repeal in question. In support of their application, they relied on breach of several constitutional principles, such as the right to property, the freedom to carry on a business, and the principle of equal treatment*. The *Conseil d' État* rejected all the pleas apart from the one that was based on the principle of equal treatment and formed a question regarding the inclusion of the steel sector into the scope of application of the EU ETS Directive, given the fact that activities in that sector also resulted in GHG emissions.[375]

In order to reach its conclusion, the Court[376] examined systematically the principle of equal treatment under the light of its settled case law, in combination with the broad discretion of the EU legislature when deciding on issues that are based on complex political or economic assessments. It finally stated that, it was true that the applicants were not treated equally, as other companies under comparable circumstances, but this

[374] For more information, see in general: http://corporate.arcelormittal.com/.
[375] M. G. Faure and M. Peeters, Climate Change and European Emissions Trading: Lessons for Theory and Practice, Edward Elgar Publishing, 2008, p. 113.
[376] C-127/07, Société Arcelor Atlantique et Lorraine and Others v. Premier ministre, Ministre de l' Écologie et du Développement durable, Ministre de l' Économie, des Finances et de l' Industrie, ECLI:EU:C:2008:728.

differentiation in treatment was justified due to the environmental objective that the Directive protected.[377]

The Court' s judgment was criticized on different grounds both at a European and a national level. In France, a discussion was triggered on the discretion and the authority of the national courts to declare invalid a national provision that transposes into the domestic legal order an EU Directive.[378]

However, the companies had previously brought the case before the General Court in 2004 despite the strict admissibility requirements both for natural and legal persons. Although the chances did not seem to be in favor of a successful outcome for the companies, they raised an action[379] for partial annulment of the Directive 2003/87/EC. As it was expected, Arcelor did not win the case, but we are lucky enough to have an interesting judgment that addresses critical aspects of the EU ETS Directive, especially as far as the principle of equal treatment is concerned.[380]

4.2 Proportionality of the penalties in the preliminary ruling procedure: The Billerud case.

In 2012, a Swedish Company was called to developed its argumentation on its opposition to the penalties that art. 16 of the EU ETS Directive established. The Billerud companies, governed by Swedish law holding carbon dioxide emission allowances, had not surrendered the allowances equal to their emissions for 2006 as by 30 of April 2007. The competent national authorities imposed on them the penalty provided for by the third paragraph of art. 16 of the EU ETS Directive. As a result, they challenged this decision alleging that they had in their possession the number of

[377] P. – M Dupuy and J. E. Viñuales, Harnessing Foreign Investment to Promote Environmental Protection – Incentives and Safeguards, Cambridge University Press, 2013, p. 295; K. Miles, The Origins of International Investment Law: Empire, Environment and the Safeguarding of Capital, Cambridge University Press, 2013, p. 189.

[378] For more information, see: Arrêt Arcelor: le contrôle de la constitutionnalité des actes transposant des directives (CE, 8/02/2007, Société Arcelor Atlantique et Lorraine), available at: http://www.fallaitpasfairedudroit.fr/droit-administratif/le-bloc-legalite/le-droit-international/89-le-controle-de-constitutionnalite-des-normes-internes-transposant-des-directives-ce-8022007-societe-arcelor-atlantique-et-lorraine;

[379] T-16/04, Arcelor SA v. European Parliament and Council of the European Union, ECLI:EU:T:2010:54.

[380] M. Peeters, The EU ETS and the role of courts: Emerging contours in the case of *Arcelor*, Climate Law 2 (2011), pp 19 – 36.

allowances required and they did not have the intention to circumvent the procedures set by the Directive. The Swedish Supreme Court sent two preliminary questions to the CJEU that were relevant to the proportionality of the penalty under question and whether it had to be inflicted on operators, who were holding the allowances required despite their non – surrendering as by the 30th of April:

1. *Does Article 16(3) and (4) of Directive 2003/87 … mean that an operator who has not surrendered a sufficient number of emission allowances by 30 April must pay a penalty regardless of the cause of the omission, for example, where, although the operator had a sufficient number of emission allowances on 30 April, as a result of an oversight, an administrative error or a technical problem it did not surrender them then?*
2. *If Question 1 is answered in the affirmative, does Article 16(3) and (4) of Directive 2003/87 mean that the penalty will or may be waived or reduced for example in the circumstances described in Question 1?'*

The Court recognized the wide margin of discretion of the EU legislature when it is asked to intervene in an area which entails political, economic and social choices on its part, and in which it is called upon to undertake complex assessments.[381] The fact that the companies did hold the allowances was not of great importance. The Court emphasized on the fact that the result of non – surrendering the allowances was the decisive factor for the imposition of the penalty. The harmonized application of the penalty was required in order to enhance the effectiveness of the scheme. The opinion of Advocate General Mengozzi[382] regarding the application of the first instead of the third paragraph of art. 16 was not endorsed. It should be an omission not to state that the Court maintained its solid position in the Bitter order of 2015[383] clarifying that any issues arising from the imposition of the penalties in terms of human rights have been discussed in the Billerud case.

[381] C-203/12, Billerud Karlsborg AB and Billerud Skärblacka AB v. Naturvårdsverket, ECLI:EU:C:2013:664, para 35.
[382] Opinion of Advocate General Mengozzi on the case C-203/12, Billerud Karlsborg AB and Billerud Skärblacka AB v. Naturvårdsverket, ECLI:EU:C:2013:320.
[383] C-580/14, Sandra Bitter v Bundesrepublik Deutschland, ECLI:EU:C:2015:835 (order).

V. CONCLUDING REMARKS

According to Nicolas de Sadeleer [384] *"whilst environmental protection is not a recent concern, over recent years it has taken on a renewed intensity, characterized by the urgent need to find universal solutions to global warming, the erosion of biodiversity, as well as the depletion of natural resources. The interest pursued undoubtedly springs from the fact that the situation has, in many respects, become alarming and risks worsening if no ambitious action is taken."*. In terms of EU environmental law, we have to deal with a *"adaunting agenda of unfinished business as well as a swathe of new challenges"*. In just a few lines we can read a brief but absolutely precise summary of the developments in environmental awareness over the recent years both at an international and an EU level.

This was exactly the purpose of the extended introductory chapter; to shed light on the fact that all the measures taken so far have been the products of long cooperation attempts and long – term planning that was usually blocked by political, economic and other social developments. In other words, the analysis revealed that the adoption of a market – based mechanism for the reduction of the GHG was not decided easily in one day. From practical barriers to political disagreements many delays were caused. Fortunately, the parties to the international discussions realized that the more the time passed, the less likely to achieve their aim was. Compromises were made by all parties and finally a framework convention and a protocol (UNFCCC and Kyoto Protocol) were the first seriously organized attempts in the battle against climate change.

Within this framework regional mechanisms and systems, the EU ETS being the most important, flourished. It is a matter of fact that a few pages are not enough to cover all the aspects of the EU ETS as they have emerged so far during their first three implementation periods. However, competition and human rights rules arise more often as reminders for the need to comply with the relevant EU legal framework when implementing the system's requirements. Indeed, state aid concerns are inherent in the EU ETS, but they can be justified as providing incentives towards environmental protection. Each case should be examined independently in order to assess that a

[384] N. de Sadeleer, EU Environmental Law and the Internal Market, Oxford University Press, 2014, p. i.

uniform interpretation of the state aid Treaty rules and guidelines will not be undermined. On the other hand, the effectiveness of the system requires participants' discipline and dedication to the target. The penalty provided for by art. 16 is found to be in compliance with fundamental rights requirements without exceeding what is necessary in order to achieve the objective pursued.

The fact that the EU ETS is a market – based mechanism, makes it more susceptible to change. In Law, we use the term "living instrument" for a Convention that needs to be read in the light of the current conditions in order to serve its purpose or for a Constitution that cannot be subject to changes once in a while. Although, the differences are distinct, we would not exacerbate if we use the same term for the EU ETS. Being, thus, a "living instrument" it has to be adapted to the demands of the market, politics and law.

When it comes to institutional working and planning, as it is the case for the EU ETS, the best way to maintain effectiveness at a high level is to crystalize a solid and uniform position. This is exactly what the EU institutions, including the CJEU, have done regarding the EU ETS. The implementation of the scheme was strictly monitored. Additionally, the CJEU adopted at a very early stage its position on the aspects of the EU ETS that were under question each time. It should be pointed out that the CJEU has released many orders with references to its previous case – law for clarifying the questions for the EU ETS Directive' s interpretation.

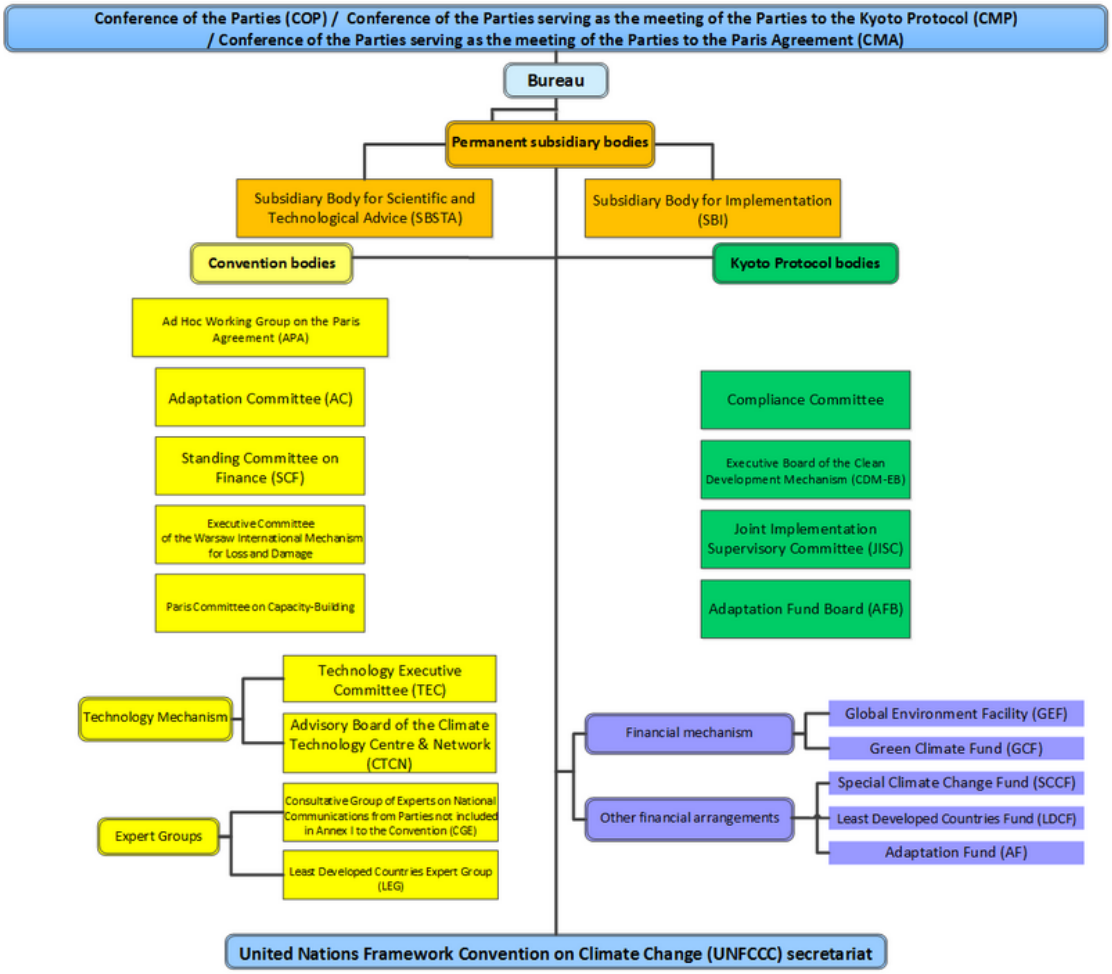
However, it would be an omission not to refer to the fact that although the EU ETS is not flawless, the declaration of the Directive as invalid on any potential grounds would not be the solution for remedying these weaknesses. Instead, this would cause frustration to the operators- participants in the scheme. A new scheme should be then in force with a transition period for adapting to the new developments.

In this respect, it should be clarified that the structural reform of the EU ETS proposed by the Commission in the spring of 2015 was not a response to the ineffectiveness of the Directive and subsequently of the scheme that it established. It was the indication that a new era in terms of combatting climate change was about to start and the EU prepared accordingly its tools and weapons to reach the global developments and meet its obligations. Besides, this was something expected since the

third implementation period belonged to the past and the actors involved seemed to be ready for being committed at a higher and more demanding level. The Paris Agreement that was adopted in December 2015 was more ambitious, as it will be the case for the new EU ETS.

VI. APPENDIX

Picture (1):



United Framework Convention on Climate Change Bodies, source: http://unfccc.int/bodies/items/6241.php.

Picture/Table (2):

Annex A (Kyoto Protocol)

Greenhouse gases

Carbon dioxide (C02)

Methane (CH4)

Nitrous oxide (N20)

Hydrofluorocarbons (HFCs)

Perfluorocarbons (PFCs)

Sulphur hexafluoride (SF6)

Sectors/source categories

Energy

Fuel combustion

Energy industries

Manufacturing industries and construction

Transport

Other sectors

Other

Fugitive emissions from fuels

Solid fuels

Oil and natural gas

Other

Industrial processes

Mineral products

Chemical industry

Metal production

Other production

Production of halocarbons and sulphur hexafluoride

Consumption of halocarbons and sulphur hexafluoride

Other

Solvent and other product use

Agriculture

Enteric fermentation

Manure management

Rice cultivation

Agricultural soils

Prescribed burning of savannas

Field burning of agricultural residues

Other

Waste

Solid waste disposal on land

Wastewater handling

Waste incineration

Other

Annex B (Kyoto Protocol)

Party	Quantified emission limitation or reduction commitment (percentage of base year or period)
Australia	108
Austria	92
Belgium	92
Bulgaria*	92
Canada	94
Croatia*	95
Czech Republic*	92
Denmark	92
Estonia*	92
European Community	92
Finland	92
France	92
Germany	92
Greece	92
Hungary*	94
Iceland	110
Ireland	92
Italy	92
Japan	94
Latvia*	92
Liechtenstein	92
Lithuania*	92
Luxembourg	92
Monaco	92
Netherlands	92
New Zealand	100
Norway	101
Poland*	94
Portugal	92

Romania* Russian Federation* Slovakia* Slovenia* Spain Sweden	92 100 92 92 92 92
Ukraine* United Kingdom of Great Britain and Northern Ireland United States of America	100 92 93
*Countries that are undergoing the process of transition to a market economy.	

Annexes A and B of the Kyoto Protocol to the United Nations Framework Convention on Climate Change, source: http://unfccc.int/essential_background/kyoto_protocol/items/1678.php.

Picture/Table (3):

The International Response to the Climate Change in Context (Including measures adopted by the EU for the reduction of the GHG emissions).	
Year	**Action Taken**
1979	The First World Climate Conference takes place.
1988	The Intergovernmental Panel on Climate Change (IPCC) is set up. More about the science of climate change.
1990	IPCC' s first assessment report released.
1991	First Meeting of the Intergovernmental Negotiating Committee (INC) takes place.
1992	The INC adopts the UNFCCC text. At the Earth Summit in Rio, the UNFCCC is opened for signature along with its sister Rio Conventions, UNCBD (Biodiversity) and UNCCD.
1994	UNFCCC enters into force.
1995	The first Conference of the Parties (COP 1) takes place in Berlin.
1996	The Secretariat is set up to support action under the Convention.

1997	Kyoto Protocol formally adopted in December at COP 3.
2001	Release of IPCC' s Third Assessment Report. Bonn Agreements adopted based on Buenos Aires Plan of Action of 1998. Marrakesh Accords adopted at COP 7, detailing rules for implementation of Kyoto Protocol, setting up new funding and planning instruments for adaptation, and establishing a technology transfer framework.
2002	European Council adopts a Decision to transfer the Kyoto Protocol into the EU' s legal order.
2003	The EU ETS Directive (2003/87/EC).
2005	Entry into force of the Kyoto Protocol. The first meeting of the parties to the Kyoto Protocol (MOP 1) takes place in Montreal. In accordance with Kyoto Protocol requirements, parties launched negotiations on the next phase of the KP under the Ad Hoc Working Group on Further Commitments for Annex I parties under the Kyoto Protocol (AWG – KP). What was to become the Nairobi Work Programme on Adaptation (it would receive its name in 2006, one year later) is accepted and agreed on.
2005 - 2007	First implementation period of the Kyoto Protocol.
2007	IPCC' s Fourth Assessment Report released. Climate science entered into popular consciousness. At COP 13, Parties agreed on the Bali Road Map, which charted the way towards a post - 2012 outcome in two work streams: the AWG – KP, and another under the Convention, known as the Ad – Hoc Working Group on Long – Term Cooperative Action Under the Convention.
2008- 2012	Second Period of Implementation of the EU ETS.
2009	Copenhagen Accord drafted at COP 15 in Copenhagen. This was taken note of by the COP. Countries later submitted

	emissions reductions pledges or mitigation action pledges, all non – binding.
2010	Cancun Agreements drafted and largely accepted by COP, at COP 16.
2011	The Durban Platform for Enhanced Action drafted and accepted by the COP, at COP 17.
2012	The Doha Amendment to the Kyoto Protocol is adopted by the CMP at CMP 8. Several Decisions taken opening a gateway to greater ambition and action on all levels.
2013	Key decisions adopted at COP 19/ CMP 9 include decisions on further advancing the Durban Platform, the Green Climate Fund and Long – Term Finance, the Warsaw Framework for REDD. Plus, and the Warsaw International Mechanism for Loss and Damage.
2013 - 2020	Third implementation period of the EU ETS.
2015	✓ Proposal of the EU Commission on the Reform of the EU ETS. ✓ Paris Agreement is signed in December.
2016	✓ Paris Agreement enters into force in October. ✓ EU Parliament's Environment Committee votes in favor of the proposal for the structural reform of the EU ETS accepting a significant number of amendments.

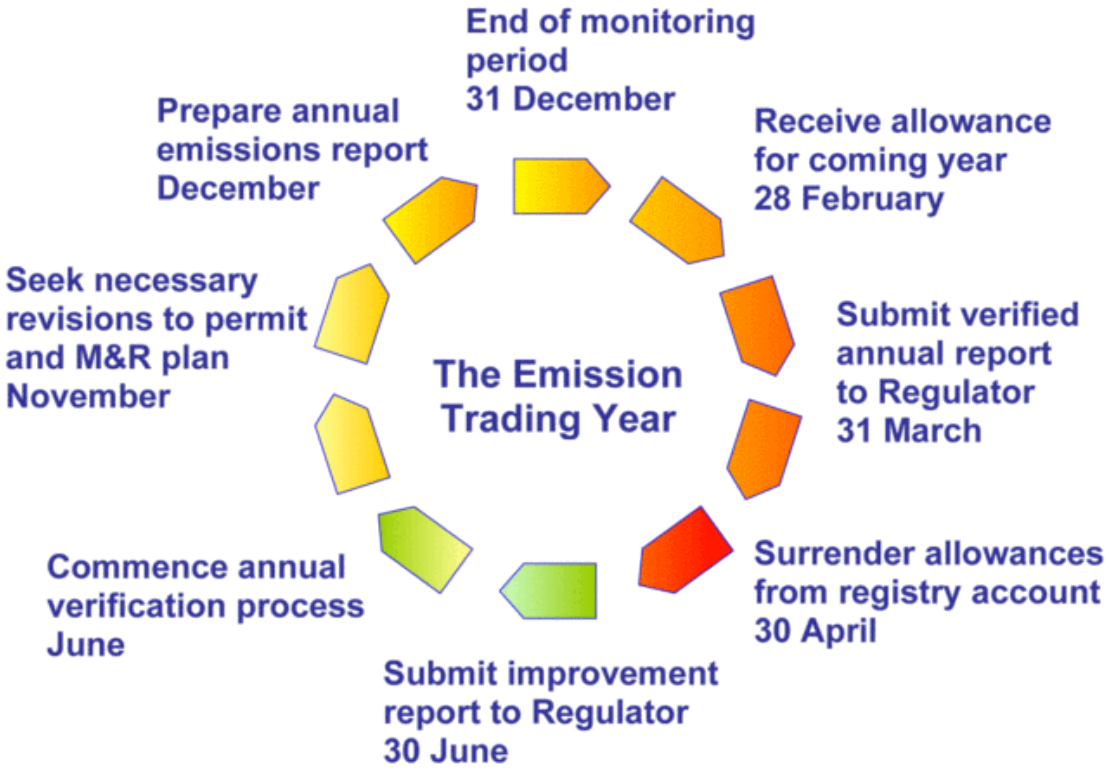
Picture/ Table (4):

Key Features	**Phase 1** **(2005 – 2007)**	**Phase 2** **(2008 – 2012)**	**Phase 3** **(2013 – 2020)**
Geography	EU27	EU27 + Norway, Iceland, Liechtenstein	EU27 + Norway, Iceland, Liechtenstein Croatia from 1.1.2013

			(aviation from 1.1.2014)
Sectors	Power stations and other combustion plants ≥20MW Oil refineries Coke ovens Iron and steel plants Cement clinker Glass Lime Bricks Ceramics Pulp Paper and board	Same as phase 1 plus Aviation (from 2012)	Same as phase 1 plus Aluminium Petrochemicals Aviation from 1.1.2014 Ammonia Nitric, adipic and glyoxylic acid production CO2 capture, transport in pipelines and geological storage of CO2
GHGs	CO2	CO2, N2O emissions via opt-in	CO2, N2O, PFC from aluminium production
Cap	2058 million t CO2	1859 million t CO2	2084 million tCO2 in 2013, decreasing in a linear way by 38 million tCO2 per year
Eligible Trading Units	EUAs	EUAs, CERs, ERUs Not eligible: Credits from forestry, and large hydropower projects.	EUAs, CERs, ERUs Not eligible: CERs and ERUs from forestry, HFC, N2O or large hydropower projects. Note: CERs from projects registered after 2012 must be from Least Developed Countries

Key features of the EU ETS across trading phases, source: EU ETS Handbook, p. 18, 19, also available at: http://www.emissions-euets.com/carbon-market-glossary/872-european-union-emissions-trading-system-eu-ets.

Picture/Table (5):



EU ETS emissions reporting cycle, source: http://petrolog.typepad.com/climate_change/2010/01/reporting-ghg-emissions.html

Picture/Table (6):

ANNEX I

CATEGORIES OF ACTIVITIES REFERRED TO IN ARTICLES 2(1), 3, 4, 14(1), 28 AND 30

1. Installations or parts of installations used for research, development and testing of new products and processes are not covered by this Directive.
2. The threshold values given below generally refer to production capacities or outputs. Where one operator carries out several activities falling under the same subheading in the same installation or on the same site, the capacities of such activities are added together.

Activities	Greenhouse Gases
Energy activities	
Combustion installations with a rated thermal input exceeding 20 MW (except hazardous or municipal waste installations)	Carbon Dioxide
Mineral oil refineries	Carbon Dioxide
Coke ovens	Carbon Dioxide
Production and processing of ferrous metals	
Metal ore (including sulphide ore) roasting or sintering installations	Carbon Dioxide
Installations for the production of pig iron or steel (primary or secondary fusion) including continuous casting, with a capacity exceeding 2,5 tonnes per hour	Carbon Dioxide
Mineral industry	
Installations for the production of cement clinker in rotary kilns with a production capacity exceeding 500 tonnes per day or lime in rotary kilns with a production capacity exceeding 50 tonnes per day or in other furnaces with a production capacity exceeding 50 tonnes per day	Carbon Dioxide
Installations for the manufacture of glass including glass fibre with a melting capacity exceeding 20 tonnes per day	Carbon Dioxide
Installations for the manufacture of ceramic products by firing, in particular roofing tiles, bricks, refractory bricks, tiles, stoneware or porcelain, with a production capacity exceeding 75 tonnes per day, and/or with a kiln capacity exceeding 4 m3 and with a setting density per kiln exceeding 300 kg/m3	Carbon Dioxide
Other activities	
Industrial plants for the production of (a) pulp from timber or other fibrous materials (b) paper and board with a production capacity exceeding 20 tonnes per day	Carbon Dioxide

ANNEX II

GREENHOUSE GASES REFERRED TO IN ARTICLES 3 AND 30

Carbon dioxide (CO2)

Methane (CH4)

Nitrous Oxide (N2O)

Hydrofluorocarbons (HFCs)

Perfluorocarbons (PFCs)

Sulphur Hexafluoride (SF6)

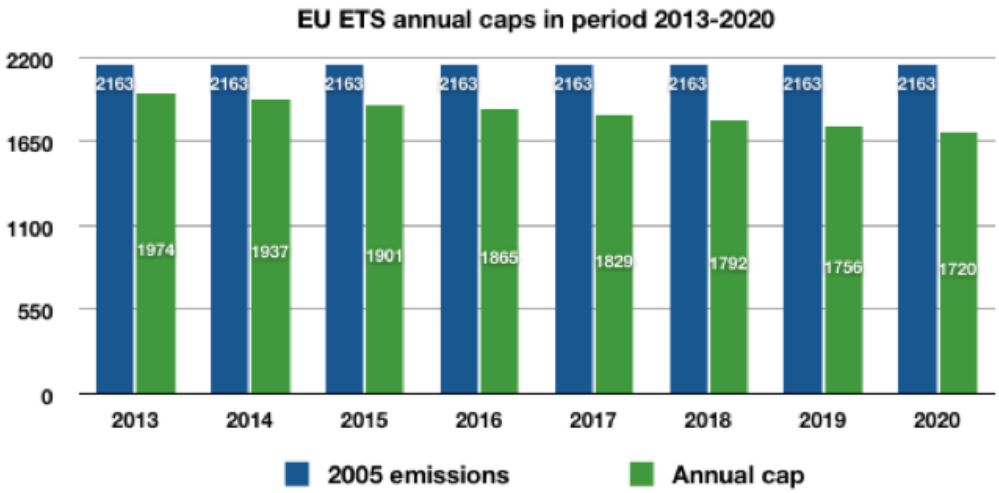
ANNEX III

CRITERIA FOR NATIONAL ALLOCATION PLANS REFERRED TO IN ARTICLES 9, 22 AND 30

1. The total quantity of allowances to be allocated for the relevant period shall be consistent with the Member State's obligation to limit its emissions pursuant to Decision 2002/358/EC and the Kyoto Protocol, taking into account, on the one hand, the proportion of overall emissions that these allowances represent in comparison with emissions from sources not covered by this Directive and, on the other hand, national energy policies, and should be consistent with the national climate change programme. The total quantity of allowances to be allocated shall not be more than is likely to be needed for the strict application of the criteria of this Annex. Prior to 2008, the quantity shall be consistent with a path towards achieving or over-achieving each Member State's target under Decision 2002/358/EC and the Kyoto Protocol.
2. […].
3. Quantities of allowances to be allocated shall be consistent with the potential, including the technological potential, of activities covered by this scheme to reduce emissions. Member States may base their distribution of allowances on average emissions of greenhouse gases by product in each activity and achievable progress in each activity.
4. The plan shall be consistent with other Community legislative and policy instruments. Account should be taken of unavoidable increases in emissions resulting from new legislative requirements.
5. The plan shall not discriminate between companies or sectors in such a way as to unduly favour certain undertakings or activities in accordance with the requirements of the Treaty, in particular Articles 87 and 88 thereof.
6. The plan shall contain information on the manner in which new entrants will be able to begin participating in the Community scheme in the Member State concerned.
   […].

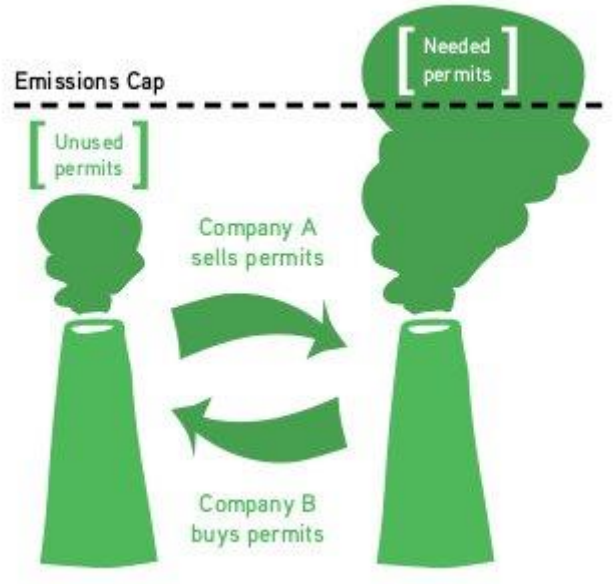
Annexes I, II and III of the Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community, source: http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32003L0087

Picture/ Table (7):



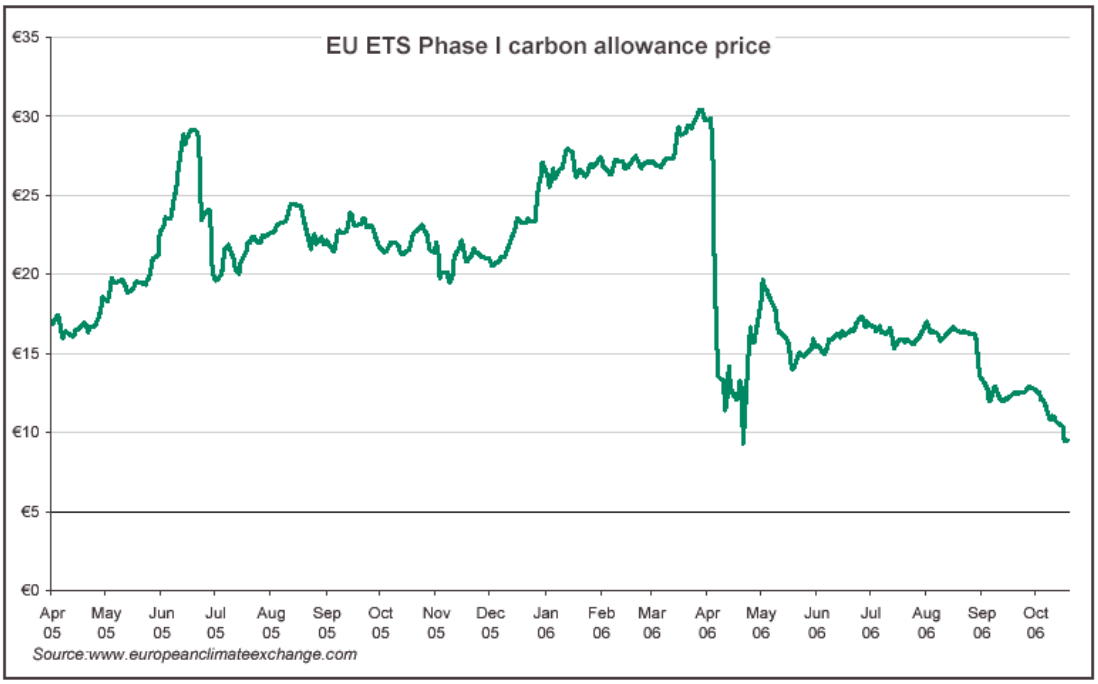
EU ETS annual caps in period 2013 – 2020, source: http://www.ourclimate.eu/ourclimate/euets.aspx.

Picture/ Table (8):

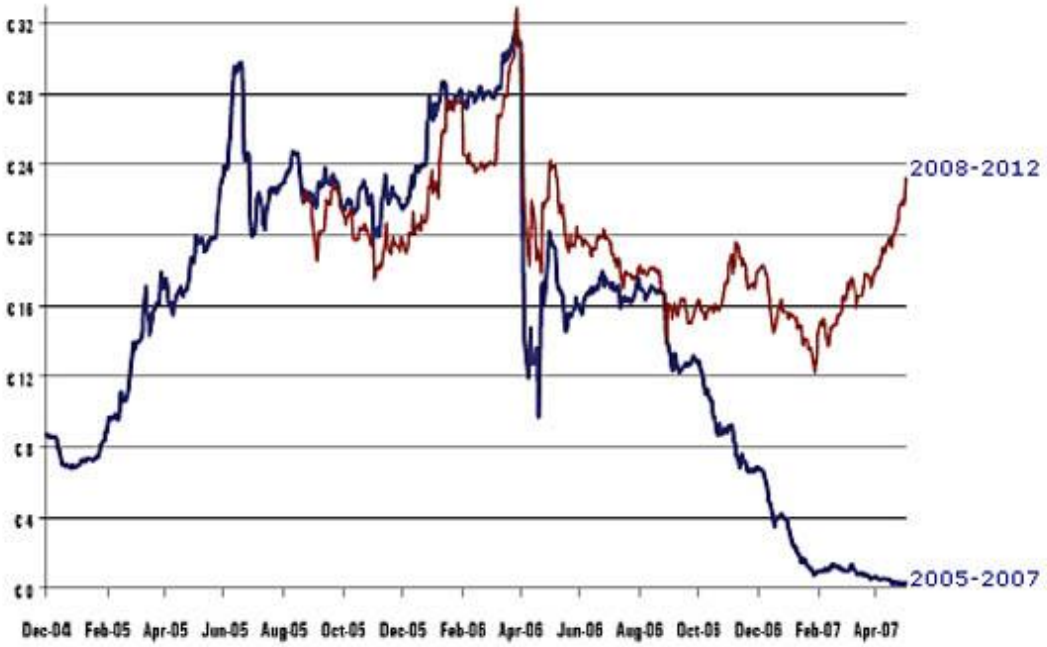


Emissions Cap, source: http://www.energyroyd.org.uk/wp-content/uploads/2013/11/EU-ETS-cap-and-trade.jpeg

Picture/ Table (10):



EU ETS Phase I carbon allowance price, source: www.europeanclimateexchange.com.



Crash in the price of EU ETS carbon permits ("high volatility") that occurred in 2006, after which the price declined steadily to zero by the end of the First Phase in

December 2007, source: https://thecarboneconomist.wordpress.com/2010/02/22/eu-ets-reduced-emissions-despite-over-allocation/

Picture/ Table (11):

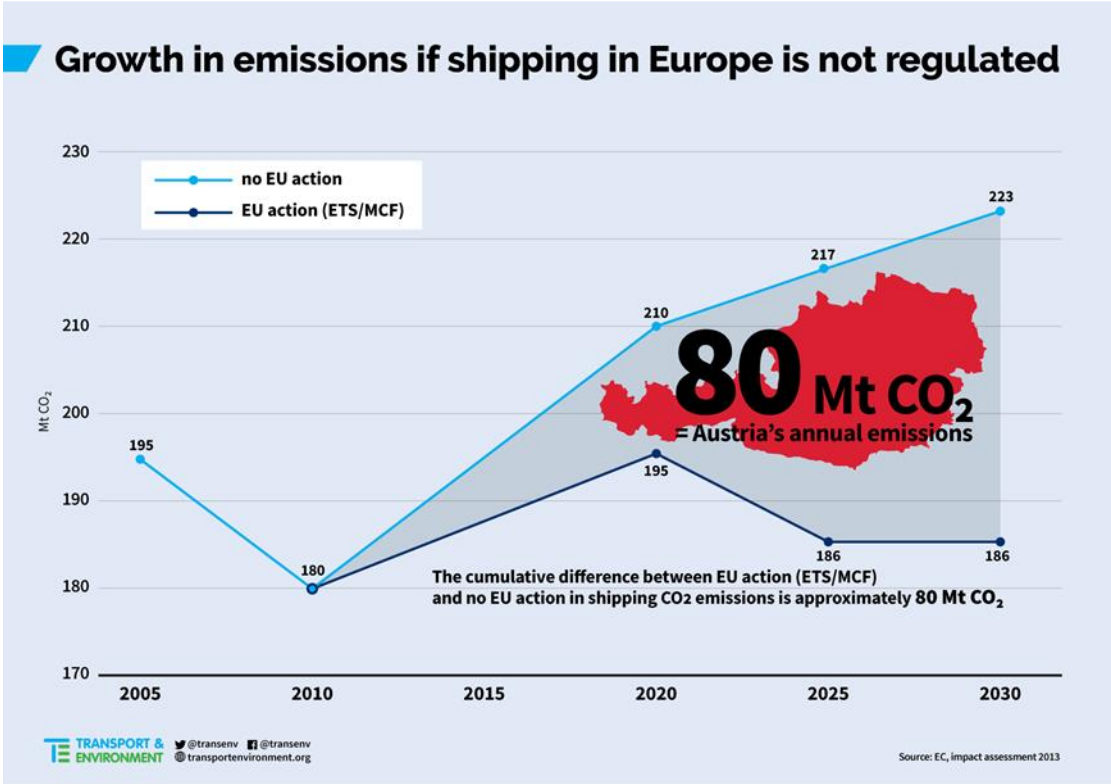
	EU ETS	**French Negotiated Agreement**	**UK Climate Change Agreements (CCAs)**
Compliance Period	**Phase 1:** 2005 – 2007 **Phase 2:** 2008 – 2012 (the first Kyoto Protocol Commitment Period)	**First Target:** 2004 **Second Target:** 2007	Targets defined at two yearly intervals up to 2010
Type of Target	Absolute Targets: Commission, Council	Firms to choose relative or absolute targets.	Firms allowed to choose either relative or absolute targets for either energy use or carbon emissions. In practice, most have chosen relative energy targets.
Allocation of Allowances	**Phase 1:** A minimum of 95% of allowances to be allocated free of charge. **Phase 2:** A minimum of 90% of allowances to be allocated free of charge National allocation plans subject to approval by the Commission and must be based on objective and transparent criteria, including those set out in Annex III of the Directive.	Baseline and credit trading agreements.	Baseline and credit trading agreements.
Sectors Included	All combustion plant >20MW thermal input, including electricity generators. Oil refineries, coke ovens, ferrous metals, cement clinker, pulp from timber, glass and ceramics. Parliament: also Chemicals	Open to firms in the energy, manufacturing and service sectors. No size threshold.	All sectors regulated under IPPC, but with no size threshold. Some energy intensive installations in non-IPPC sectors are also eligible.

	Based on IPPC, but some IPPC sectors excluded (e.g. food and drink, waste incineration). Sites below IPPC size thresholds in eligible sectors may also be included.		
Size of Market Foreseen	>12000 installations >=45% of all EU carbon dioxide emissions	25 firms and professional organisations covering 80% of industry emissions.	~ 6000 companies with CCAs, but linked to wider UK ETS.
Basis	**Phase 1:** only direct CO2 emissions. **Phase 2:** other gases may be included, provided adequate monitoring and reporting systems are available and provided there is no damage to environmental integrity or distortion to competition.	Direct GHG emissions from combustion and process sources. All six Kyoto gases included.	Firms adopt targets for energy use or CO2 emissions. Latter applies to combustion sources (not process) and includes indirect emissions from electricity consumption.
Links with JI/CDM	Proposed 'Linking' Directive allows credits from JI and CDM projects to be recognized from 2008. If the number of credits equals 6% of the total number of allowances, the Commission may consider whether a cap on credit imports should be introduced.	Yes, no limitation.	Interfaces to JI, CDM and IET proposed but subject to approval by UK government.
Links with other countries' schemes	Agreements with third parties listed in Annex B of the Kyoto Protocol may provide for the mutual recognition of allowances between the EU ETS and other schemes.	Not specified.	Interfaces to third party trading schemes proposed but subject to approval by UK Government.

Monitoring, Reporting and Verification	Common monitoring, verification and reporting obligations to be elaborated. Verification through third-party or government Authority.	Monitoring, reporting and verification obligations proposed by firms and reviewed by AERES.	Monitoring and reporting in accordance with IPPC, WBCSD and other standards, with verification by an independent third party accredited by the UK Accreditation Service.
Allowance Tracking	Linked/harmonised national registries with independent transaction log.	Use of French national registry.	Registry maintained by the UK government, intended to evolve into international registry for IET.
Sanctions	**Phase 1:** 40 € /tCO2 Penalty + restoration in next period. **Phase 2:** 100 € /tCO2 Penalty + restoration in next period.	10 €/tCO2. No restoration of missing tonnes required. Proceedings to be used for abatement projects in SMEs and R&D.	Payment of Climate Change Levy at full rate (about 7 to 14 € /tCO2, depending on fuel) for subsequent two years.
Banking	Banking across years within each compliance period. Member States can determine banking from Phase 1 to Phase 2.	No restrictions up to 2007.	Banking allowed up to 2008. Government reserves right to restrict banking into the commitment period.

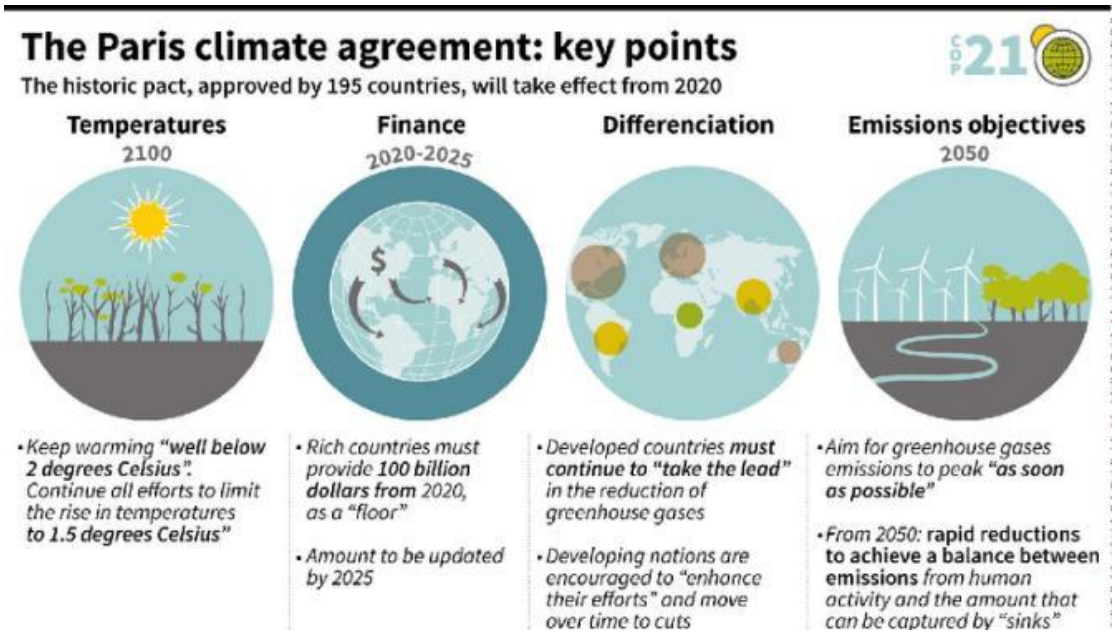
Key elements of the EU ETS and the French and UK negotiated agreements, source: http://www2.centre-cired.fr/IMG/pdf/boemare_quirion_sorrell.pdf.

Picture/ Table (12):



Source: https://www.transportenvironment.org/press/ships-and-planes-will-wipe-out-half-emissions-savings-be-made-cars-and-trucks-%E2%80%93-study.

Picture/ Table (13):



The Paris Climate Change Agreement: key points, source: http://www.alisei.org/.

Picture/ Table (16):

Sustainable development goals, source: http://www.un.org/sustainabledevelopment/blog/2015/12/sustainable-development-goals-kick-off-with-start-of-new-year/.

Picture/ Table (15):

US Secretary of State John Kerry held his granddaughter Isabelle Dobbs-Higginson after signing the Paris Agreement, source: https://www.bostonglobe.com/news/nation/2016/09/15/kerry-continue-focus-environmental-causes/yYnjn7JhgmQyCyf64jw0cJ/story.html.

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