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The European Green Deal
An Analysis of how the European Commission promises to Manage Climate Change

by Tobias Jonas Klee

Supervisor:
José Antonio Estévez Araujo

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Abbreviations

CE – Circular Economy

EC – European Commission

EGD – European Green Deal

EP -European Parliament

EIB – European Invetsment Bank

ERDF - European Regional Development Fund

ESF+ - European Social Fund

ETS - Emissions Trading System

GHG – Greenhousegas

IPCC - Intergovernmental Panel on Climate Change

JTF – Just Transition Fund

MFF – Multiannual Financial Framework

TEU - Treaty on European Union

TFEU - Treaty on the Functioning of the European Union

UNFCCC - United Nations Framework Convention on Climate Change

1. Introduction

Climate Change is the defining challenge of the 21st century. Measures taken today by politicians, companies, consumers, and society in general will directly influence earth's habitability in the decades to come. Through the complex interaction between GHG emissions, global warming, loss of biodiversity, human health and well-being are at risk. While countries of the global north will proportionally suffer less consequences than those of the global South, the projected damages will still be grave. In recent decades, as a result, environmental protection gained an increasing relevance in international treaties, as well as national policies and legislature.

The European Green Deal, first presented by the European Commission on the 11th of December 2019, is at the moment the seemingly most ambitious strategy to bring forth a transformation towards a more environmentally friendly society. Described by President Ursula von der Leyen as Europe's "man on the moon moment",[1] the EGD aims to achieve climate neutrality within the European Union by 2050. During the years to come, different strategies and measures will be proposed to achieve the goals laid out by the deal. As such an undertaking could potentially result in economic changes, which threaten the livelihoods of anyone employed in an environmentally harmful sector, the deal not only promises a "just transition", but also continued economic growth on the basis of a circular economy, where "growth is decoupled from resource use".[2]

The aim of the thesis at hand is to analyse the EGD, considering multiple perspectives. At its core, the analysis will be guided by the question of how adequate is the EGD in dealing with the challenges it faces and if the measures it contains will actually be able to achieve the goals it has set out. This adequacy will mainly be analysed on a political level, as the deal itself only contains suggestions for policies that should be realized within the coming years. As will be seen, specifically the Commissions claim of striving for a "just transition" will be questioned again and again. Furthermore, the question of how the Commission plans to realize its continental strategy within a global eco-system and a globalized economy, and which kind of international interactions the EGD's proposals hint at, will be investigated. All the while, the restricted competences of EU institutions facing member states when drafting policies will be kept in mind.

Additionally to the EGD, two documents will be analysed to lend further depth to its analysis and to allow a deeper understanding of some of its political and economical implications. One will be the "Circular Economy Action Plan For a cleaner and more competitive Europe", the other one will be the "Sustainable Europe Investment Plan". The former document contains a strategy for pushing

1 Deutsche Welle, EU Lauds New Green Deal As Europe's 'Man On Moon Moment'.
2 European Green Deal, p. 2.

European economies towards more circularity, e.g. recycling, durability of end products, less resource usage etc. The concept introduced in this document is central for the EGD's claim of decoupling growth from resource usage, and can therefore be seen as the economic paradigm that the Commission wants to establish as the guiding principle in the years to come. The latter document proposes strategies for financing the green transition until 2030, and introduces the idea of a "Just Transition Mechanism" that is supposed to support the economical transformation in areas which still heavily rely on fossil fuel usage.

To follow through with the research goal presented above, the following structural approach will be chosen: After giving a short statement on the effects of the COVID-19 induced challenges, a depiction will be given of how climate change is caused, which effects it will have on the global environment and human life on earth, as well as how much the EU contributes to climate change. Afterwards, a short overview of the Kyoto Protocol and the Paris Agreement will be given. Both sections will help to understand what challenges the EGD has to address, which potential catastrophes have to be prevented by environmental policies, and according to which international self-commitments the Commission acts. These sections will be followed by an explanation of how political competences are seperated and shared between EU institutions and member states, how the EU budgeting process works, and which political implications these circumstances bring with them in the context of fighting climate change. Afterwards, the main part of this thesis follows, with an analysis first and principally of the EGD, then the "Circular Economy Action Plan", and lastly the "Sustainable Investment Plan".

Methodologically, the analysis of the main documents will be accompanied and supported by a diverse array of studies regarding renewable engergies, transportation, effects of circular economy strategies etc., which have been published ever since the EGD was announced. Of equal importance is the usage of statistics regarding the share of renewables in European energy production, production in farming, emission through transportation etc., which often times have been provided by EU institutions. This should receive a critical mention, as it is indeed possible that some of these statistics, for political reasons, might present a more positive reality, than would actually be the case. But since these statistics, whenever used, prove the strategies presented by the EU to be insufficient, this factor of uncertainty can be disregarded. Similarily, a critical approach has to be taken when dealing with information taken from newspaper articles. Within this thesis, articles are only used uncritically as a source of information, when the information itself did not contain an assessment or judgement. When quoting opinions, the opinion giver will be named and, when necessary and possible, introduced.

As the EGD was announced only relatively recently and is part of an ongoing political process,

there exists no in-depth literature on it yet. As has been said, many scientific studies by researchers of different backgrounds were used to address specific parts of the deal. For a basic understanding of climate change and global warming, three authors should be mentioned specifically. Firtsly, Zambrano-González, who in his article “La Unión Europea ante la emergencia climática” sumarised the climatical challenges and necessities the European Union is facing at the moment. Secondly, Neukirchen and his anthology “Die Folgen des Klimawandels” have to be mentioned, as it conatins contributions by a large set of climate experts, who explain the different mechanisms that promote and contribute to climate change. Lastly, Wallace-Wells and his book “The Uninhabitable Earth” have to mentioned. The author gives the most complete account of how climate change will affect earth, though his work should be considered pop science. Therefore, the majority of information extracted from his book will, whenever possible, be supplemented by more serious publications.
Finally, to develop a deeper understanding of the mechanisms of the European Union Piris' ”The Lisbon Treaty”, as well as de Gardebosc's and Mesdag's “The European Parliament’s Contribution to the EU Budget” were indispensable.
Three final points have to be made on citation. Firtsly, due to the pandemia, the books by Wallace-Wells and Klein could only be obtained in the format of pdfs. As they were originally converted from the ebook data format, the books do not give any indication of page numbers. The number given in footnotes for these books therefore only correspondents with the page number of the pdf document and might not necessarily reflect the page number of the physical copies. Secondly, whenever a website has been quoted, the footnotes will only indicate a page number, if the website itself provided this kind of separation. Whenever this was not the case, only the name of the authors, as well as the pages title, are given in the footnotes. Thirdly, as every document analysed in this thesis was authored by the Commission, only their titles and page number will be given in the footnotes.

2. Preface: COVID-19 and the Funding of the European Green Deal

It is impossible to already foresee how the COVID-19 pandemia will impact the EGD and what it's economical effects will look like in general. But the Commission does not seem to stray away from the plan. As Vice President Frans Timmermanns declared, investments towards economic reconstruction should be directed towards establishing a “green“ economy.[3] For this, the EGD should serve as a framework.[4] Therefore it seems, as if the virus will not have a negative influence

3 Timmermanns & Birol, Europa.
4 Ibid.

on the deal's progress, even though it is too early to assess if it will have a positive effect or even change the attitudes of member states regarding the restructuring of their economies. It should be mentioned though that already in April, 17 ministers of member states suggested the deal to become a "new growth stratgey" for rebuilding the economy.[5] Even Poland agreed that the restructuring of global energy usage has to continue.[6] It should be kept in mind though, that claims and demands such as these might just as well be a strategy to more easily be granted funds of the future EU financial packages. But generally it can be assumed that at least the political will exists to not neglect the EGD and the fiscal resources necessary for it's realization despite the pandemia.

As of now, August 2020, the MFF for the time period of 2021 to 2027 seems to support this assumption, although a final conclusion is difficult. Whereas the MFF of 2014-2021 foresaw spendings of up to 959.51 billion Euro,[7] the coming MFF will consist of 1824.3 billion Euro, 750 of which are part of the Next Generation EU programme, which is aimed at Europe's economic recovery.[8] Thus, even after Brexit, the EU budget will be raised by more than 100 billion Euro. For the Next Generation EU programme, the Commission vows to borrow 750 billion additional Euro on behalf of the Union, which will be spent in the period of 2021-2024, and will be money that is additional to the regular EU budget.[9] It is difficult to say what the situation would look like without a pandemia. But as the New Generation EU programme is supposed to offer a solution to the COVID-19 induced economic downturn, it can be assumed that the MFF would have had a similar scope, maybe a bit higher. Thus, budgetary and investment related analysis made within this thesis should not be affected too much by the ongoing developments.

3. Degradation of the Global Environment

3.1 Impacts of Climate Change

The following pages will serve as an introduction to the mechanisms of how the greenhouse effect is produced through anthropogenic actions, how it will result in climate change and which consequences these developments will have for earth's population until the end of the century. The purpose of these pages is to give a brief context of the threats which have to be anticipated, alleviated and prevented by the EGD in the long term. The topic itself, of course, is too complicated to be fully explained in brief and it would be futile to attempt so witihn the constraints of the paper

5 Bauchmüller & Beisel, Wiederaufbau.
6 Ibid.
7 European Council, Long-Term EU Budget 2014-2020.
8 European Council, Long-Term EU Budget 2021-2027.
9 European Commission, The EU Budget, p. 14.

at hand. Therefore, a generalized approach has to suffice.

Throughout earth's existence, the climate and the environment have experienced constant changes. Different gases within the atmosphere and the natural greenhouse effect produced a stable and sufficiently warm environment, that allowed the occurence of life.[10] But the disruption of this delicate system through anthropogenic GHG emission since the industrial revolution lead to a dangerouly accelerated warming of the planet's climate.[11] Before the atmosphere was filled with manmade GHG, sunbeams penetrating earth's atmosphere were largely reflected back into space.[12] With more and more GHG in the atmosphere, the radiation could not be completly reflected anymore, the GHG absorbing the beam's infrared radiation, thus heating up the atmosphere, thus warming the planet.[13] The industrial revolution, the ever growing world economies, the widespread usage of fossil fuel in cars and airplanes, industrial ainmal husbandry etc. contributed to increasing amounts of gases such as carbon dioxide or methane trapping more and more heat emitted by the sun between the planet's surface and the troposphere.[14] As will be seen, only by the end of the 90s the first international policies, in form of the Kyoto Protocol, were introduced to at least slow down this process.

But GHG emission are only one way in which human's have augmented the greenhouse effect. The reduction of natural carbon sinks, e.g. vegetation and oceans absorbing certain amounts of carbon dioxide, additionally lowered the planet's capacity of regulating it's climate.[15] Changes in rainfall and temperature, as well as the acidification of the oceans lead to the destruction of these absorbational capacities.[16] Similarly, deforestation, whose role has been disregarded for a long time, contributed considerably to the destabilization of the greenhouse effect.[17]

The question of global warming caused through emissions though is the most significant. Anthropogenic warming of the planet already resulted in the intensification and quantification of weather extremes, such as the growing number of hurricanes on the US's east coast or longer lasting periods of drought in Mediterranean regions.[18] As of late, the Paris Agreement asks it's signators to pursue strategies of limiting global warming to 1.5 degrees, and if that is not possible to at least 2 degrees compared to the period before the industrial revolution. According to the World Meteorological Organisation, a warming of 1 degree was inrevisibly reached in 2015.[19] There are

10 Zambrano-González, Unión Europea, p. 433.
11 Ibid.
12 Ibid., p. 434.
13 Ibid.
14 Ibid., p. 435.
15 Anderson & Alice, Climate Change, p. 3865.
16 Ibid.; Boyle, Climate Change, p. 172.
17 Ibid., p. 3868.
18 Zambrano-González, Unión Europea, p. 430.; Schrader, Die wichtigsten Jahre, p. 2.
19 Satgar, Climate Crisis, p. 3.

indications that it is already too late to keep global warming below or even at the 1.5 degree benchmark.[20] The UN estimated, that if govnernments, economies, and consumers would continue undisturbed, a warming of 1.5 degrees would already be reached by 2040, maybe even 2030.[21] Current strategies by states all around the world to reduce their emission until 2030 will even lead to an increase of 3 degrees in the long run,[22] whereas it would be necessary to reduce global emissions by 45% in 2030 compared to 2010, and ultimately to zero emissions by 2050.[23] A reduction of emissions by 50% by 2050 would be sufficient to reach the 2 degree threshold.[24] Sticking to this objective would already lead to unbearable conditions in countries, which are economically struggling.[25]

A report by the IPCC suggests that even though consequences of an increase by 1.5 degrees in global temperatures would already be dangerous to humans and the environment in general, they would still be vastly prefarable, to effects expected under the 2 degree scenario. Not only would extreme weather conditions, such as heat waves, droughts, heavy rain or floods become even more prevelant.[26] But the rise of sea levels would also be reduced by 10 centimeters, preventing hundreds of millions of people living in coastal areas in the developing world from losing their homes and having to migrate.[27] About 150 million people would be prevented from dieing through air pollution.[28] An increase by 2 degrees might lead to water scarcity for 400 million people, cities close to the equator will become unlivable due to heat and in northern regions, thousands might die during heat waves in summer.[29] It should be kept in mind that the global environment is a complex and heavily interconnected system, and that climate change will not unfold in a linear way, where cause and effect can easily be established.[30] Rather, by crossing certain tipping points, such as methane being be released through the melting of arctic ice or glaciers in the Himalaya retreating, reflecting even less sunlight back into space, feedback loops will be created, contributing even more to the accelaration of the greenhouse effect.[31] Many of these tipping points are said to be reached at around a 2 degree increase.[32]

If world temperatures were to further increase by 3 degrees, as a continuation of the current trend in

20 Ibid.; Satgar, Climate Crisis, p. 4.
21 Schrader, Die wichtigsten Jahre, p. 2; Wallace-Wells, Uninhabitable Earth, p. 49.
22 Ibid., p. 2f.
23 Wallace-Wells, Uninhabitable Earth, p. 38; Schrader, Die wichtigsten Jahre, p. 3.
24 Anderson & Alice, Climate Change, p. 3863.
25 Anderson & Alice, Climate Change, p. 3863, Satgar, Climate Crisis, p. 4.
26 Schrader, Die wichtigsten Jahre, p. 2; Satgar, Climate Crisis, p. 3.
27 Ibid., p. 3.
28 Wallace-Wells, Uninhabitable Earth, p. 34.
29 Ibid. p. 18.
30 Satgar, Climate Crisis, p. 3.
31 Ibid., p. 4f.
32 Ibid., p. 3.; Wallace-Wells, Uninhabitable Earth, p. 18.

emissions indicates, earth's ice sheets would eventually melt completly, raising sea levels in a degree that would inundate hundreds of cities, such as Hong Kong, Miami, or Dhaka, as well as lead to permanent droughts in southern Europe.[33]

A closer look should be taken at how all these phenomena are connected to each other, at how a rise in global temperatures will lead to a rise in sea levels, the disturbance of the jet stream and thereby to an acceleration in the frequency of extreme weather conditions. It seems obvious, that through a rise of temperatures, the presence of polar ice would be reduced in some way. Since temperatures are not evenly distributed around the planet, an apparently minor rise of the average global temperature by 1.5 degrees might translate to a rise of temperatures in the Artic areas by 13 degrees.[34] Estimates from 2003 indicated that by the end of the century, Arctic areas would be ice free during summer time.[35] These estimates had to be revised. Artic ice seems to be melting faster than expected, with a threefold acceleration of the thawing right just in the last decade, making it more likely that already in 2040 ice free summers would occure in the Arctic.[36] 125.000 years ago, temperatures were similar to what is expected by 2040 in those Arctic areas, while sea levels were between four and six meters higher.[37] Supposing a similar rise in sea levels can be expected in the future, cities like New York, London, Venice, or Shanghai would be flooded in the long run.[38] These processes take a comparably long time to come into full effect though. At the moment, scientists estimate that thawing of glaciers and arctic areas contribute to rises in sea levels of 3 millimeters per year.[39] But already these small changes, which will add up to a rise in global sea levels by 10 to 20 centimeters in 2050,[40] will lead to an increase of extreme flooding in coastal areas in Europe, increasing damages and costs suffered trhough these floodings by a factor of 20 until the year 2100.[41]

The rise of sea levels, however, is not the only threat posed by the melting of ice caps around the world. On the one hand, there will be a reduction of the albedo effect, according to which ice is capable of reflecting sunlight back into space, thus lessening it's capacity of warming the planet.[42] Accordingly, the less ice there is in the Arctic, the more sunlight will be absorbed by the planet. On the other hand, the melting of permafrost will potentially accelerate the greenhouse effect. Permafrost in the Arctic areas of Canada or Siberia, contains organic materials. Not only does the

33 Wallace-Wells, Uninhabitable Earth, p. 18.
34 Ibid., p. 68.
35 Francis, Auf dünnem Eis, p. 98.
36 Ibid.; Wallace-Wells, Uninhabitable Earth, p. 66.
37 Francis, Auf dünnem Eis, p. 100.
38 Ibid.
39 Witze, Flut, p. 220.
40 Ibid., p. 229.
41 Ibid., p. 220.
42 Wallace-Wells, Uninhabitable Earth, p. 69.

thawing of the permafrost, which is already taking place, result in damages to local infrastructure and the local biosphere, but it would also lead to the accesability of these organic materials by bacteria that would start digesting it, leading to a massive increase of methane and carbon dioxide exhaustion in these areas.[43] The amount of potential GHG held by permafrost is double the amount of GHG already within the atmosphere.[44] It is difficult to predict how these processes will further affect climate change, since only in recent years scientists have started to pay attention to permafrost.[45]

The rise of global temperatures, the retreat of arctic ice and rising sea levels also influence the jet stream.[46] Under pre-industrial conditions, the difference in temperature between polar and equatorial regions produce air currents in the atmosphere, the jet stream.[47] Since polar regions are warming faster than the rest of the planet, the stream is destabilized, creating meanders that remain in place for weeks, which results in situations of extreme weather.[48] These meanders sometimes are cut off from the jet stream and will not move away from a certain region due to the cut off.[49] Thus, a meander containing mainly hot air might incapsulate a region for weeks, producing droughts and heat-waves, or, in case of cold air, extreme frost, and depending on water-saturation, flooding, inundations and rain for days on end.[50] These processes have existed before the onset of global warming, but have intensified and become more and more prevelant, the closer temperatures between polar and tropical regions have gotten.[51] Changes in the jet stream already resulted in massive floods hitting the European west-coast during the past decades, the absence of winters in central Europe, or the outbreak of draughts, heat waves and forest fires during the summer of 2003, which killed 35000 Europeans, or the summer of 2018.[52]

Heat waves are projected to become regular occurrences in Central and Eastern Europe.[53] Cities and East European countries, which have lower adaptive capacities than West Europe, will especially suffer.[54] Combined with an aging population, who is even more vulnerable to high temperatures, extreme heat will pose a grave threat to public health.[55] Additionally, heat waves will lower people's productive capabilities by increasing their proneness to exhaustion, as well as their vulnerability to

43 Francis, Auf dünnem Eis, p. 102.
44 Ibid.; Wallace-Wells, Uninhabitable Earth, p. 68.
45 Wallace-Wells, Uninhabitable Earth, p. 69.
46 Francis, Auf dünnem Eis, p. 100 and 103.
47 Lingenhöhl, Jetstream, p. 182.
48 Ibid.
49 Ibid., p. 186.
50 Ibid.
51 Ibid., p. 187.
52 Ibid., p. 190.; Ronˇcák, Hlavˇcová, Kohnová et. al., Impacts of Future Climate Change, p. 280; Wallace-Wells, Uninhabitable Earth, p. 23 and 44.
53 Pogacˇar , Žnidaršicˇ, Cˇ repinšek et. al., Heat Stress, p. 268.
54 Ibid.
55 Ibid.

heat strokes.[56] Impairments of coordination and cognitive ability are also to be expected, next to emotional outbursts of anger due to physical discomfort in a heated environment.[57] Droughts and heat in the Mediterranean area will lead to a loss of biodiversity, a higher risk of forest fires, and the severe disruption of the agricultural sector.[58] Additionally, the agricultural sector will not only suffer the loss of fertile land and crop yield, but also a decreased quality of life for it's animals through heat stress, resulting in a reduced quality of animal products, such as dairy.[59] The agricultural sector though is a major contributor to climate change itself, already in 2005 being responsible for GHG emissions of 7%.[60]

The availability of freshwater poses an additional threat. Between 70 and 80% of freshwater are globally used for agricultur, while between 10 and 20% are used for industrial purposes.[61] Already, 250 million people in Africa suffer from water scarcity.[62] By 2030, global demand is expected to outstrip watersupply by 40%, which will especially affect dry, hot areas, which often correlate with the areas, where an increase in population is expected.[63] At the same time, water demand from the agircultual sector is expected to increase by 50% in the next three decades.[64] All these factors, combined with a projected growth of the world's population by 50% until the end of the century, pose complex questions about food and water security.[65] Next to freshwater, oceans will also suffer severely from climate change. Currently, oceans have mitigated climate change by absorbing 30% of anthropogenic GHG emissions and 90% of excess heat caused by global warming, which in turn lead to their acidification and to the rise of their temperatures.[66] This, obviously, results in enormous damages to marine biodiversity.

Shortages in food and water will, in the long-term lead to a growing numer of climate refugees, who will migrate to regions where they hope to find suffierent resources, leading to quarrels over these scarce ressources.[67] Generally, the world population's poorest 40%, which is around 2.6 billion people, will suffer the most from climate change.[68] According to the Stern Review, climate change threatens to not over prevent the realization of the UN Millenium Development Goals, put to also reverse human devolpment in India or South East Asia, if the 2 degree mark is hit.[69] These areas run

56 Ibid.
57 Ibid.
58 Zambrano-González, Unión Europea, p. 430.
59 Gaulyl & Ammer, Challenges p. 196-199.
60 Owen & Silver, Greenhouse gas, p. 545.
61 Ibid., p. 88.
62 Ibid., p. 89.
63 Ibid., p. 88.
64 Ibid., p. 93f.
65 Wallace-Wells, Uninhabitable Earth, p. 53 and 59.
66 Boyle, Climate Change, p. 172.; Wallace-Wells, Uninhabitable Earth, p. 97.
67 Wallace-Wells, Uninhabitable Earth, p. 29.
68 McInerney-Lankford, Darrow & Rajamani, Human Rights, p. 1.
69 Ibid.

the risk of suffering losses of 9 to 13 % of their GDP by 2100 compared to a non climate change scenario, a bigger loss than would occure if the Western financial system collapsed.[70] Other estimates surrounding the economic development of poor countries foresee annual losses of 2.5 % of their GDP, which will accumulate to losses of around 400 billion US dollars during the next twenty years.

The spaces, in which all of the factors mentioned above, will present themselves the most, are cities. Cities are the highest contributers to climate change, consuming more than two-thirds of globally produced energy and producing more than 70% of the world's GHG emission, consuming around 75% of natural resources, and producing 50% of global waste.[71] Since 1950, urban populations experienced a sevenfold increase, especially in low- and middle income countries, with estimates predicting that two-thirds of the world's population will live in cities by 2050.[72] By 2018, already 55.3% of the worlds population inhabited cities.[73] Due to cities's structural and architectural layout, with asphalt and concrete absorbing heat during the day and emitting it during the night, as well as a high density of cars emitting carbon dioxide, deaths caused by environmental harm and climate change are growing larger.[74] High water consumption in cities will lead to reductions of freshwater availability and put a strain local agricultural production.[75] Additionally, three quarters of all larger cities are, according to the UN, located on coasts, and therefore especially vulnerable to floods and rising sea levels.[76]

3.2 Threats to Human Health

Next to changing the climate, augmenting the occurence of natural disasters, leading to the depletion of vital resources, the destruction of the environment also cause detrimental damages to human health. The deadly effects of long lasting periods of heat have already been mentioned. But climate change and GHG emissions already take a heavy toll on public health in more direct ways. Not only does pollution lead to the death of 10,000 people daily, but also adversly affects cognitive performance, and childbirth.[77] Diseases casued by air pollution are, among others, chronic respiratory diseases like asthma, higher blood pressure, strokes, and heart diseases.[78] Cognitively,

70 Ibid.
71 Juhola & Boyd, Adaptive climate change, p. 1235; Baran, Circular Economy, p. 34.
72 Moser & Satterthwaite, Pro-Poor Adaption, p. 231; Wallace-Wells, Uninhabitable Earth, p. 51.
73 Baran, Circular Economy, p. 34.
74 Moser & Satterthwaite, Pro-Poor Adaption, p. 231; Wallace-Wells, Uninhabitable Earth, p. 50; Juhola & Boyd, Adaptive climate change, p. 1235.
75 Moser & Satterthwaite, Pro-Poor Adaption, p. 235.
76 Juhola & Boyd, Adaptive climate change, p. 1235.
77 Wallace-Wells, Uninhabitable Earth, p. 102.
78 Ibid., p. 104.

pollution is linked to worse memory performance, attention spans, vocabulary development, and to hindering neuronal development in general.[79] Restructuring the energy sector to be purley reliant on renewable energy could prevent 430000 annual deaths in the EU alone.[80] Apart from air pollution, microplasitics pose another threat, as they have been found in fish, beer, honey, or sea salt, and has already proven to be toxic to marine animal populations.[81] Additionally, exposure to weather extremes, such as heat waves, droughts, storms or forest fires, will negatively impact human health.[82] Changing temperatures will also facilitate the spread of infectious diseases into new areas.[83] Accroding to estimates by the UNFCCC, by 2030 there will be 113 million additional cases of diarrhoeal diseases, as well as 17,4 Million additional cases of malaria.[84] Because in some areas of the world, climate will become warmer and wetter, mosquitoes and tsetse flies, bringing with them malaria, dengue and yellow fever, will spread to new areas of the world. Livestock is also threatened by these developments. An example of this is the spread of the Culicoides imicola, a mosquitoe species that migrated first into the Mediterranean countries and then further north due to warming temperatures, spreading tropical diseases, such as the bluetonque virus, to livestock.[85]

Accessability to drinking water, the provision of sufficient nutritious food or secure living environments are jeopardised by climate change as well.[86] Even though these areas specifically might not pose a direct problem to countries in the EU in the decades to come, they will contribute to social and political instability in other parts of the world, leading to increased migration.

One major threat to public health, that might not seem very grave at first, is the potential spread of allergens and increase in pollen allergies. In Europe, pollen allergies and allergic asthma are estimated to affect around 40% of the population and to have lead to health spendings between 55 to 151 billion € in 2013.[87] By 2041 to 2060, sensitization to allergens such as ragweed will have double from 33 million to 77 million people, mainly affecting countries such as Germany, France or Poland.[88] Controll of the growth and spread of similar weeds therefore has to be ensured.[89]

Another risk to European health stems from the spread of vector-borne diseases, such as lyme disease, which is transmitted through ticks, whose abundance has grown due to climate change and who will spread further into northern Europe under certain climate conditions.[90] Since there exists

79 Ibid.
80 Haines & Scheelbeck, European Green Deal, p. 1327.
81 Wallace-Wells, Uninhabitable Earth, p. 106.
82 Hunt & Khosla, Climate Change, p. 243.
83 Ibid.
84 Hunt & Khosla, Climate Change, p. 244.
85 Chevalier, Courtin, Guis et. al., Climate Change, p. 99.
86 Ibid., p. 242.
87 Lake, Jones, Agnew et al., Pollen Allergy, p. 385.
88 Inid., p. 390.
89 Ibid.
90 Li, Gilbert, Vanwambeke et. al., Lyme Disease, p. 1. Though these conditions are very complicated to untangle. Not

no vaccine for lyme disease, prevention depends on “risk communication, rapid diagnosis, and personal protection measures”.[91]

Lastly, more indirect factors will also affect public health adversely. Due to rising levels of CO2 in the atmosphere, sugar production in plants is on the rise. This, in turn, negatively influences the share of nutritious content, such as protein, calcium, iron, or vitamin C, in fruits, vegetables and plants.[92]

3.3 European Contribution to Climate Change

Before going into the details of the EGD, it seems sensible to take a short look at the EU's current status in regard of GHG emissions. In 2018, the EU's emitted a total of 3893 million tonnes of GHG, which, compared to the level of 1990 is a reduction of 21%.[93] This leaves a further reduction of 34% compared to 1990, to reach the EGD's goal of a 55% reduction by 2030. Following the trajectory before the announcement of the EGD would put the EU at a reduction of 46% by 2030.[94]

The contribution of different sectors to the 2018 emissions can be attributed as follows: Fossil fuel usage was responsible for 53% of emissions, transportation, including aviation, for 25%, the agricultural sector for 10%, industrial processes and product usage for 9%, and waste management for 3%.[95] A large part of emissions in these sectors is directly or indirectly produced by households, i.e. non-commercial and non-political actors. Globally, households contribute 72% to GHG emission, of which transportation and food consumption made up 64%, making policies reducing emissions in these areas all the more relevant.[96]

Even though GHG emissions are the most prevalent and most pressing stressor for the environment, they are not the only factor. Usage of resources and materials and the resulting waste production, e.g. in the form of microplastics, pose an additional threat. Considerations regarding this area will be especially relevant to this paper later on, when discussing the Commission's plans for a circular economy, that aims at reintegrating waste into the economy, thus lowering resources usage, and by extension the energy used in their extraction, as well as production of waste. This step seems inevitable in striving to preserve the environment, as in the year 2017 globally 92.1 billion tonnes of

only is lyme disease not always amplified through high temperatures but also is also stunted by factors such as deforestation. This, however, does not negate the need for preventitive measures. cf. Li, Gilbert, Vanwambeke et. al., Lyme Disease, p. 10

91 Li, Gilbert, Vanwambeke et. al., Lyme Disease, p. 1.
92 Wallace-Wells, Uninhabitable Earth, p. 61.
93 Eurostat, Greenhouse gas, p. 1f.
94 Jäger-Waldau, Kougias, Taylor et al., Photovoltaics, p. 6.
95 Eurostat, Greenhouse gas, p. 4.
96 Dubois, Sovacool, Aall et al., It starts at home, p. 145 and 152.

resources were used, a number that will increase annually due to the growing world population.[97] Of these materials, 80% will be disposed again, whereas wastage in food consumption lies at around 30%.[98] Daily, inhabitants of European cities produce 2.1 kg of waste.[99]

A last factor should be mentioned. As has already been pointed out, urbanisation is expected to grow even more during the next decades. Houses, streets and other infrastructure require concrete to be build. The concrete industry currently emits 2.8 billion tons of carbon dioxide per year, or between 4 to 8% of global CO2 emission.[100] The expansion of infrastructure, spearheaded by China, India, and Indonesia puts the construction sector on track of emitting 470 gigatonnes of carbon dioxide by 2050.[101] During it's production, concrete also makes up a tenth of the world's industrial water use, adding to water scarcity in dry areas of the world.[102] This poses the question of how to accommodate additional billions of people in cities and how the construction sector and city design can be reshaped to reduce environmental destruction, a question that is further complicated by the fact that the production of concrete is less costly economically and ecologically than it's alternatives e.g. steel or wood.[103]

4. Key Points of the Kyoto Protocol and the Paris Agreement

In the next section, a quick explanation will be given of important aspects established by the Kyoto Protocol and the Paris Agreement, as they establish a frame of reference wherin the EU situates its environmental policies.

With the Kyoto Protocol in 1997 the UNFCCC introduced the first legal framework under which the international community could collectively address climate change concerns, building the basis for the reduction of GHG emission and the support of national adaptation efforts.[104] Countries were categorized by GHG emission and received a corresponding responsibility to reduce their emissions by a certain amount.[105] Thus, richer countries were attributed more responsibility in reducing emissions than poorer countries.[106] Furthermore, the threshold of a two degree Celsius rise in global temperatures was established as a limit that would lead to global catastrophes, such as the flooding

97 Baran, Circular Economy, p. 32.
98 Sverko Grdic, Nizic & Rudan, Circular Economy, p. 1.
99 Zorpas, Strategy, p. 2.
100 Watts, Concrete.
101 Ibid.
102 Ibid.
103 Ibid.
104 McInerney-Lankford, Darrow & Rajamani, Human Rights, p. 3.
105 Ibid.
106 Satgar, Climate Crisis, p. 5.

of cities and the normalization of extreme weather, if it were to be crossed.[107] The protocol was adopted by 187 states and became legally binding in 2005.[108] Obligations included emission reduction targets for industrialised countries during the first commitment period of 2008 to 2012.[109] Another commitment period from 2013 to 2020 was agreed upon at the COP in Doha in 2012.[110]

In 2007, to contribute to it's emission reduction commitments in the frame of the Kyoto Protocol, the European Council adopted an action plan for the energy sector, that would become influential for the EU's energy politics.[111] The plan's objectives lay in creating a international alliance among industrialised nations to reduce global GHG emissions by 30% in 2020.[112] For the second Kyoto period, the EU committed to raise the percentage of renewable energy production to 20% by 2020.[113] Despite the Protocol's widespread support, global emissions during the past 20 years grew rapidly.[114] Yet climate change also remained a major international concern.

In 2015, during the second phase of the Kyoto commitments and just before the Paris Agreement, the UN set a number of "Sustainable Development Goals", including the preservation of the climate, biodiversity, water resources and urging the international community to finally take action in mitigating climate change and its consequences.[115] Some details of these goals will be discussed further while analysing the EGD.

After long discussions in the frame of the UNFCCC, the Paris Agreement was negotiated by the end of 2015 and legally came into force on the 4th of November 2016.[116] The agreement stated, that global warming should be kept below 2 °C or possibly 1,5 °C, for which every country has to prepare national contributions.[117] It further promoted low carbon emission development, by placing importance on international cooperation.[118] Each country, rich or poor, has to contribute to GHG emission reduction, the capability for which has to be determined by each country individually.[119] Therefore, developing countries like China and India, the world's biggest and third biggest GHG emitters respectively, are no longer exempt from contributions as they were under the Kyoto Protocol.[120]

One problem remained: The agreement was far from being legally binding and was not

107 Wallace-Wells, Uninhabitable Earth, p. 14f.
108 McInerney-Lankford, Darrow & Rajamani, Human Rights, p. 3.
109 Ibid.
110 Ibid.p. 4.
111 Zambrano-González, Unión Europea, p. 437.
112 Ibid.
113 Ibid., p. 438.
114 Wallace-Wells, Uninhabitable Earth, p. 15; Boyle, Climate Change, p. 172.
115 Boyle, Climate Change, p. 173.
116 Satgar, Climate Crisis, p. 3f.
117 Boyle, Climate Change, p. 174; Reynolds, Giverning, p. 285; Zambrano-González, Unión Europea, p. 431.
118 Boyle, Climate Change, p. 174.
119 Ibid.
120 Ibid.

accompanied by a system of sanctioning if states failed to contribute to GHG emission reduction. Instead, it's language remained flexible and emphasized the voluntary character of the contributions.[121] Since the Paris Agreement does not attribute different responsibilities to different polluters like the Kyoto Protocol, e.g. historically strong polluters having to reduce emission more rigorously than historically low polluters, poor countries are not only forced into a position were they have less room to develop their economies, but it also reinforces existing asymmetries in the distribution of wealth and political power.[122] Furthermore, since the global economic model is build on competition and growth, which are tied to and translated into geopolitical power, it is unlikely that any country will, in the future, adopt any measures which will disproportionally harm it's position on the world stage.[123]

Nevertheless, in response to the agreement's ratification, the EU has positioned itself as the international leader in questions of climate change resilience and sustainability, and is trying to promote the importance of these ideas on an international stage and among the European populace.[124]

5. Competences of the European Institutions and the drafting of the MFF

In order to fully understand under which capacities the EGD can and has to operate, it is necessary to give a short introduction into the legal framework outlined by the Treaty of Lisbon, the Treaty on the European Union, and the Treaty on the Functioning of the European Union, which coordinate and regulate the legislative, executive and fiscal comepetences of the European institutions. Especially relevant to the case of the EGD are the division of competences among the EU and it's member states, the Multiannual Financial Framework, as well as the annual budgetary decisions. Taking a look at this framework reveals that the EU can potentially encourage and steer a common legislature towards reaching the goals set out in the EGD. But the member states through their competences and through influencing fiscal legislature via the European Council and their MEPs maintain certain political powers that should not be underestimated.

Article 2 of the TFEU recognizes three main competences that are divided between the EU an it's member states: exclusive competences, for which only the EU has the power to introduce binding legislation, shared competences, where both the EU and the member states can adopt legally binding measures, as long as the national legislature does not interfere with EU legistlature, and

121 Zambrano-González, Unión Europea, p. 432.
122 Satgar, Climate Crisis, p. 5.
123 Ibid., p. 6.
124 Zambrano-González, Unión Europea, p. 432.

finally supporting competences, where the EU is allowed to act in a supporting, coordinating role, but cannot introduce it's own legislation.[125]

The matter of exclusive and supporting competences are relatively easy to summarize. The area of exclusive competences mainly concerns economical questions, such as the customs union, the EU's internal market rules, the eurozone policy, or common commercial policies.[126] Supporting competences additionally encompass improvement and protection of human health, industry and tourism.[127] Areas relevant to the EGD covered by shared competences are environmental policies, legislature regarding agriculture and fishery, transportation, energy, and common concerns of public health concerns.[128] For the energy sector it can be further said that measures can only be adopted through qualified majority voting and in co-decision.[129] The TFEU protects further autonomies of the member states in this question. For one, member states retain the right to determine how they want to exploit their sources of energy, as well as which sources of energy they want to use.[130] Finally, the TFEU stresses the importance of solidarity between member states in questions of energy, allowing the Council to adopt measures appropriate to a countries economical situation.[131] This accentuation of solidarity stems from requests by Poland and the Baltic countries.[132] The member states, therefore still command a considerable amount of autonomy in an area that is key to mitigating the climate crisis. This might proof problematic in the future, considering that coal still play an important role in the energy sector of countries such as Germany or Poland.

Generally it can be concluded that the realization of the EGD's goals in regard to the EU competences heavily depends on the compliance and cooperation of the member states with the EU-institutions. But the competences are not the only level on which the single member states have the option to influence EU legislation.

Another important tool is the Multiannual Financial Framework, whose scope is layed out in Article 312 of the TFEU. For a period of seven years, the MFF regulates the EU's annual budgets and establishes a mandatory ceiling for spending.[133] The MFF has to be agreed upon unanimously by the Council and has to be approved by the EP with a qualified majority.[134] The EP does not have the power to amend the framework.[135] Because of the required unanimity, single member states have a

125 Piris, Lisbon Treaty, p. 74 f.
126 Ibid., p. 75.
127 Ibid.
128 Ibid.
129 Ibid., p. 318.
130 Ibid., p. 318 f.
131 Ibid.
132 Ibid.
133 Ibid., p. 295.
134 de Gardebosc & Mesdag, European Parliament, p.196; Piris, Lisbon Treaty, p. 295.
135 Piris, Lisbon Treaty, p. 295.

considerable array of power in negotiating the MFF. Furthermore, finding a lowest common denominator that the diverse political actors and institutions of the EU can agree on inevitably leads to a high number of compromises that undermine decisive action where it is necessary. While the negotiations of the current MFF (2014-2020) had already proven to be difficult, lacking common goals and struggling to unite the member states diverging interests,[136] the situation will proof to be more difficult for the coming MFF. Political concessions will have to be made to convince the member states of supporting the Commissions financial goals set out in the EGD. As will be seen, the deal itself already contains these kind of concessions towards some member states.

The annual budget of the EU will be another “battlefield” for the Commission's objectives. Normally during October, A draft of the budget is presented to the Council and the EP by the Commission.[137] Both institutions then have to approve of the budget. If one of them rejects the budget, the Council mainly aiming to reduce expenditure, the EP mainly amending the budget to fit it's own political ambitions, both institutions will come together in a Conciliation Committee, for a further 21 day period of negotiations, too present a new budget.[138] The budget itself is also determined by the MFF, in the sense that each budget is an allocation of the funds provided by the MFF to a single year.[139] It should come to no surprise that the EU budget can be used as a tool for the political power struggle between EU institutions. While the Council can use the argument of national budgetary constraints to refuse funding certain projects or topple some of the Commissions objectives altogether,[140] the EP, through the negotiations, has the opportunity to not only further it's own political priorities and demand funding for projects it feels to be neglected by the other institutions, but also to further it's own political prerogatives.[141] Since the EGD was introduced after the original approval of this year's budget and since many amendments to the budget had to be made in the wake of the COVID-19 pandemia, there yet exists no example of how the EGD's provisions are translated into the EU's financial procedures. But it can already be guessed that budgetary negotiations regarding the EDG's ambitions will be complicated. As the Commission under von der Leyen has no comfortable majority but has to rely on the support of wide array of politically conflicting parties, many concessions and appeasing decisions will have to be made to get the coming years' budget approved.[142] While everyone in theory backs the EGD, the Commission tries to gain Poland's and Hungary's, whose economies deeply depend on the coal and

136 de Gardebosc & Mesdag, European Parliament, p. 195 f.
137 Ibid., p. 192.
138 Piris, Lisbon Treaty, p. 297 f.; de Gardebosc & Mesdag, European Parliament, p. 187.
139 de Gardebosc & Mesdag, European Parliament, p. 193.
140 de Gardebosc & Mesdag, European Parliament, p. 192.
141 Ibid., p. 188 & 196.
142 cf. Harvey & Rankin, What is the European Green Deal, who state that the increased number of rightwing MEPs will proof to be problematic for realizing the EGD's goals.

fossil fuel using sectory, support by promising them financial incentives.[143] Especially Poland insists at reaching the zero-emission target depending on it's own economical capabilities, whereas Spain, Sweden or Latvia push for an even higher reduction of emissions by 2030. [144]

6. The European Green Deal

6.1 Structure of the EGD

In the following, an analysis will be given over the core idea's of the European Green Deal, which climate related challenges it will adress, it's shortcomings and which difficulties the deal might face. Some parts of the deal will be left out in this section, since they overlap contentwise with programmes the Commission has further elaborated since the publication of the deal and which will be discuseed in other chapters of this thesis. This is mainly true for some subchapters of the second section of the EGD “Transforming the EU's economy for a sustainable future“, as it describes ideas for the industrial transformation and circular economy, sustainable investment and the Just Transition Mechanisms, which will be focused upon individually later on. The analysis of the EGD's second chapter will still be the main focus of the following text, as it takes up the largest part of the deal. While the first section “Introduction – Turning an urgent Challenge into a unique Opportunity“ lays out the basic ideas and goals of the EGD, the third section “The EU as a Global Leader“ outlines the Commission's ambition reagarding the international position of the EU in questions of environmental protection, whereas the final section “Time to act – Together: A European Climate Pact“ introduces the core concepts of the aforementioned Pact and gives some final remarks on realising effective policies, legislation, and the diversion of funds.

Before starting the detailed investigation of the deal's content, five main ideas should already be introduced, that have to be kept in mind while reading the deals objectives and stipulations: First, the deal aims for the transformation of the European economy towards a sustainable economy, while also trying to offset the challenges presented by this transformation. Second, through the concept of the circular economy, the Commission tries to combine sustainability with economic growth. Third, often the measures the deal can propose are limited by the lack of competences of the European institutions, which only can decide upon standardized production, trading and market rules within the EU without the possiblity of member state deviation. Fourth, since in a globalized world, climate, and economies are interlinked and solutions to climate change can, in the end, only

143 Ibid.
144 Ibid.

be found through changes on a global scale. Because of this, the success of everything proposed by the deal also depends on the EU'S success of promoting environmental protection on a globally. And fifth, the EGD itself is only a first outline of different strategies, all of which will be presented in more detail until the end of 2021. Anything analysed, criticised and evaluated in this paper can therefore be only seen as preliminary, as many ideas and their realization are still uncertain, especially considering the ongoing pandemia.

6.2 Introduction to the European Green Deal

In the EGD's introduction, the Commission postulates "climate and environmental-related challenges [as] this generation's defining task."[145] Listing global warming, the loss of biodiversity, and the destruction of forrests and oceans, the Commission envisions the EGD as an opportunity to

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

Therefore, the EGD is supposed to maintain the current economic paradigm of growth. The undocking of economic growth from resource and material usage seems paradoxical at first, but, from the Commission's point of view, can be realized through establishing a circular economy. The basic concept of a CE contains reintroducing every kind of waste back into the productive process, thus raising production efficiency and profits, while reducing waste. Additionally, this approach operates under the framework outlined by the UN sustainable development goals, as will be seen shortly.

Apart from these economical aims, the Commission, through the EGD, plans to "protect, conserve and enhance the EU's natural capital, and protect the health and well-being of citizens from environment-related risks and impacts", meaning that efforts of natural preservation and regaining environmental wealth, through e.g. furthering biodiversity, will be taken. Additionally, the Commission stresses the idea that the transition to a more environmentally friendly economy has to be "just and inclusive", and should be supported by "public participation and confidence". To this end, the Commission designed the Just Transition Mechanism, as will be discussed in another chapter. To further public participation, the EGD calls for

> "a new pact is needed to bring together citizens in all their diversity, with national, regional, local

145 The following quotes can all be found under European Green Deal, p. 2.

> authorities, civil society and industry working closely with the EU's institutions and consultative bodies",

an idea, which is supposed to be realized through the "Climate Pact".

The Commission further hails the, through it's "collective ability" to be "a global leader on climate and environmental measures, consumer protection, and workers' rights", capable of undertaking the massive economical and societal transformations necessary for combatting climate change. "Public investment and increased efforts to direct private capital towards climate and environmental action" will play a substantial role in these processes. The EU's strategy for these investments, the "Sustainable Investment Plan", will be analysed in the chapters to come.

Furthermore, as the EGD's environmental ambitions cannot be "achieved by Europe acting alone", the EU should use its "influence, expertise and financial resources to mobilise its neighbours and partners to join it on a sustainable path". This statement is immediately followed by a caveat, explaining that the EU "also recognises the need to maintain its security of supply and competitiveness even when others are unwilling to act", which lastly assigns economical endeavours and continued growth a higher priority than radical action on climate change.

Lastly, the introduction proclaims, that every EU action and policy should opperate under the framework laid out by the EGD, which is also part of the EU's strategy of implementing the UN's 2030 Agenda, drafted in September 2015, and its sustainable development goals.[146] Among these development goals are striving to keep the rise in global temperatures below 1.5 or 2 degrees, transform urban environments to be less hazardous for nature, increase the spread and usage of environmentally friendly technologies, and creating sustainable, resilent agriculture.[147] With these goals, the UN also demands "to decouple economic growth from environmental degradation [...] with developed countries taking the lead" which the EGD copies nearly verbatim, as quoted above.[148] While the UN goals also heavily focus on waste reduction, recycling, and more efficiency in resource usage,[149] they never explicitly mention plans for a CE.

6.3 The Economical Transformation of Europe

As has been mentioned, some of the contents of the second section of the EGD strongly overlap with contents that will be covered in other chapters. Suggestions and plans regarding the CE or investments will be left out.

146 European Green Deal, p. 3.
147 United Nations, Sustainable Development.
148 Ibid., cf. goal 8.4.
149 Ibid., cf. point 34, as well as goals 8.4, 11.6, 12.3, 12.4, and 12.5.

On a fundamental level, the EU aims to "rethink policies for clean energy supply across the economy, industry, production and consumption, large-scale infrastructure, transport, food and agriculture, construction, taxation and social benefits".[150] This would be achieved by "increas[ing] the value given to protecting and restoring natural ecosystems, to the sustainable use of resources and to improving human health". The Commission therefore postulates that every aspect of modern society has to be transformed to account for effective environmental protection. To this end, the Comission vows to utilize every tool at its disposal, naming "regulation and standardisation, investment and innovation, national reforms, dialogue with social partners and international cooperation".

6.3.1 Increasing the European Climate Ambitions

As a centre piece of these ambitions lies the Commisions promise to achieve European climate neutrality by 2050. This goal was to be enshrined in a "European Climate Law", which was proposed on th 4th of March 2020 and has yet to be accepted by the EP.[151] As has been pointed out, 2050 is the year by which global emission neutrality has to be achieved to prevent global temperatures from rising more than 1.5 to 2 degrees. In accordance with the zero emission target, the EU also established a emission reduction target "for 2030 to at least 50% and towards 55% compared with 1990 levels". An important instrument in these efforts will be the "Emissions Trading System [and] Member State targets to reduce emissions in sectors outside the Emissions Trading System". While the establishment of member state targets poses a difficult political problem, as will be seen in the discussion of the Just Transition Mechanism, the ETS in the past has proved to be inefficient as being a meaningful instrument in reducing emissions.

An ETS establishes a market for GHG emissions. In the case of the EU, within this market an absolute limit for emissions exists, that a specific group of emitters may not surpass without penalties.[152] Companies, for example, receive a certain number of free allowances that represent the number of GHG emissions they may emit in a certain time period.[153] Further allowances can be bought from other emitters, who do not intend to use their allowances, whereas allowances that have not been used can also be saved for the future.[154] Within this system, supply and demand of allowances determines the price companies have to pay for emitting a tonne of carbon.[155]

150 The following quotes can all be found under European Green Deal, p. 4.
151 European Commission, European Climate Law.
152 Biedenkopf & Wettestad, Harnessing the Market, p. 232.
153 Ibid.
154 Ibid.
155 Ibid.

Theoretically, this system allows governments enough control over carbon emission, while at the same time leaving room for flexibility among economic actors to comply with emission targets, thus creating a fairly liberal market within a set of market regulations.[156] The EU established its ETS during a pilot phase between 2005 and 2007 and finalized the system during the second Kyoto commitment period of 2008 to 2012.[157] During these early stages, the ETS functioned very decentralised and was restricted to the power sector and energy-intensive industries, while from 2013 onwards there was a shift towards more centralization of the carbon market, as well as the promotion of the carbon allowance trade.[158] These changes were necessary since the per tonne carbon price had remained below 8€ since 2012, only starting to rise again in 2018,[159] while measures for price stabilisation have been adopted in 2015 and started operating in 2019.[160] This collapse of the EU's carbon market lead to plummeting coal prices, without any real penalities for its usage.[161] A variety of influences lead to the emission prices being neither predictably high and nor stable, as would be necessary for effectively discouraging high emissions. The economic downturn after the financial crash of 2008 and the overabundance of allowances within the European ETS lead to a significant drop in demand.[162] Furthermore, the availability of emission efficient technologies equally influence the prize of emission allowances, as well as "the threshold at which investing in innovation becomes economically more feasible than purchasing carbon allowances" as Biedenkopf and Wettestad point out.[163] Despite these problems, the EU plans to further the range of its ETS, even envisioning "international carbon markets" as mentioned by the EGD.[164] Somewhat acknowledging these issues, the EGD, as well as the "Sustainable Investment Plan", promise to revision the ETS.[165] For the Commission's plans, effectively realizing this step is indispensable. Not only does the Commission see the ETS as a necessary tool "to ensure effective carbon pricing throughout the economy. This will encourage changes in consumer and business behaviour".[166] The Commission also intents to utilize revenues generated by the ETS for "the financing of the just transition".[167] If therefore emissions are not priced sufficiently high, the Commission will fall short of realizing its own ambitions.

Another problem with the ETS and generally with GHG emission reduction targets lies in the fact,

156 Ibid.
157 Ibid., p. 234.
158 Ibid., p. 234 f.
159 Ember, Carbon Price Viewer.
160 Biedenkopf & Wettestad, Harnessing the Market, p. 236.
161 Klein, This changes Everything, p. 145.
162 Biedenkopf & Wettestad, Harnessing the Market, p. 237.
163 Ibid.
164 European Green Deal, p. 20.
165 Ibid., p. 16.; Sustainable Europe Investment Plan, p. 10.
166 European Green Deal, p. 5.
167 Ibid., p. 16.

that they can only actively be enforced within the EU. The Commission acknowledges this issue by addressing the “risk of carbon leakage”, which it defines as emission heavy production being transferred from the EU “to other countries with lower ambition for emission reduction”, or the import of emission heavy products which are not created within the EU.[168] As a cause for this risk, the EGD solely identifies “international partners [who] do not share the same ambition as the EU”. To counter this, the Commission proposes “a carbon border adjustment mechanism”, which is set to “ensure that price imports reflect more accurately their carbon content”, while at the same time assuring that these measures would “comply with World Trade Organization rules”. Since the WTO rules are extremly complex and cannot be discussed in full detail, it should suffice to assert that the organization generally strives for free, unrestricted trade. As such, European mechanisms to artifically augment prices for products imported into the EU could prove problematic and might be interpreted as protectionist measures. These, of course, would be necessary in the sense that the Commission wants to maintain the competitiveness of European businesses. If these businesses were the only ones following environmental regulations, they would face an economical disadvantage on a global stage. Raising prices for foreign products might therefore not only be a measure of environmental protection, but also a protectionist strategy, similar to the once employed by the US or China in recent years, albeit more subtle. It should be remembered as well that questions of market regulation and access to the EU's common market are the only competences where the EU institutions can take binding decisions for member states.

Apart from this, one might also argue that a lot of carbon leakage is created by European businesses themselves, which might have their headquarters within the EU, but operate their production centres in countries with weaker emission regulations. It would therefore seem sensible to force European companies to adhere to European environmental protection standards outside of the EU as well and throughout the whole production chain, as to not only prevent the import of carbon intensive products by these companies, but also as to ensure the environmental integrity in the areas where production is conducted.

6.3.2 Plans for Clean energy

A further core concern for the Commission is the provision of “clean, affordable and secure energy”, which the EGD describes as critical to reach its climate objectives.

The production and use of energy across economic sectors account for more than 75% of the

168 The following quotes can all be found under European Green Deal, p. 5.

> EU’s greenhouse gas emissions. Energy efficiency must be prioritised. A power sector must be developed that is based largely on renewable sources, complemented by the rapid phasing out of coal and decarbonising gas.

In response to these plans, Jäger-Waldau, Kougias, Taylor et al. conducted a study, showing thar the most cost-efficient way of achieving the Commission's energy goals would be the intensified construction of photovoltaics.[169] Not only are they already build en masse within the EU, they also take up less space then traditional power plants or windfarms, as they can simply be installed on rooftops.[170] According to the authores' estimates, the potential use of rooftops in the EU for photovoltaics could generate 680 TWh of electricity per year.[171] As a side-effect, between 60.000 and 150.000 construction jobs would be created by 2030.[172] Throuhg rooftop constructions, residential areas and businesses of the tertiary sector, which make up 57% of the EU's electricity demand, could directly satified.[173] It would still be necessary though to completly electrify the transpot sector, which might proof more difficult.

Another difficulty in promoting photovoltaic and other renewable sources of energy is found in the current market arrangements within EU member states. As the authors point out: “For PV and other renewables, the experience of the last 15 years has been one of a policy-driven market environment and as such highly sensitive to policy changes at the national level.”[174] Their suggestion is to “implement stable market reform“, such as “uniform access to low credit risk financing for renewable projects in all member states“ to secure necessary investments for the rising demand in clean energy.[175] Under the assumption of energy demand rising by 13% until 2030, the EU's photovoltaic market volume would have to grow by three to five times, as well as providing possibilities of storing electricity generate by windfarms and photovoltaics.[176] Interestingly enough, the EGD does not mention photovoltaics and only postulates, that “increasing offshore wind production will be essential“.[177] An issue of course is that decisions over the energy sector are competences that only lay with member states. The therefore could not e.g. propose production quotas. Still, the EGD also fails to propose investment for furthering the construction of renewable energy sources, which would be well in the realm of possible instruments commanded by the EU. The EGD only calls for “increased cross-border and regional cooperation [to] help achieve the

169 Jäger-Waldau, Kougias, Taylor et al., Photovoltaics, p. 1.
170 Ibid., p. 6.
171 Ibid.
172 Ibid.
173 Ibid., p. 4.
174 Ibid.
175 Ibid.
176 Ibid., p. 6.
177 European Green Deal, p. 6.

benefits of the clean energy transition at affordable prices", while at the same time highlighting that "the rapid decrease in the cost of renewables, combined with improved design of support policies, has already reduced the impact on households' energy bills of renewables deployment".[178] This statement is more than misleading though, as between 2008 and 2019 the prices per kWh for household consumers have risen by 37.5% from 0.16€ to around 0.22€, whereas prices per kWh for non-household consumers have only increased by around 20% from 0.1€ to 0.12€.[179] Given these developments, it seem dubitable that the EU will actually address "the risk of energy poverty […] for households that cannot afford key energy services". While at the most direct solution for the issue would seem to lie in subsidizing reneweable energy and kWh prices generated by these for low-income households, the EGD envisions "programmes, such as financing schemes for households to renovate their houses, [which] can reduce energy bills". While it is of course the case that more energy-efficient households would utilize less energy and pay therefore less in energy bills, this measure would not adress low-income households at risk of "energy poverty". Benefactors of such a measure would primarily be people owning property to live in, or landlords and property companies, who could use the subsidized renovations as a way of raising rents.

In a further subchapter, titidled "Building and renovating in an energy and resource efficient way", renovations are presented as the main way of reducing energy consumption in buildings. According to the deal, "Buildings […] account for 40% of energy consumed" and the annual renovation rate, which "varies from 0.4 to 1.2% in the Member States" has to " at least to double to reach the EU's energy efficiency and climate objectives".[180] To this end, the Commission demands to engage in a "'renovation wave' of public and private buildings" which would "lowers energy bills, […] reduce energy poverty [and] also boost the construction sector". Furthermore, "the Commission will also launch work on the possibility of including emissions from buildings in European emissions trading", while the renovations will " at all stages [be] in line with the needs of the circular economy".[181] While the general assumption of renovations bringing lowering energy consumption and supporting the construction sector cannot be denied, the question still remains, if these measures will actually be advantageous for households suffering "energy poverty" for the reasons listed above. Measures are needed to ensure that renovations increasing energy efficiency will not result in an elevated pressure on tenants via rents. It is further interesting, that the EGD fails to mention investments into renewable energies, but is ready to proposing porgrammes for housing renovations.

178 The following quotes can all be found under European Green Deal, p. 6.
179 Eurostat, Electricity Price Statistics.
180 The following quotes can all be found under European Green Deal, p. 9.
181 European Green Deal, p. 10.

Another issue is disregarded by this subsection. Based on numbers provided by the Commission itself, the EU's level of urbanization is expected to reach 83.7% by 2050.[182] While half of all European cities will lose population by 2050, the average increase of people living in urban areas still lies at 4%. While the loss of population in some urban areas and the growth of population in others this can be explained by inter-urban migration and general demographic trends, the average increase of urban population still hints at the necessity of constructing more buildings in cities affected by growth. While the EGD acknowgledes the problem of the energy-intensity of construction projects,[183] it does not address the probable rise in demand for new living and commercial space. This issue cannot be solved by renovation and might make renovation superflous in some regions of Europe alltogether, since inhabited areas in the countryside will be abandoned more and more. It also poses an issue for the goal of aligning the construction sector with the circular economy plan. Of course building materials, such as concrete can be reused, but the practicability and energy-efficiency of demolishing a building and then transporting the material left behind to another city, remains questionable. A different strategy might be creating incentives for people to move to and stay in the countryside. But as the whole phenomenon of urbanization is incredibly complex and movement of people largely depends on economic possibility, which within tertiary economies is mainly found within cities, this solution is easier proposed than achieved.

As a whole though, there is no reason to doubt that the EU, continously strives to augment the contribution of renewable power sources to energy consumption, even though this progress is only achieved very slowly. As of 2018, the EU was well on track of reaching the targeted 20% share of renewable energy in energy consumption, having experienced an increase from 9.6% in 2004 to 18.9% in 2018 and aiming to reach 32% by 2030. These numbers and objectives are too low considering the goals for 2050, and it is telling that the EGD does not propose any measure of how to increase the share of renewables in energy consumption, nor does it propose new targets for reaching certain shares by a certain date, instead delegating the task to the member states demanding that they “present their revised energy and climate plans by the end of 2019, [which] should set out ambitious national contributions to EU-wide targets.”[184] While of course the EU institutions cannot interfere in member states decisions regarding the energy sector, at least a proposal for desired results could have been made to give the European public an overview of the necessities for a transformation towards a environmentally friendly society. But it cannot be denied that a transformation is, indeed, taking place.[185] The reason for these ambitions might not be caused

182 European Commission, Developments And Forecasts On Continuing Urbanisation.
183 cf. European Green Deal, p. 9.
184 European Green Deal, p. 6.
185 European Commission, Shedding Light On Energy In The EU.

by considerations about the environment though.

The question of clean, renewable energy is not only of environmental, but also of geopolitical importance. As for now, European energy supply mainly depends on fossil fuels.[186] 90% of oil and 60% of gas used within the EU have to be imported.[187] Achieving emission neutrality would nullify these imports and carry far-reaching implications for energy geopolitics. As an economical war surrounding oil prices is again and again being fought between the US and the oil monarchies, Russia's economy continues to depend on oil and gas exports to the EU and therefore has an interest in hindering the EU's transition to renewable energies.[188] To be independent of these conflicts and of energy provided by countries acting contrary to European values and necessities of environmental protection, it is indispensable to achieve the transformation envisioned by the EGD. Reducing these dependencies is also one of the main objectives of the European Energy Union. It therefore seems plausible that these concerns might be a main motivator for the Commission to at least publicy proclaim to strive for climate neutrality and the achievement of the targets set out in Paris. While the Commission does not publish any direct statements regarding these geopolitical concerns, it states that one aim of the energy sector's transformation is to achieve "reduced dependency on fossil fuel markets (in particular, oil and gas)",[189] resources which are mainly imported from Russia.[190] A similar intent might be found in the EGD's following passage:

> In parallel, the decarbonisation of the gas sector will be facilitated, including via enhancing support for the development of decarbonised gases, via a forward-looking design for a competitive decarbonised gas market.[191]

Currently, this objective is jeopardized by Germany's and Russia's Nord Stream 2 enterprise, which will not only increase at least German dependeny on Russian gas, but also lead to increased gas prices for consumers, as the project is more expansive than profitable.[192]

6.3.3 Sustainable Mobility

As the EGD acknowledges, transforming the way transport is conducted within the EU is one major necessity for achieving climate neutrality.

186 Kemfert, Green Deal, p. 353.
187 Ibid.
188 Ibid., p. 353f.
189 European Commission, Renewable Energy Statistics.
190 Kemfert, Green Deal, p. 353.
191 European Green Deal, p. 6.
192 Kemfert, Green Deal, p. 354.

> "Transport accounts for a quarter of the EU's greenhouse gas emissions [...]. To achieve climate neutrality, a 90% reduction in transport emissions is needed by 2050.[...] Achieving sustainable transport means putting users first and providing them with more affordable, accessible, healthier and cleaner alternatives to their current mobility habits."[193]

As key strategies for achieving these goals, the Commission on the one hand explains "that a substantial part of the 75% of inland freight carried today by road should shift onto rail and inland waterways," which "will require measures to manage better, and to increase the capacity of railways and inland waterways". Additionally, the Commission plans to end "fossil-fuel subsidies […], [and] will closely look at current tax exemptions". To accomodate the energy needs of the "13 million zero- and low-emission vehicles expected on European roads" expected by 2025, the Commission calculates with a need of "1 million public recharging and refuelling stations", a gap whose closure the Commission wants to support, "complement[ing] the measures taken at national level".[194] It is indeed important that tax advantages are to be ended and the necessary infrastructure is to be build. Still, the proposed measures appear to be a rather symptomatic approach by the Commission. While in 2016 water navigation was responsible for 13.6% GHG emissions in transport, civil aviation for 13.4%, railway transport for 0.5% and other methods of transport for another 0.5 %, 72% of transport emission stemed from road transportation. To these emissions, heavy and light duty trucks contributed 28.1%, whereas cars and motorcycles contributed 61.9%.[195] Therefore, while directing tranpsortation of goods away from roads and towards railway and maritime transport (which would have to be supported by alternative, sustainable fuels) would contribute significantly to the reduction of the EU's transportation emission, the EGD lacks in presenting a larger strategy of how to significantly reduce emissions produced through the usage of private vehicles. Neither does it propose measures for introducing a certain number of cars powered by electricity to the European market, nor does it discuss incentives for industries to produce and for consumers to acquire such vehicles. Furthermore, electric vehicles might also be used for freight transportation, thus reducing the need for train and waterway capacities.

It is of course difficult to introduce such technologies and change consumer behaviour over night, as it is equally necessary to create a framework wherein these technologies can be used fruitfully. Nevertheless, a starting point into such a direction needs to be made. In a study by Tsakalidis, van Balen, Gkoumas and Pekar about transport innovation in regards to the EGD, the authors call for a "Strategic Transport Research and Innovation Agenda", which could serve as a guideline for the EU

193 The following quotes can all be found under European Green Deal, p. 10.
194 European Green Deal, p. 11.
195 Numbers to be found under European Parliament, CO2 Emissions From Cars: Facts And Figures.

to transform the transport sector.[196] Among others, a supportive framework should be given for innovation regarding transport electrification, especially for "multi-sectorial […] activities on new materials [and] advanced propulsion", experimenting with vehicle design and manufacturing, supporting the development of "low-emission Alternative Energy for Transport", the support of emerging technologies, and the development of transport infrastructure, research, and testing methodologies.[197] Despite implementing such strategies, it would still remain difficult to bring about a "transport innovation revolution" as the authors acknowledge, since the transport system and its technological basis are highly complex and interconnected with various other sectors, while consumers at the same time are often reluctant to adopt new technologies.[198] But failling to establish a framework that at least intents to offset these problems by facilitating a cooperation between business, governments and academia would lead to the deterioration of the situation in the long run.[199] As the authors further point out, there is a lack of pressure on the automotive industry to transform and refocus their production, as this sector often carries special economical importance to certain EU member states.[200] Accordingly, just "closely looking at current tax exemptions" will not be sufficient to combat climate change.

In a similar vain, the EGD fails to present a way of changing behaviours regarding urban transportation. To reduce transport pollution within cities, the EGD suggests "more stringent air pollutant emissions standards, […] to revise by June 2021 the legislation on CO2 emission performance standards for cars and vans, [and to] consider applying European emissions trading to road transport".[201] While it mentions the need for "improved public transport"[202], there is no mention of how this improvement is going to take place. Generally, for the question of urban transport the deal fails to consider the encouragment of reduced car usage within cities, the extension of public transport, and the promotion of biking and biking lanes. While it mostly likely would not be possible to remove cars completly from within cities, changing transport behaviour would in the longterm be equally important as simply promising to review emissions standards, especially considering the difficulty of widely establishing new technologies within the automotive industry. Yet again, these decisions are not part of the EU's competences and have to made on a local level. But to further goals as the one's outlined above, the Commission could have called for a joint-strategy development between European decisions to make suggestions, self-commitments and

196 Tsakalidis, van Balen, Gkoumas & Pekar, Catalyzing Sustainable Transport Innovation, p. 5.
197 Ibid., p. 5f.
198 Ibid., p. 2.
199 Ibid., p. 3.
200 Ibid.
201 European Green Deal, p. 11.
202 Ibid.

funding for reducing car usage within cities. As has been mentioned though, suggesting a reduction of the economically important automotive sector would lead to the opposition of influential EU member states.

Apart from these concerns, the question of fuel usage has to be addressed. While trains and cars can be powered by electricity, the Commission stresses the importance of "ramp[ing]-up the production and deployment of sustainable alternative transport fuels" for maritime transport and aviation, while it will also "consider legislative options to boost the production and uptake" of these fuels.[203] An important alternative to electricity and fossil fuel are biofuels. Biofuels are obtained from resources "such as woody biomass, hydrogenated fats and oils, recycled waste or other renewable sources".[204] Under some models,

> "emissions from biofuel combustion are [...] considered as being zero, given that the fuels are produced from biomass. These are referred to as 'biogenic emissions', and they are assumed to be zero on the basis that the growth of the biomass absorbs the same amount of CO2 released during combustion."[205]

Specifically in the sector of aviation, these biofuels could be a bridging solution, until technologies, that are unquestionably free from any kind of emission, "such as electric-powered aircraft or cryogenic hydrogen fuel", become viable for comercial air transport by around 2030, as the European Union Aviation Safety Agency suggests.[206] Currently though, the EU only disposes of " a maximum potential output of approximately 2.3 million tonnes per year […] which potentially corresponds to about 4% of the total EU conventional fossil aviation fuel demand."[207] Thus, this sector is still in massive need of subventions and promotions by eitehr the EU or the member states to cover fuel demand by aviation alone, not to mention maritime or potentially automotive transport.

A further proposal by the Commission references the restart of the "Single European Sky [...] as this will help achieve significant reductions in aviation emissions."[208] The Single European Sky initiative, started in 1999 and set to complete at around 2030 to 2035, aims at integrating European airspace in a way that improves air traffic management and air navigation, which would raise airspace capacity and potentially reduce the environmental impact of aviation by 10%.[209] While this would also mean a considerable contribution to the EGD goal's of climate neutrality, the year of

203 European Green Deal, p. 11.
204 European Union Aviation Safety Agency, European Aviation Environmental Report, p. 41.
205 Ibid., p. 45.
206 Ibid., p. 41.
207 Ibid., p. 43.
208 European Green Deal, p. 10.
209 European Parliament, Air Transport: Single European Sky.

2035 and a reduction of only 10% of environmental impacts achieves too little in a timeframe that would ultimately leave only fifteen years for the EU to reach climate neutrality. The success of this initiative in regards to environmental protection would therefore heavily hinge on the success on the aforementioned alternative fuels. It is further telling, that the Commission does not in any way consider the reduction of air traffic altogether or even the ban of domestic flights while at the same time encouraging the expansion of inter-european, comercial railway networks. Finally, the question remains of how flights entering the EU would be counted under the assumption of a zero emission goal.

6.3.4 The Farm to Fork Initiative

As the world population grows and with it the demand for food, so will GHG emissions through the agricultural sector increase. Animal husbandry alone is estimated to contribute between 15 and 20% to global emissions by 2030.[210] This problem is highlighted by the EGD in the subchapter "From 'Farm to Fork': designing a fair, healthy and environmentally-friendly food system", stressing that in the context of a growing world population

> "food production still results in air, water and soil pollution, contributes to the loss of biodiversity and climate change, and consumes excessive amounts of natural resources, while an important part of food is wasted. At the same time, low quality diets contribute to obesity and diseases such as cancer."[211]

This not only acknowgledes the environmental impact of agriculture, but also the dietary impact on human health. To solve this problem, the Commission proposes a "Farm to Fork" strategy, to adress any environmental issue that arises from food production to food consumption. At the heart of this strategy, the EGD sees food producers themselves. "European farmers and fishermen are key to managing the transition. The Farm to Fork Strategy will strengthen their efforts to tackle climate change, protect the environment and preserve biodiversity."[212] To realize this ambition, the Commission proposes, "that at least 40% of the common agricultural policy's overall budget […] would contribute to climate action." The EGD incidates, that these funds could be used for plans to "reduce significantly the use and risk of chemical pesticides, as well as the use of fertilisers and antibiotics", which would be encouraged through legislative measures, or for the funding of reducing "the environmental impact of the food processing and retail sectors by taking action on

210 Owen & Silver, Greenhouse gas, p. 545.
211 European Green Deal, p. 11.
212 The following quotes can all be found under European Green Deal, p. 12.

transport, storage, packaging and food waste" and thus integrating the agricultural sector into the CE. As the idea behing the concept of the CE is to raise the efficiency of resource usage, it can be supposed that the loss of agricultural production through the abstention from fertilizers, pesticides etc. would be off-set by increasing the efficiency of e.g. soil-usage. As studies have shown, addressing resource efficiency in food producing industries is key in solving the problem of feeding more people, while protecting the environment.[213] Furthermore, many of the emissions produced by the agricultural sector, result from transport and logistic processes in within the globalized food industry.[214] It would also seems plausible to delegate responsibility for the protection of biodiversity to farmers, as they would potentially be the ones knowing the local flora and fauna best.

One problem though is, that the EGD evokes the image of farmers contributing to food production as individuals, who would receive the promised aid for the necessary transition. This conceals the fact, that as of 2013, of the 4.4 million farms in the EU, 69.1% might have been small farms and subsitence housholds, but these only contributed 5% to the EU's food output.[215] Very large farms, meaning farms of a standard output of at least 100000 Euro, only made up 6.3% of total farms in the EU, but produced 71.4% of agricultural output in 2013.[216] Accordingly, these farms are the one's mainly responsible for climate emissions and would be the chief benefactors of the subsidies promised by the EGD. This, and probably the fact that the EGD at not points talks about the necessity of reducing animal husbandry as a means to combat climate change, might have contributed to the enthusiastic support of the EGD published by the European Diary Association.[217]

Furthermore, the EGD fails to adress droughts and heat periods. As by 2050, precipitation in Central Europe and the Mediterranean will reduce by 15% and mean ambient temperatures will rise by 2 degrees, crop yield and fertile soil will decrease.[218] Animals will suffer heat stress, which negatively affects their capacity of producing milk.[219] Accordingly, a strategy of preventitive or alleviation is necessary to help farmers become more resilent towards these specific environmental stressors.

Another problematic aspect of the "Farm to Fork strategy" only becomes evident after careful consideration. As the EGD proclaims "European food is famous for being safe, nutritious and of high quality. It should now also become the global standard for sustainability."[220] And further:

213 Vanham & Leip, p. 3.
214 Wascher, Jeurissen, Jansma, Ecological Footprint, p. 93; Klein, This Changes Everything, p. 84.
215 European Commision, Small And Large Farms In The EU.
216 Ibid.
217 cf. Dairy Industries International, EDA Shares European Green Deal.
218 Gaulyl & Ammer, Challenges p. 196; Wallace-Wells, Uninhabitable Earth, p. 59.
219 Gaulyl & Ammer, Challenges p. 197.
220 European Green Deal, p. 11.

> "the Farm to Fork Strategy will strive to stimulate sustainable food consumption and promote affordable healthy food for all. Imported food that does not comply with relevant EU environmental standards is not allowed on EU markets."[221]

For European consumers, this stipulation is indeed a desirable objective. In part, it might also be a polemic that was inspired by fierce public outcries over food regulation debates in the context of the TTIP.[222] But higher standards in food regulations inevitably lead to international market inequalities, favouring agricultural businesses, who command the capacity and technology to produce food complying with these standards. While this might not be problematic for farmers in e.g. the United States, African economies would have to make costly investments to be able to participate in the European Market. [223] Of course the reduction of regulations cannot be a solution to this problem. But if the Commission has an interest in making these countries more resilent towards climate change, as it claims in the EGD's third section, it should, through investments or development funds, help these countries in establishing a sustainable agricultural sector, that is capable of competing in international markets.

Lastly, the subchapter mentions the issue of "healthy and sustainable diets".[224] To direct consumers towards desirable dietary behaviour,

> "the Commission will explore new ways to give consumers better information, including by digital means, on details such as where the food comes from, its nutritional value, and its environmental footprint."

A shift in dietary habits would not only help reduce obesity rates and the likelihood of suffering strokes or diseases such as diabetes, but also might facilitate keeping the food system within planetary boundaries.[225] It is questionable though, that simply giving more information will be sufficient to steer consumer behaviour. The source of this idea might be the assumption that people are rational consumers, whose economic decision making is based on critically evaluating product information. Thus, the only regulations necessary would be forcing industries to display nutritional values, a products origin etc. But these information only help consumers, who are already interested in consuming healthily and sustainably, and who know how to interpret the given information. The rest might simply choose to disregard it. Therefore, keeping with the aformentioned conception of consumers, it would furthermore be necessary to educate the public on this very issue, e.g. in

221 Ibid., p. 12.
222 cf. Inman, P., Prospect Of TTIP Already Undermining EU Food Standards, Say Campaigners.
223 Anderson, Morton & Toulmin, Agrarian Societies, p, 209.
224 The following quotes can all be found under European Green Deal, p. 12.
225 Haines & Scheelbeck, European Green Deal, p. 1328; Vanham & Leip, p. 3.

schools. This, of course, would face the problem that education is a matter of the member states and cannot be decided upon by the EU. Nevertheless, the EU might have the capacity of supporting programmes dedicated to dietary education.

6.3.5 Protecting Biodiversity

In the subchapter “Preserving and restoring ecosystems and biodiversity“, the EGD mainly discusses how biodiversity and natural habitats can be restored. As details for this strategy are seperatly laid out int the EU's “Biodiversity Strategy“ which has been published in March 2020 and also depend on the upcomming Conference of the Parties to the Convention on Biological Diversity in Kunming, China, in October 2020, this chapter does not present too many details regarding how the EU plans on reaching these goals. It does highlight the importance of reforestation and the success of the “Farm to Fork Strategy“ though.
As “Ecosystems provide essential services such as food, fresh water and clean air, and shelter[,] they mitigate natural disasters, pests and diseases and help regulate the climate”, the Commission sees their preservation as necessary, especially given that the “EU is not meeting some of its most important environmental objectives for 2020” in this regard.[226] As biodiversity-loss is a result of complex mixture between climate change, resource exploitation, monocultures and environmental destruction in general, the measures of EGD should in one way or another all contribute to ending further degradation of biodiversity.[227] Next to the “Farm to Fork Strategy” and the Kunming Convention,

> “the Commission will identify which measures, including legislation, would help Member States improve and restore damaged ecosystems to good ecological status, including carbon-rich ecosystems.“

The success of all these measures, of course, depends on how exactly these different strategies will look like, and if the Commission will be able to convince member states of complying with the proposed measures. Once again, the EGD's objectives can only be reached if the member states are willing to cooperate, as compentencies such as agriculture and the environment in general are shared between the EU and the member states. Accordingly, the only instrument the Commission can promise, without running the risk of crossing any institutional boundaries, is funding. Therefore, in line with these restrictions, “the Commission will consider drafting a nature

226 The following quotes can all be found under European Green Deal, p. 13.
227 Lawson, & Late, A Simple Ricardo-Malthusian Model, p. 1ff.

restoration plan and will look at how provide funding to help Member States to reach this aim [of realizing the EU's biodiversity strategy]."

In the context of biodiversity, its preservation is not the only concern. The issue proves even more complex when trying to restore biodiversity. In this regard, the EGD only focuses on reforestation, as "sustainable re- and afforestation and the restoration of degraded forests can increase absorption of CO2 while improving the resilience of forests and promoting the circular bio-economy." This way, the Commission hopes to reduce the occurence and extent of forest fires, and promote the bio-economy, in full respect for ecological principles favourable to biodiversity."[228] Laying out how the EU will actively support these measures, the Commission again highlights the competences where it can act regardless of member state policy: "the Commission will take measures, both regulatory and otherwise, to promote imported products and value chains that do not involve deforestation and forest degradation."[229] While forests play an important part in local and global environmental systems, as well as influence climate and weather patterns, reforestation efforts have to be fine tuned to the areas where they take place, since depending on geography and type of tree, effects can vary vastly[230], and might in the best case have unknown effects on climate and in the worst case even carry with them adverse heating effects on a global scale as Popkin points out.[231]

Lastly, the EGD fails to adress the necessity of ending monocultural farming and forestry, as these are also a main factor in the destruction of biodiversity.[232] It is not only sufficient to reduce the utilization of chemicals in farming, or increase the resilence of forests, but also to diversify crop and sapling usage. It can only be hoped that this oversight is corrected in the respective EU strategies for farming and biodiversity.

6.3.6 Creating a Toxic-Free Environment

Similarly to the biodiversity ambitions, the EGD's aim for a toxic-free environment, explained in the subchapter "A zero pollution ambition for a toxic-free environment", will be influenced by the success of the other objectives proposed by the Commission. As the EU aims to "better monitor, report, prevent and remedy pollution from air, water, soil, and consumer products",[233] the success of the push for clean energy, sustainable mobility, the CE, or the "Farm to Fork Strategy" will

228 European Green Deal, p. 13f.
229 Ibid., p. 14.
230 Cf. Sanderson, Pope, Santini, Mercogliano, Montesarchio, Influences Of EU Forests On Weather Patterns, p. 5-7 and 19-22.
231 Popkin, Wälder, p. 56-60.
232 Wang, Hua, Wang, Wilcove, & Yu, The biodiversity benefit of native forests and mixed-species plantations over monoculture plantations., p. 1722
233 The following quotes can all be found under European Green Deal, p. 14.

indispensable for completely eradicating pollution. Yet again, the issue of the member states arises. As the EU lacks the competence to decide on such matters by itself, the EGD calls for "the EU and Member States will need to look more systematically at all policies and regulations".

Interestingly enough, the EGD in this subchapter mentions the importance of the restoration of "the natural functions of ground and surface water [to] preserve and restore biodiversity in lakes, rivers, wetlands and estuaries, and to prevent and limit damage from floods ". Not only would one rather expect this section as part of the chapter dealing with biodiversity specifically, where water is only mentioned as a natural habitat and in regards to fishing, but not in the context of restoration. It is additionally the only section in the EGD which mentions resilence towards flooding, which, as was shown in earlier chapters, will be one of the key challenges produced by climate change.

The final paragraph of this subchapter also contains interesting information. As part of a "chemicals strategy for sustainability, the Commission plans "to protect citizens and the environment better against hazardous chemicals and encourage innovation for the development of safe and sustainable alternatives".[234] Part of these plans is "to combine better health and environmental protection and increased global competitiveness". This is in itself noteworthy as the reconciliation of economic growth with sustainability is a core aspect of the EGD, as will be seen even more clearly when analysing the CE. To reach this goal though, the Commission not only wants to "simplify[] and strengthen[] the legal framework", but also "review how to use better the EU's agencies and scientific bodies to move towards a process of 'one substance – one assessment'". At the moment, risk assessment of chemicals in economic usage is realized by mutliple agencies, assessing the same chemicals from different legislative frameworks.[235] The goal of the "one substance – one assessment" objective is to eliminate superflous assessments and harmonise the process within the EU.[236] While standardising risk-assessments and making them uniform within the EU would indeed simplify the process of introducing new chemicals to the market, but also run the risk of exchanging more thourough assessment for the sake of speed and purely economical interests, and might therefore run contrary to the goals laid out by the EGD.

6.4 Mainstreaming sustainability in all EU policies

Next to considerations of transforming major parts the European economy towards a more sustainable model, the second section of the EGD includes proposals to mainstream sustainability in all EU policies. The largest subchapter pertaining to this part of the EGD is devoted to the question

234 The following quotes can all be found under European Green Deal, p. 15.
235 Chemicalwatch, 2020. Hansen Outlines EU Cross-Agency 'One Substance – One Assessment' Plan.
236 Ibid.

of sustainable investment and the design of a “just transition”, which will be analysed in a separate chapter, dealing with the Commission's “Sustainable Invetsment Plan”. In the following, a look will be taken at the last four subchapters of the EGD's second sections. Three of these will be examined mostly in conjuction, as they mainly contain declarations of intent, calling for more investment into research and education, as well as devoting legislation to environmental protection. The subchapter dedicated to “Greening national budgets” will be singled out, as the points it contains can be situated in a discussion of the power balance between nation states and EU institutions.

6.4.1 Greening national budgets and sending the right price signals

Many incentives and investments for promoting a shift towards a sustainable economic and political system can only be established by or in cooperation with the member states, as the EU institutions autonomous power is mainly restricted to questions of trade, commerce and production frameworks. Within the EGD the Commission therefore acknowledges, that “national budgets play a key role in the transition”.[237] The Commission further explains

> “A greater use of green budgeting tools will help to redirect public investment, consumption and taxation to green priorities and away from harmful subsidies. The Commission will work with the Member States to screen and benchmark green budgeting practices. This will make it easier to assess to what extent annual budgets and medium-term fiscal plans take environmental considerations and risks into account, and learn from best practices.”

What is not mentioned though, is that for these processes to work as intended, the member states would have to cooperate and willingly present their national budgets to the Commission to conduct such a benchmark check, as there is no legal basis for EU institutions intervening in national budget decisions. An exception would be the case of the Eurozone, but the incisions in national budget autonomy were only possible in the context of the 2008 financial crash and resulting debt crises in southern Europe. While it is true, that “tax reforms can boost economic growth and resilience to climate shocks and help contribute to a fairer society and to a just transition”, it remains for the member states to either realize reforms or not. The Commission might claim that “the European Green Deal will create the context for broad-based tax reforms, removing subsidies for fossil fuels, shifting the tax burden from labour to pollution, and taking into account social considerations”, but this is merely an appeal and highly depends on further political maneuvering, negotiations, and activism between EU members, as well as the civil society within the member states. While the

237 The following quotes can all be found under European Green Deal, p. 17.

Commission can influence developments through modifying the allocation of EU funds, or by e.g. altering inner European trade and production regulations, as it promises to do by revising State aid guidelines in 2021,[238] these measure represent only a fraction of the steering mechanisms which are available to the member states and which have to be utilized by them to achieve the ambitions set out by the EGD.

6.4.2 Funding Research and Education, and Promoting a Green Oath

As "new technologies, sustainable solutions and disruptive innovation are critical to achieve the objectives of the European Green Deal"[239], the Commission plans on "mobilising research and fostering innovation". This is also motivated by the goal to maint Europes "competitive advantage in clean technologies". To this end, the Horizon Europe programme, a research fund of 100 billion Euro that is to be launched in 2021, will dedicate "at least 35% of [its] budget" to technologies related to environmental protection.[240] Funding and political action will be used to encourage "research and innovation on transport, including batteries, clean hydrogen, low-carbon steel making, circular bio-based sectors", whilst also "emphasising experimentation, and working across sectors and disciplines". Additionally "digital infrastructure (e.g. supercomputers, cloud, ultra-fast networks) and artificial intelligence solutions, [will] facilitate evidence-based decisions and expand the capacity to understand and tackle environmental challenges". While it is undeniably important to uphold funding for climate related research of all kinds, it would be reckless to completely rely on the advent of purely technical solutions to the climate crisis, as technological progress is difficult to determine and extremely complex in its structure, which might be why the Commission dedicated only a shorter subchapter, filled with general statements and technological buzzwords, to this topic.

Similarly general statements are made about education. As the EGD states, "Schools, training institutions and universities are well placed to engage with pupils, parents, and the wider community on the changes needed for a successful transition".[241] Without mentioning any specifics, the Commission broadly promises to

> "prepare a European competence framework to help develop and assess knowledge, skills and

238 European Green Deal, p. 18. The Commission understands "State aid" as the following: "State aid is defined as an advantage in any form whatsoever conferred on a selective basis to undertakings by national public authorities.", cf. European Commission, What Is State Aid?.

239 The following quotes can all be found under European Green Deal, p. 18.

240 European Commission, Horizon Europe.

241 The following quotes can all be found under European Green Deal, p. 19.

> attitudes on climate change and sustainable development. It will also provide support materials and facilitate the exchange of good practices in EU networks of teacher-training programmes"

It is of course important to promote climate education. But the fact, that the Commission only mentions this area shortly and without naming any concrete measures allows conclusions about the low importance of education on the Commissions agenda. Though a reason for this surely lies in the fact that moreso than financial and economical questions, education remains a primacy of the member states. Once again, the Commissions main tools can be found in the attribution of funds. This, the Commission promises to realize, by aiming to "leverag[e] €3 billion in investment in school infrastructure in 2020" in collaboration with the European Investment Bank, and supporting programmes for "pro-active re-skilling and upskilling" of workers to help them adapt to a workplace in a economy more directed towards sustainability. Here as well, no specific measures are mentioned. Furthermore, the question arises, why the EU would not directly channel public funds towards school's infrastructure, but would rather try to achieve this goal by raising seemingly private investments.

Lastly, under the headline of "A green oath: 'do no harm'" the Commission demands that "all EU actions and policies should pull together to help the EU achieve a successful and just transition towards a sustainable future". Further general promises by the Commission include the improvement of how

> "regulation guidelines and supporting tools address sustainability and innovation issues. The objective is to ensure that all Green Deal initiatives achieve their objectives in the most effective and least burdensome way and all other EU initiatives live up to a green oath to 'do no harm'. To this end, the explanatory memorandum accompanying all legislative proposals and delegated acts will include a specific section explaining how each initiative upholds this principle."

While the declaration of following a green oath seems more like a publicity stunt that might be employed to shroud future legislation from criticism directed at the lack of environmental considerations, adding an "explanatory memorandum" to proposed laws would deliver some transparency in highlighting certain laws objectives, as well as work as a declaration of intent against which the actual law could be held against, should it fail to accomplish the objectives it originally set out. As legislative texts are complex in their interpretation and as these memorandums could also be formulated overly vaguely, the effects of this change might end up very minor though.

6.5. The EU as a Global Leader

In the third section of the EGD the Commission commits to a continued promotion of environmental protection in the various international constellations the EU participates in. As many of these pledges are connected to summits, conferences, and generally diplomatic events that still need to take place, and do by themselves not contain any detailled strategies and objectives for these activities, a summary for most of them will suffice. A closer look will be taken at the paragraphes describing ambitions regarding China, Africa, as well as the prevention of destabilization of regions vulnerable to climate change.
In line with the self-proclaimed role as "Global Leader" in questions of environmental protection,

> "The EU will continue to promote and implement ambitious environment, climate and energy policies across the world. [...] The Commission [...] will work closely with Member States to mobilise all diplomatic channels both bilateral and multilateral – including the United Nations, the G7, G20, the World Trade Organization and other relevant international fora."[242]

Furthermore, in the context of the Paris Agreement and the regular stocktaking summits, "The EU will engage more intensely with all partners to increase the collective effort." A "green agenda for the Western Balkans" will be proposed to incentivise an ecological transition in the region. Other "green alliances" will, through "diplomatic and financial tools", be established with countries in Africa, South America, and Asia.[243] Lastly, next to providing public development aid, "private finance" will be mobilised, for which the Commission wants to "improve the investment climate and [...] accompanied by opportunities to de-risk investments in sustainable development through tools such as funding guarantees."[244] As will be argued in the chapter about the "Sustainable Investment Plan", private investments might be able reduce gaps in funding, but, if unchecked, carry bring with them the risk of intransparency and lack of democratic legitimisation for fund allocation.
The thought at the core of these efforts is, that climate change can only be stopped through efforts by the global community. Even if Europe will arrive at zero emissions by 2050, the planet will heat up nevertheless, if the rest of the world does not comply with the Paris Agreement's comittments. Only four EU member states were, in 2017, among the 20 most carbon emitting countries, counting total emission, as well as emission per capita. Whereas by total emission China (9.3 GT), the USA (4.8 GT), India (2.2 GT), Russia (1.5 GT), and Japan (1.1 GT) were among the five worst polluters,

242 The following quotes can all be found under European Green Deal, p. 20.
243 The following quotes can all be found under European Green Deal, p. 21.
244 Ibid., p. 22.

the top five nations by emission per capita were Saudi Arabia (16.1 T), Australia (15.6 T), Canada (14.9 T), the USA (14.6 T), and South Korea (11.7 T), with Russia (10.6 T) and Japan (8.9 T) following on place six and seven respectively, China (6.5 T) on number 12 and India (1.6 T) on number 20. Without getting the support of these nations for a green transformation as well, the EGD will not achieve much on a global scale. This alone makes it imperative for the EU to act united and coherently on the international stage as to bring enough diplomatic weight into negotiations about actions on climate change.[245] Dealing with a USA having abandoned the Paris Agreement might be the largest challenge.

On the issue of China, the EGD only states that: "The 2020 EU-China summits in Beijing and Leipzig will be an opportunity to reinforce the partnership between the EU and China on climate and environmental issues."[246] This summit will take place in September 2020 and can at the time of writing not be commented on. As Paul Bledsoe, former climate adviser of Bill Clinton, argues: "'EU climate leadership [in the form of] the green deal is crucial to putting pressure on China and other major emitters to make more ambitious climate commitments.'"[247] At the same time, the EU might face further surges in populist movements, as people will see their lifestyles more and more affected and their economies becoming less competitive, while China's economic power continues to grow due to the countries disregard for environmental questions.[248]

Whereas for geostrategically powerful states EU-negotiators would have to overcome resistance towards measures of environmental protection, the situation is different for countries, who find themselves in economically difficult positions and who would possibly depend on the support of richer countries, to establish a sustainable economy, that simultaneously gurantees their population a certain standard of living. As countires with lower GPD are not the main emitters of GHGs,[249] the EU would have to follow a policy not necessarily directed towards economic transfomration, but rather helping these countries to preserve their environment and to establish a green economy. A strategy like this is proposed by the EGD for the EU's future relations with the African Union.

> "In particular, the Africa-Europe Alliance for sustainable investment and jobs will seek to unlock Africa's potential to make rapid progress towards a green and circular economy including sustainable energy and food systems and smart cities. […] The EU will launch a "NaturAfrica" initiative to tackle biodiversity loss by creating a network of protected areas to protect wildlife and offer opportunities in green sectors for local populations."[250]

245 Union of Concerned Scientists, Each Country's Share Of CO2 Emissions.
246 European Green Deal, p. 20.
247 Harvey & Rankin, What is the European Green Deal
248 Ibid.
249 Humphreys, Introduction, p. 5.
250 European Green Deal, p. 21.

An example for a inititive of this kind could be the recent agreement between Germany and Morocco, according to which hydrogen will be produced in Morocco through renewable, green energies, which will then be exported to Germany to potentially serve as fuel for cars or planes.[251] The success of deals like these, of course, depends on how well control-mechanisms work in assuring the ressources are actually produced in a sustainable way. Furthermore, the question exists if money paid during these exchanges will actually reach workers in e.g. Morocco and would potentially be reinvested to create more jobs, social welfare programmes, or environmental protection. As poor people in poor nations suffer disproportionately from climate crises, questions of social justice are also interconnected with questions of environmental protection.[252] And another concern connected to these considerations arises looking at the EGD. The Commission sees trade as an important tool in achieving progress in environmental questions.

> "Commitments to sustainability have been continuously strengthened in EU trade agreements [...] The EU's trade policy facilitates trade and investment in green goods and services and promotes climate-friendly public procurement. Trade policy also needs to ensure undistorted, fair trade and investment in raw materials that the EU economy needs for the green transition. It can help [...] enhance regulatory cooperation promote EU standards and remove non-tariff barriers."[253]

Non-tariff barriers can be understood as regulations within a market that make investments for market outsiders more difficult for market insiders, such as regulations or production quotas.[254] Accordingly, the paragraph above can be understood as the EU trying to reduce any trade barriers, that hinder investments coming from the EU, while at the same time enforcing regulations and standards that the EU considers important for environmental economic activity. Given the already unequal position of negotiation between the EU and e.g. the African Union, it seems likely that the EU would be able to vastly implement these demands in future trade agreements. The result of this would be that European investors would be on equal footing with African investors. Given that European economies are richer than the one's in the African Union, this could potentially lead to a European dominance in the green investment sector in Africa. This effect would be deepened by African products not being able to easily fulfill regulations necessary for entering the EU market, putting them on an even more unequal level. Thus, while the partnership between China and Europe in environmental issues will be "reinforced", the EU covertly seeks to enforce it's trade practices in

251 Deutsche Welle, Deutschland Will Wasserstoff-Land Nummer Eins Werden.
252 Thomas, Hardy, Lazrus et al., Differential vulnerability, p. 5.
253 European Green Deal, p. 21.
254 The Institute for Government, Non-Tariff Barriers.

agreements with the African Union. As China most likely is seen as a geopolitically and economically stronger actor, the Commission treats the country rethorically differently in the EGD. It might also be argued that the EU deliberately tries to maneuver African countries into asymmetrical economical relations as a means to ensure further competitive abilities of European enterprises against US and Chineses businesses, the logic being that since enviromental regulations and ambitions of sustainability in Europe will harm comapny's profits, theses losses would be offset by the exploitation of the African market.

Concludingly, it should be noted though taht the EU finds itself internationally in a precarious situation regarding its ambitions for environmental protection. Politically and economically powerful countries, such as the US, China, Russia, India, or Brazil, who control a majority of global resources, land, and population currently do not show any ambitions to intensively commit to climate change. While the situation in the US could potentially change under a new government, the EU will generally face severe difficulties in gaining the support of these nations for its environmental goals. Accordingly, no clearly defined diplomatic strategy can be presented in the EGD, as these matters are to complex and unforseeable. The African Union might be a different case, as its member states will suffer consequences of climate change more heavily than states in other parts of the world. Striving for and establishing a mutually beneficial cooperation with the African Union would give Europe an important partner in gloablly promoting environmental protection.

6.5.1 Climate related Migration and Societal Destabilization

Next to questions of unequal opportunities in market participation, another issue that is bound to affect poorer countries stronger than richer countries, are the destabilizing effects of climate change on states and societies and the resulting migratorial processes. Climate change will inevitably lead to large scale migrations from affected areas to less affected areas. Through desertification, deforestation, inundation, continued rise of natural disasters such as storms and flooding, will lead to the destruction of livelihoods and communities.[255] Sub-Saharan Africa, Latin America South Asia and many island nations, such as Kiribati, the Maldives or Tuvalu, will suffer unimaginable damages.[256] Estmiates for the number of people affected vary. While they span 25 Million to 1 billion of people displaced due to natural disasters in 2050, the World Bank forecasts that in the same year 140 million climate refugees will exist, whereas the U.N. Presents a number of 200

255 Heslin, Deckard, Oakes et. al.. Displacement, p. 250; Satgar, Climate Crisis, p. 5.
256 Satgar, Climate Crisis, p. 4; Wallace-Wells, Uninhabitable Earth, p. 13.

million.[257] Already in 2016 more than 30 million people suffered internal displacement because of natural disasters in China, India, and Pakistan.[258] Furthermore, humanitarian aid such as food, shelter, or medicine for climate refugees is already insufficent in dry areas such as Somalia, Kenya or Ethiopia.[259] For Sub-Saharan Africa, processes of desertification are especially threatening. Formerly fertile land is turned uninhabitable, threatening to destabilize states that are already economically and politically suffering, as they will fail to provide basic services for their citizens.[260] In Nigeria, this process contributes to the destruction of villages and to further impoverishment of the countires northern areas.[261] This destabilization and weakening of state structures enabled the rise of groups such as Boko Haram.[262] Dryland areas, that is areas with limited water resources and scarce, unreliable rainfall, are will also experience a destablization of their environment, since a rise in temperatures would lead to a higher rate of evaporation of occuring rainfall and an intensification of tropical storms, whose rainfall through wind activity will run off, eroding fertile soil.[263] These processes would affect more than 2 billion people living in these dryland areas, many of them living in the Sahel, the Horn of Africa and southern Africa.[264] All of these factors lead to higher numbers of displacement and migration in the affected areas, weakening communities even further by lowering their capacity of dealing with climate impacts.[265]

It remains to be seen how many climate refugees will seek to migrate to the Europe, as the continent will suffer comparatively less from climate change than Africa or Asia. Still, a safe guess would be to assume that refugees will surpass the numbers of 2015 in the years to come. Already in 2015 the number of refugees lead to a series of policies closing Europe's outside borders, resulting in countless deaths in the Mediterranean, were followed by a surge in rightwing populist sentiments which in turn, pushed the EU into making a deal with Turkey, which the country used multiple times to politically pressure the EU. These trends are bound to continue under the assumption of growing climate migration and displacement. Additionally, potentially new violent conflicts in Africa might entail further military presences on part of the EU and it's member states as is already the case in Mali, or the Horn of Africa.

The EDG adresses these issues in the following way:

257 Wallace-Wells, Uninhabitable Earth, p. 13.; Heslin, Deckard, Oakes et. al.. Displacement, p. 242.
258 Heslin, Deckard, Oakes et. al.. Displacement, p. 242.
259 Dominelli, Climate Change, p. 432.
260 Heslin, Deckard, Oakes et. al.. Displacement, p. 250.
261 Ibid.
262 Ibid.
263 Anderson, Morton & Toulmin, Agrarian Societies, p. 200.
264 Ibid.
265 Serdeczny, Non-economic Loss, p. 206.

> "ecological transition will reshape geopolitics, including global economic, trade and security interests. [...] The EU will work with all partners to increase climate and environmental resilience to prevent these challenges from becoming sources of conflict, food insecurity, population displacement and forced migration. [...] Climate policy implications should become an integral part of the EU's thinking and action on external issues, including in the context of the Common Security and Defence Policy."[266]

The issues is mainly framed as a problem of security and economical interests. It's especially interesting that in response to these issues, the EGD does not emphasise measures such as developmental or humanitarian aid or the exchange of know-how or sepcific channels and areas through which the establishment of environmental resilence would be realized. Instead of e.g. the EU's Directorate-General for European Civil Protection and Humanitarian Aid Operations, the only EU framewokr mentioned by the EGD is the "Common Security and Defence Policy", under whose aegis a number of military and civil missions, among others the protection of trade routes in Somalia, military consultation in the Central African Republic, or police and security force training in Libya or Mali, were realized.[267] This hints at the EU's policy of preventing migration from affected areas in e.g. Africa towards Europe will rely on further military missions, be they in form of advisory and training missions, or in form of actual armed intervention, instead of economic and humanitarian aid. This fits the EU's general trend of focussing on military expenditure compared to humanitarian expenditure. Whereas the initial plans for 2020 foresaw a budget of 900 million € in humanitarian aid,[268] the military budget in 2018 lay at 223 billion €,[269] and is said to rise to 300 billion €[270] even amidst the ongoing pandemia.[271]

It is doubtful that military missions will help in preserving local communities and their traditional environment, or at alleviating psycho-social stressors that will inevitably originate from displacement, the possible lack of a basic standard of living or the prevention of conflict among people who have to divide scarce resources among themselves. But, as has been said, the only aim of these measures will be keeping the problem of migration localized to the affected regions, as to avoid another situation like in the years leading up to 2015. It is of course necessary to help affected states in strenghtening their security aparatus' to protect civilians from exiting terror organizations like Boko Haram, or even foreign intervention, like the Russian Wagner Group's activities in Libya, Central Africa or Sudan, that try to capitalize on countries instability to exert their own influence.[272]

266 European Green Deal, p. 21.
267 European External Action Service, Military And Civilian Missions And Operations.
268 European Civil Protection and Humanitarian Aid Operations, Funding For Humanitarian Aid.
269 European Defence Agency, Defence Data 2017-2018, p2.
270 Reid, Europe's Defense.
271 Brzozowski, Defence Budget.
272 Dornblüth & Rühl, Putins Schattenarmee; Harding & Burke, Leaked Documents; Moscow Times, Russian Mercenaries Are Fighting In Libya.

But this approach only addresses symptoms of bigger, underlying issues, which in the context of climate change can only be solved by aiding countries in mitigating environmental harm, in providing their population with basic resources and helping them to accomodate and integrate displaced people into new societal structures. Additionally, if increased military spending and activity is combinable with turning Europe into a zero-emission continent by 2050 remains questionable.

6.5.2 The Climate Pact

Finally, the fourth section of the EGD "Time to Act – Together: A European Climate Pact" will be adressed. At its core, the section postulates that "the involvement and commitment of the public and of all stakeholders is crucial to the success of the European Green Deal. [...] Game-changing policies only work if citizens are fully involved in designing them."[273] It mainly contains general proposals of how this involvement might be implemented in the future.
The Climate Pact was to be launched by March 2020 and was to gain public participation on in climate policies via three means:

> "First, it will encourage information sharing, inspiration, and foster public understanding of the threat and the challenge of climate change and environmental degradation [...] Second, there should be both real and virtual spaces for people to express their ideas and creativity [...]Third, the Commission will work on building capacity to facilitate grassroots initiatives on climate change and environmental protection."

As of now, August 2020, the Climate Pact consists of a web page, explaining its goals and proclaiming "the European Climate Pact will be launched in the last quarter of 2020."[274] The page also lists two events from the 15.06.2020 and the 14.07.2020 for organisations that were inetrested in cooperating with the EU under the framework of the Climate Pact. Since the EGD calls for the empowerment of "regional and local communities" and through the Urban Inivitaive wants to support cities in constructing "sustainable urban development strategies",[275] the page also suggests that the "Covenant of Mayors for Climate and Energy" could be used as a platform for citizen participation in climate policy. Lastly, the Commission wants to "improve access to administrative and judicial review at EU level for citizens and NGOs who have concerns about the legality of decisions with effects on the environment." For this, the Commission already established the

273 The following quotes can all be found under European Green Deal, p. 22.
274 European Commission, European Climate Pact.
275 The following quotes can all be found under European Green Deal, p. 23.

“Better Regulation Portal” where during certain time frames, EU citizens can leave comments on upcomming legislature.[276] It is undeniably important to incorporate citizens in the decision making processes of the EU and offer more transparecy to them by communicating which policies are planned. The question is, if comments by average citizens will actually be paid heed. Furthermore, many citizens lack experience in legislative procedures and the formulation of laws, so even if EU institutions would be willing to receive and evaluate feedback, it is unlikely that “normal” citizens would be able to substantially affect climate policy, especially given its highly complex nature. It is therefore more likely, that the tools the Commission proposed and plans to establish will mainly be useful to NGOs, companies, and institutions that have experience in the EU's legislature, the capacity of analysing and reformulating laws, as well as an indepth understanding of the environment and global climate change.

6.6 What is Lacking?

By now, it should be clear that the EGD is, in certain areas, a problematic paper. On the one hand, its possibilities are severly limited by the EU's political constitution, as well as by the the difficulties of introducing a worldwide shift in environmental politics. Though to solve these issues, the Commission lacks the power and cannot be held responsible for shortcomings in these areas. On the other hand, and here the Commission does have the option to choose different approaches, the deal often times seems to subtly defend and strengthen the position of economically powerful actors, e.g. in the transportation and agricultural sector, or in the EU's trade policies towards Africa, thus counteracting its proclaimed objective of promoting a “just transition”.
But before giving a more detailed conclusion at the end of this thesis about the adequacy and the implications the EGD's content, a quick assessment has to be made regarding the question if the Commission's strategy addresses a wide enough array of problems that will be caused by climate change. As has been shown, the deal covers multiple issues related to environmental deterioiation. The EGD promises measures and stratgies for raising ambitions to reduce emissions to net-zero by 2050, which is in line with current scientific assessment to not surpass the Paris Agreement's temperature limits, for the implementation of the UN's sustainability goals, for transforming the energy sector, as well as the economical and industrial sector towards a sustainable economy, for emission reduction in transport and mobility, for healthier, environmentally friendlier food production, for the restoration of biodiversity and the reduction of toxic byproducts that enter nature, as well as aiming to mobilise funding for environmental research and the general

276 European Commission, Better Regulation Portal.

transformation of European society towards environmental protection. Even some promises have been made in regards of furthering citizen's participation in the European political processes. As has been shown, these measures on a first read appear more promising than they might turn out to be. But it cannot be denied that the EGD covers nearly every topic relevant to a more environmentally friendly Europe, even adressing issues like garbage disposal and biodiversity, which are not strictly related to GHG emission and are therefore are not directly contributing to global heating.

Nevertheless, some important aspects are lacking. The first mentionalbe omission concerns urban areas. Urban areas and zones themselves have been, of course, mentioned multiple times within the EGD, but never as a separate entity that would merrit an own strategy to face climate change. As these areas through heating, transport pollution, inundations, destruction of biodiversity via construction, and growing urbanisation are especially connected to climate change, a separate subchapter should have existed to propose measures for the transformation of urban lifestyle and environments. The need for these kind of strategies and proposals for their focuses and realisation were for example laid out by Juhola and Boyd.[277]

Another set of ideas that is lacking are specific proposals to generally increase resilence against environmental changes in Europe. No strategy has been proposed of how to strengthen European communisties in regards to flood protection, increased health risks, coping with heat, drought and water scarcity etc. Some of these aspects are certainly be covered in the “Farm to Fork” strategy, but for the general population, no precautions or measures have been mentioned. Of course the sectors covered by the deal are in some way or another related to resilence and would, if implemented correctly, reduce the need for further resilence. But given that the deal will only contribute to lowering global warming, not preventing it, it still should offer more help in warding off these exact consequences.

Finally, while the deal proposes to further fund research and education, and calls for the display of more health and climate related information on consumer products, it does not consider the a informational campaign to further educate European citizens on climate change and its consequences, to not only help them in their choices as consumers, but to also motivate them to reduce environmentally damaging behaviour, such as car or plane travel, tourim in general, the consumption of animal products etc. As matters of education are handled by the member state, this campaign of course could only be funded by the EU and would have to operate on the basis of voluntary participation by citizens. But an effort in this regard should at least be made, to also raise political awarness and pressure in member states to change their given national policies. Lastly, a recent study by Dubois, Sovacool, Aall et al. suggests that suggests that only through “'forced'

277 Juhola & Boyd, Adaptive climate change, p. 1235 ff.

solutions" households were actually encouraged to reduce emissions by behavioural and consumption changes, and that voluntary measures do not suffice.[278]

7. The Circular Economy Action Plan

To better understand the economical thinking behind the EGD, a look needs to be taken at the Commission's "new Circular Economy Action Plan For a cleaner and more competitive Europe". This will not be realized in as much detail as was the case for the EGD or the investment plan. Rather, the analysis will focus on what the Commission envisions as circularity, and if this concept would really be able to achieve "decoupling economic growth from resource use, while ensuring the long-term competitiveness of the EU and leaving no one behind".[279] As this strategy will be the basis for the necessary transformation of the European economy, it's success will be inevitable for achieving European climate neutrality by 2050.

It should be mentioned that already in December 2015, the Commission launched it's first circular economy Action plan , which in recent years has been updated with a monitoring framework and reports on the success of implementing first transformative strategies, and aimed at strengthening the economy while protecting the environment.[280]

There exists no unified, scholary consensus on how to actually define the CE.[281] Some of the most popular approaches and contents though will be layed out in the following. At its core, the CE aims at transforming waste products of the traditional linear economy into valuable resources, by recycling and recovering it for different or multiple production cycles, thus raising the efficiency of resource usage.[282] To quote a definition proposed by Baran, the CE follows three principles:

> "preserving and enhancing natural capital (through the regulated usage of available resources, and the balance of renewable resource flows); optimising resource yields (which means that re-manufacturing, refurbishing and maintenance are well planned, in order to make materials a part of economic processes for as long as possible); and fostering system effectiveness (to minimise negative externalities and eliminate toxic substances, by either replacing or reducing them, for example choosing appropriate materials, thus leading to waste reduction or replacing fossilised energy resources by renewable ones)."

Additionally, according to a meta-study, core values espoused by definitions of the CE are

278 Dubois, Sovacool, Aall et al., It starts at home, p. 150.
279 Circular Economy Action plan, p. 2.
280 Cainelli, D'Amato & Mazzanti, Resource efficient eco-innovations, p. 1; Smol, Marcinek, Duda & Szołdrowska, Circular Economy, p. 2; Baran, Circular Economy, p. 40f.
281 Hartley, Santen & Kircherr, Policies, p. 1f.
282 Moric, Jovanović, Đoković et al., Circular Economy, p. 2; Smol, Marcinek, Duda & Szołdrowska, Circular Economy, p. 2.

“environmental sustainability, economic prosperity, and social equity.“[283] An equally important part of scholary definitions is played by the necessity of reducing consumption and changing consumer behaviour.[284]

Though the Commissions CE strategy does not offer its own definition, all of these concepts are more or less covered within the paper by proposing different sets of strategies and methods to transform the European economies. Reducing consumption might be an exception, though changing consumer behaviour is at least adressed indirectly.

The Commission itself presents a simple reasoning for adopting a CE model:

> “There is only one planet Earth, yet by 2050, the world will be consuming as if there were three. Global consumption of materials [...] is expected to double in the next forty years, while annual waste generation is projected to increase by 70% by 2050. [...] The EU needs to accelerate the transition towards a regenerative growth model that gives back to the planet more than it takes, advance towards keeping its resource consumption within planetary boundaries, and therefore strive to reduce its consumption footprint and double its circular material use rate in the coming decade.”[285]

While this statement only indirectly hints at the problem of a growing global population and especially growing global middle-class consumption, it adresses the issue of the insufficiency of a linear economic growth model in the face of the earth's limited resource capacities.[286] As of 2019, only 9% of the global economy was structured circularily, even though modern technological possibilities make the contemporary system of simply disposing waste products more and more uneconomical.[287] This issue is also adressed by the Commission which claims “that applying circular economy principles across the EU economy has the potential to increase EU GDP by an additional 0.5% by 2030 creating around 700 000 new jobs“, citing pages 38 and 39 of the „Impacts of circular economy policies on the labour market“ study by Cambridge Econometrics, Trinomics, and ICF.[288] While the report points out that the jobs would mainly be created in the waste management sector, without mentioning which if these employments would consist of mainly low-skill or high-skill labour, and that there would even be a decrease in jobs in the consturction sector, the Commission conveniently leaves out these caveats.[289] Other studies, such as by Morić, Jovanović, Đoković et al. or Sverko Grdic, Nizic & Rudan, paint a similar picture though,

283 Hartley, Santen & Kircherr, Policies, p. 2.
284 Ibid., p. 3.
285 Circular Economy Action plan, p. 2.
286 Baran, Circular Economy, p. 32.
287 Ibid., p. 37.
288 Circular Economy Action plan, p. 2.
289 Cambridge Econometrics, Trinomics & ICF, Impacts of circular economy policies, p. 38f.

presenting evidence for more profitability of the circular economic model,[290] as well as a growth of the European GDP of up to 3.9% while using 17% to 24% less resources in this time frame if the policies were to be implemented coherently.[291]

The Commission proposes a vast array of measures to restructure the European economy in a circular way. As these are, at their core, very similar to each other, only a basic summary for the different sectors will be given, as to point out the conceptual basis of the strategy. In the paper, within the chapter "A sustainable Product Policy Framework", the Comission itself already gives a general summary of measures to be implemented. These include

> "improving product durability, reusability, upgradability and reparability, addressing the presence of hazardous chemicals in products, and increasing their energy and resource efficiency; increasing recycled content in products, while ensuring their performance and safety; enabling remanufacturing and high-quality recycling; reducing carbon and environmental footprints; restricting single-use and countering premature obsolescence; introducing a ban on the destruction of unsold durable goods; incentivising product-as-a-service or other models where producers keep the ownership of the product or the responsibility for its performance throughout its lifecycle; mobilising the potential of digitalisation of product information, including solutions such as digital passports, tagging and watermarks; rewarding products based on their different sustainability performance, including by linking high performance levels to incentives"[292]

Priority for implementing these policies will be given to "product groups [...] such as electronics, ICT and textiles but also furniture and high impact intermediary products such as steel, cement and chemicals", i.e. products that throughout their production cycle demand a high investment of energy and resources.[293] Some specific measures, e.g. for electronic devices, include regulations for energy efficiency, durability, recycling, or a "'right to repair'".[294] Similar measures can be found addressing batteries and vehicles.[295] Further important areas mentioned by the Commission are packaging, which is planned to be generally reduced and recycled more often;[296] plastics, where a special focus is put on reducing the usage of and the environmental exposure to microplastics, and the promotion of biodegradable plastics;[297] textiles, where business regualtions and sustainability throughout the global production chains are planned to be improved, as well as the collection of textile waste in member states;[298] and lastly construction and building, where the prevention of soil sealing and the

290 Moric, Jovanović, Đoković et al., Circular Economy, p. 3 and 9.
291 Sverko Grdic, Nizic & Rudan, Circular Economy, p. 3.
292 Circular Economy Action plan, p. 4.
293 Ibid.
294 Ibid., p. 7.
295 Ibid., p. 8.
296 Ibid.
297 Ibid., p. 9.
298 Ibid. p. 10.

environmental recovery of abandoned building areas are additionally mentioned.[299] Furthermore, the Commission introduces further objectives to reduce the production of waste, to further recycling and to create a "well-functioning EU market for secondary raw materials", where these unused waste-resources or second-hand materials will be able to compete with "fresh" resources.[300] In a similar vain, the Commission wants to inhibit waste export to non-Eu countries with lower waste treatment regulations than exist within the EU, though one major motivation for this might rather be "import restrictions introduced by some third countries".[301] Like in the EGD, the Commission in its CE strategy aims to increase information about production processes for consumers in a way that consumers will be able to assess a products ecological footprint.[302] Issues surrounding these plans have been adressed in the discussion of the EGD itself.

In summary, the Commission considers a broad array of areas wherein circularity has to be implemented for environmental protection and generally presents solutions that would be helpful in solving these issues. Of course the strategies success depends on how thouroughly and effectively it will be implemented and as with the EGD, restrictions and reservations exist in regard of how willing member states are to implement these strategies, as the EU itself can only dictate market rules and regulations. But the general direction of the strategy seems sufficient. Considering that studies promise economic growth and profits, it seems further likely that the Commission and companies have an actual inetrest in implementing certain regulations and transformative steps.

A few doubts on the conceptual level remain though: Can economical growth really be separated from resource usage; and how valuable are CE plans for Europe alone in a globalized economy. Before addressing the second reservation, which the Commission discusses in its paper, the first point will be discussed.

As has been pointed out, studies suggest economical growth under the implementation of CE strategies until 2030 between 0.5% and 3.9%. This is a relatively short time frame and considering that there is still a lot of inefficient wastage within the linear economy, it seems logical that through different measures of optimisation, more profit and growth can be reached within this period. But what about the decades afterwards? If completly and perfectly realized, the CE would consist of recycling nearly everything, leaving no waste behind and barely any further resource exploitation. The majority of materials would be reused over and over again. Even though this might only develop in the long-term and keeping the problem of a globally entangled economy aside for a moment, this should, logically, lead to economic stagnation, as nothing would enter or leave the

299 Ibid. p. 11.
300 Ibid. p. 13f.
301 Ibid. p. 14.
302 Ibid. p. 5.

economic circle, especially keeping in mind that the European population is decreasing, if this trend is not balanced out by migration. This, of course, would be the perfect result for environmental protection and would only benefit the EU's 2050 environmental neurtality goals. The only apparent solution to this seems to continue the growth of European companies outside of Europe, thus establishing a circular economy within Europe, while continuing the traditional linear model in other parts of the world. While the Commission is correct in claiming that CE strategies will further growth in the next ten years, there is a lack of scientific research on what the situation will look like in twenty or thirty years or on how long the transformation towards circularity will take.

Another criticism of the assumption that growth and material usage can be decoupled, stems from Giorgos Kallis. In an article about dematerialization he challenges this tenet, without specifically mentioning the term “circular economy” though. Central to his argument is the idea that the reduction of resource usage will always lead to a slowdown, if not to a hold or even reversal of economic growth. He postulates “that radical dematerialization is not compatible with economic growth”.[303]

At a base level, Kallis describes the economy as a process, wherein raw materials and energy are transformed into goods, services, and waste.[304] For the energy sector specifically, to achieve economic growth, the investment of energy should result in a return of energy that is higher than the original investment, e.g. the drilling of oil should make more fuel accessible than energy was necessary to extract it.[305] As for the time being, Kallis posits that extracting and using fossil fuels still yields higher net energy than the usage of renewables.[306] One might argue though, that through technological progress the efficiency rate of renewables will rise and surpass the efficiency of fossil fuels. This would be similar as to how growth had been achieved in the past: reinvesting profits into new technologies, that use materials and energy more efficiently and therefore produce higher return rates on investments.[307]

But Kallis counters this argument by citing the “'Jevons paradox'”, according to which a raise in resource usage effiency usually leads to even more resource usage.[308] Resources that are used more efficiently, become cheaper, which in turn increases their usage, as companies are able to buy more of them to increase the output of end products.[309] Similar things can be observed in the field of labour, where an increase in productivity historically has lead to more, not less employement.[310]

303 Kallis, Dematerialization, p. 1.
304 Ibid., p. 2.
305 Ibid.
306 Ibid.
307 Ibid., p. 3.
308 Ibid.
309 Ibid.
310 Ibid.

While an increase in efficiency reduces material usage and enable the saving of energy and resources, it usually is the case that these savings are reinvested, leading to more growth.[311] Thus, despite massive progress in the efficiency of resource usage, material usage more than doubled since 1980.[312] One might argue that it would be legally possible to prevent an increase in material usage and only rely on growth produced by resource and energy savings. But this would in the long run lead to economic stagnation as the ever same amount of materials would be used without enabling the reinvestment of the savings, which is quintessential for economic growth. This would, in turn, contradict the Commissions claims for the possibilities of CE.

Lastly, the issue of globality should be addressed. A CE model is only as efficient as its scope. Implementing perfect circularity within Europe would not only require shutting of the European economy from other, non-circular economies, as only this way value chains and resource and material trajectories could be fully monitored, but also neccesitate resource autarky of the EU on a level, that would seriously degrade the current standard of living, which the Commission likely wants to prevent. For the European economy to continue to grow under the conditions of circularity therefore would require the continued linerity of economies outside of Europe, which again would negate the effects of having a CE in Europe. Therefore, a global push for circularity is necessary to bring into full effectiveness of the CE transformation. For this similar problems exist as with the implementation and the goals of the EGD. The Commission plans to reach global agreements on plastic usage, on the basis of governance build a "Global Circular Economy Alliance", couple CE regulations with trade agreements, and realize "bilateral, regional and multilateral policy dialogues, fora and environmental agreements".[313] It seems therefore that the success of the CE, just like with the EGD, depends to a high degree on the willingness of international partners to implement similar strategies. Yet again, a word has also to be said about the EU's plans for Africa. Accroding to the strategy the Commission wants to "build a stronger partnership with Africa to maximise the benefits of the green transition and the circular economy".[314] As African economies are largely not as polluting as European economies, and a "Green Transition" would more likely be the further development of already green economies, this statement leaves room for questioning. Specifically keeping in mind the analysis of EU trade policies mentioned in the EGD, one might assume that possible economic stagnation in Europe caused through circularity in the long run, might not be off-set by asymmetrical exploitation of the African market through European companies.

311 Ibid.
312 Ibid., p. 5.
313 Circular Economy Action plan, p. 18.
314 Ibid.

8. The "Sustainable Europe Investment Plan. European Green Deal Investment Plan"

As has been pointed out multiple times by now, by and large, the EGD is strongly concerned with transforming key economical sectors. This, of course, is based on the fact that the current structure of the European economy, via production, processing and consumption of resources, energy, agriculture etc., is what drives environmental degradation. Furthermore, this is caused by the EU institutions legislative competences mainly being restricted to economical questions. While economic regulations and standards as a tool for the restructuring of the economy are mentioned not too sparingly, investments can be considered the major feature of the EGD. Numerically, words related to this area appear 45 times within the EGD, compared to 33 words related to regulations. A two-page subchapter of the deal is dedicated to investments specifically. Furthermore, the first plan of realising key aspects of the EGD to be presented after the deal itself was announced, was the "Sustainable Europe Investment Plan. European Green Deal Investment Plan", published on the 14th of January 2020. The plan is described as

> "the investment pillar of the European Green Deal. A sustainable Europe requires significant investment effort across all sectors of the economy. […] Additional investments will be necessary for achieving the broader environmental and social objectives that the EU has set itself"

and further promises to "mobilise through the EU budget and the associated instruments at least EUR 1 trillion of private and public sustainable investments over the upcoming decade**."**[315] Alongside the investment plan came the proposal for the specifics of a "Just Transition Fund" as part of a "Just Transition Mechanism". In the EGD, the mechanism described as "part of the Sustainable Europe Investment Plan", that will

> "leave no one behind**.** The transition can only succeed if it is conducted in a fair and inclusive way. [...] At the same time, managing the transition will lead to significant structural changes in business models, skill requirements and relative prices. Citizens, depending on their social and geographic circumstances, will be affected in different ways."

The mechanism further will mostly focus on "regions and sectors that are most affected by the transition because they depend on fossil fuels or carbon-intensive processes.[...] Support will be linked to promoting a transition towards low-carbon and climate-resilient activities."[316] Thus, while

315 Both quotes to be found under Sustainable Europe Investment Plan, p.1.
316 Both quotes to be found under European Green Deal, p. 16.

mentioning citizens and their specific vulnerabilities, the mechanisms mainly target the maintenance of economic activity and economic growth in sectors and regions, whose prospering heavily depends on environmentally damaging activities.

As the mechanisms and policies of investment are allocated such a high importance by the Commission, it is evident that they merit a profound analysis. Principally, the investment plan with raising and allocating funds to achieve the promised number of one trillion euro. Similarly, the Proposal for the Just Transition Mechanism talks about the source, size, and allocation of monetary investments. These proceedings have, shortly after their announcement, already been analysed by various sources, among others the Brussels European and Global Economic Laboratory thinktank (Bruegel), whose results and positions will be introduced in the following pages. This includes analysing the sources of the one trillion euro proposed by the Commission, as well as taking a closer look at the planned Just Transition Fund, evnvisioned as part of the Just Transition Mechanism. Since for the fund there already exists a detailed plan of the source, amount, and allotment of financial aids, it will be the part of the Just Transition Mechanism that is principally analysed. But more importantly, a look will be taken at what some of the suggested measure will mean politically for the EU and which countries and areas might be the main beneficiaries of these plans, an issue, which has not received too much of a focus yet and to whose solution both plans already contain an answer. There are indicators that point at both plans containing concessions or acommodations for coal producing countries to support the EGD by being allocated EU funds. Additionally, in regards to the investment plan, the future role of Blackrock in supervising the integration of sustainability into the European banking sector, will receive a critical look. Finally, this analysis will only focus on some key issues since the investment plans are at times rather complex. Dealing with every proposal and implication of the plan would merit a paper on it's own and cannot be realized within this work.

8.1 One Trillion Euro of Sustainable Investments

The Commission itself acknowledges that to reach the EGD's precursor emission reductions of 40% compared to 1990, additional investments of 260 billion euro are required.[317] Interestingly enough, the original text reads: “Reaching the 2030 climate and energy targets will require additional investments of EUR 260 billion a year by 2030” which at first reading seems to indicate the target of a 55% reduction announced by the EGD, especially since the deal is mentioned just two

317 Sustainable Europe Investment Plan, p. 1.

sentences before.[318] Only a footnote clarifies that the phrase refers to the former, lower targets. It can be assumed that this was a deliberate decision to downplay the number of actual additional investetmenst needed. Bruegel estimates that in reality at least 300 billion euro of additional yearly funds until 2030 are necessary.[319] This would add up to three trillion euro, threefold the amount promised by the investment plan. One has to keep in mind though that the Commission's only financial source is the MFF, which will only be renogiated in 2021 and requires the agreement of every Council member. Accordingly, the Commission will have to find a balance between a sum that is sufficiently high enough to at least somewhat enable the fullfillment of it's goals, and at the same time low enough that more frugal memberstates will approve of it. Bruegel therefore suggests, that the lacking two trillion euro have to be invested through national governments and the private sector. It should be noted that the investment plan does not mention to which sectors specifically the money will be allocated, as the plan is mainly concerned with establishing the framework for mobilising the money and the mechanisms for it's allocation.

Due to the aformentioned reasons, the EU budget until 2030 will only allocate 503 billion euro to achieve the 55% goal, for which the MFF spending regarding sustainability and environmental protection is to be raised to 25%.[320] As the Commission claims “this will trigger additional national co-financing of EUR 114 billion over this timeframe on climate and environment”.[321] Bruegel points out one would be mistaken to classify the 503 billion euro as filling part of the three trillion euro investment gap, since many of these expenditures do not represent actual investments, but are part of financing programmes providing e.g. farming subsidies or innovation funding. Furthermore, past experiences give cause for pessimism regarding the effectivness of these kind of budget expenditures. In 2017 EU auditors analysing subsidies intended to steer farmers towards a “green” agriculture, found that often times they received payments for measures they would have undertaken either way. Payments were simply handed out without any critical oversight over their allocation and usage.[322] This could happen in every sector the EU plans to invest in.

The comission furthermore, lays out that 20% of the revenues made by the EU's Emissions Trading System, estimated at around 25 billion Euro, will be used as investments during the next ten years.[323] The ETS, of course, has the advantage of not being part of the EU's budget and it's funds can therefore be more easily distributed by the Commission. As has been pointed out already, the

318 European Green Deal, p. 4.
319 Every of the following information can, unless marked differently, be found under Claeys & Tagliapietra, A Trillion Reasons.
320 Sustainable Europe Investment Plan, p. 6.
321 Ibid.
322 Harvey & Rankin, What is the European Green Deal
323 Ibid.

ETS is not functining as well as it should be, as revenues of the ETS depend on carbon pricing, and as of yet the Commission has not announced any plans to stabilize carbond prices or at least not let them sink any further.

Through the Just Transition Mechanism, which is supposed to add 7.5 billion euro to the exisiting MFF, the Commission plans to "mobilize investment in the regions most exposed to transition challenges in the order of EUR 100 billion over the period 2021-2027", which "extrapolated over 10 years, will reach EUR 143 billion to ensure a just transition".[324] The exact functioning of the Just Tranistion Mechanism, especially the Just Transition Fund, will be anaylsed later on as well. It should already be noted though, that the Mechanism will consist of 45 billion euro provided through the InvestEU mechanism.

The InvestEU programme was laid out as unifying different financial instruments of the EU supporting investments under a common framework.[325] InvestEU draws on the Juncker Plan's European Fund for Strategic Investments and similarily aims at guaranteeing support for investors within the EU. The programme is planned to leverage 650 billion euro in public and private investments during the 2021 to 2027 MFF period, 279 billion euro of which are counted towards the Commissions goal of one trillion euro.[326] In connection with the Just Transition Mechanism the question arises if the 45 billion euro that InvestEU is supposed to contirbute to the Just Transition Mechanism are counted in the 279 billion euro, and if therefore the commission is commiting double counting, as Bruegel suggests. The thinkank further points out that already in May 2018 the Commission proposed to use InvestEU as a tool to mobilise investments for climate-related enterprises, which the Council and the EP agreed upon in April 2019. Therefore, the money offered by InvestEU for reducing emissions cannot be considered as an additional source of filling the 3 trillion euro investment gap, since the funds must already have been part of the baseline scenario.

Regarding InvestEU, the Sustainable Investment Plan contains some other interesting remarks as well. While this money would yet again not originate directly from the EU's budget and could therefore be more easily allocated by the Commission, the programme is also supposed to help investors "by providing an EU budget guarantee to reduce the risk in financing and investment operations."[327] As "Some investments needed for the transition entail more risk than the private sector can bear alone. This is where public funds can be used in a targeted manner to de-risk projects and leverage private financing."[328] Therefore, to partially cover the risks of investors, the Commission wants to issue "an EU guarantee of EUR 38 billion. This guarantee is supported by a

324 Ibid., p. 6 and 18.
325 European Commission, InvestEU.
326 Ibid.; Sustainable Europe Investment Plan, p. 6 and 8.
327 Sustainable Europe Investment Plan, p. 6.
328 Ibid., p. 8.

combination of an EU budget of EUR 15.2 billion and contingent liabilities for the remaining amount."[329] Accordingly, the EU will provide at least 15.2 billion euro of it's budget to investors if their enterprises in trying to establish sustainable businesses and a sustainable transformation of economic sectors fail, while additional payments of the guarantee will depend on how badly the situation will turn out. Restructuring the European economy towards complete sustainability and zero-emission objectives during the next thirty years will, of course, be a costly and for investors economically difficult undertaking. By offering them a safety-net and thus encouraging more daring investments, one would suppose that the Commission proposes a sensitive policy. But a few caveats have to be raised towards this assumption.

Firstly, it should be addressed that even though the EU explains that by providing these guarantees risk will be shifted from private economical actors to the EU budget, this by extension also means that the European public will be liable to pay these investors should their enterprise not turn out to be profitable, as Adler and Varoufakis point out.[330] Though it can be argued that the proposed guarantee of 38 billion euro would not put too much of a strain on European taxpayers, especially if compared to other payments that have been financed by taxpayer money in the aftermath of the 2008 financial crisis.

The second point of criticism can be directed towards the investment plan in general. As the proposal itself states "private companies and households will have to provide the bulk of the sustainable investments in the next decade".[331] Not only will the EU delegate responsiblities in a matter that is of such relevance to the future of the planet's habitability to actors, who have not been democratically legitimized, and do not have to answer to the public about mishaps and malpractices, but by doing so the EU will lose a critical amount of control over these transformative processes. One can counter these concerns by pointing out that simply because of it's size and the complexity of the matter at hand, a more centralized framework, with more control through EU institutions would cause even more harm and ultimately fail in producing the best possible results. Furthermore, the investment plan contains a passage stating that the

> "Commission will put forward a climate tracking methodology for measuring the contribution of specific financing and investment operations to the climate and environmental objectives of the programme.[...] Promoters of projects above a certain size will be required to assess the environmental, climate and social impact of those projects. As these methods will be applied by all InvestEU Implementing Partners […] and will also be the reference point for private investors and financial intermediaries participating in the programme, they are expected to spill-over

329 Ibid., p. 21.
330 Adler & Varoufakis, The EU's Green Deal
331 Sustainable Europe Investment Plan, p. 10.

beyond the InvestEU Programme."[332]

Some form of assessment of sustainability for investment will therefore exist. How effective these mechanisms will be remains to be seen, especially as they only apply to investments under the InvestEU programme and are only "expected to spill over" outside the programme. Within the frame of a liberal market society, decentralizing efforts and trying to steer them into the right direction are the only instruments the EU institutions have at their disposal. In addition, a paper by Short and Toffel found implications that a combination between heavy regulatory surveillance and commitments to self-regulation provide satisfactory results in organisations sticking to their self-regulations.[333] Therefore to make sure the InvestEU programme actually realizes the objectives it postulates, the accompanying control-mechanisms have to constructed very thouroughly, and would have to be applied expansively. Additionally, private actors applying for the funds should communicate their plans and actions to the public transparently to add to the democratization of the process.

All in all, is the amount of money foreseen by the investment plan sufficient and will it's sources produce reliable results? One major problem, as was mentioned in the beginning of this chapter, is that the promised one trillion euro will not be sufficient to reach the EU's climate targets for 2030. The Commission does not state this directly and tries to conceal this fact by using the outdated reduction targets as a baseline for establishing lacking funds, so it can only be guessed how much investment would actually be necessary. But even calculating with these numbers, one would end up with a sum of 2.6 trillion lacking to reach the objectives, more than double of the one trillion euro the Commission promises mobilise. Additionally, for reaching the promised sum, the Commission has to trust in estimating future investments by private actors, which further muddies the reliability of the announced numbers, as well as putting into question the transparency and democratic legitimacy of these actions. In case of the InvestEU programme, the funds, at least in part, will be established from money, that currently pertains to other programmes within the same framework. It's usage, therefore, would not add anything to overcome the investment gap. Finally, revenues coming from the ETS would only represent a meaningful source for investments, if a sufficently high, possibly fixed, price for GHG emissions existed.

Another critical point, formulated by Adler and Varoufakis, adresses the apparent failure of the EU institutions to make available sufficently high funds in a short amount of time for finding a solution to such a critical issue, as there exists recent evidence that faster and bigger reactions have been

332 Ibid., p. 8.

333 Though in their study, they specifically targeted American organisations Short & Toffel, Self-Regulation, p. 261.

realized within the EU.[334] When the financial crisis struck Europe, the EU's banking sector was provided 4.3 trillion euros in the inmediate aftermath, whereas for a crisis of existential dimensions, only one trillion euro over ten years will be mobilised.[335] As the Bank of Spain in a footnote of their analysis of the EU interventions in favour of the banking sector points out, the 4.3 trillion euro were only provisionally approved, and therefore were only "potentially available authorised volumes and not to amounts actually used, which stood at around €1.2 trillion, of which amount €757 billion are guarantees that were granted and not necessarily realised".[336] It seems to be telling though, that reducing EU emissions does not even provisionally merit the allotment of the 3 trillion euro necessary. Yet again, it has to be kept in mind that the Commission is limited in it's actions by the necessitiy of unanimity among Council members and parliamentary approval regarding budgetary questions for the upcoming fiscal discussions. While during the financial crash, the market interventions were seen as away to stabilize the European economies and were already accompanied by severe political disruptions about the question under which conditions and if southern European countries should at all receive parts of the financial aids, the EGD's aim of restructuring the economy towards a more sustainable model could at first potentially stunt economic growth in some European countries. Any political and financial measure going too strongly into that direction will face severe backlash by any party within the EP and by Council members that espouse populist narratives and/or defend radical non-interventionist laissez-fair economics, or that represent a poorer member-state, which depends on unstunted growth and economical development.

8.2 The Just Transition Fund

As has been mentioned, the Just Transition Mechanism aims at supporting the structural changes in territories, whose economy depends on industries harmful to the environment. The mechanism consist of three pillars, aiming at mobilising 100 billion euro of investment. Of these pillars, the Just Transition Fund is currently the most flashed out and will therefore mainly be considered in the following analysis. Next to the fund, InvestEU is supposed to invest in 45 billion euro into projects related to just transition.[337] This, as stated above, might be an instance of double counting, were the 45 billion euro are counted as part of InvestEU and as part of the Just Transition Mechanism in contributing to the onre trillion euro investment goal. The establishment of a facility within the EIB,

334 Adler & Varoufakis, The EU's Green Deal.
335 Millaruelo & del Río, The Cost Of Interventions, p. 3.
336 Ibid.
337 Sustainable Europe Investment Plan, p. 20f.

partly guaranteed by the EU budget, will further provide 25 to 30 billion euro of investment.[338]

Of the coming EU budget, 7.5 billion euro will be dedicated to the Just Transition Fund, which "will aim to alleviate the social and economic costs of the transition to climate neutrality" and offer "support for bridging differences between and inside of Member States."[339] Eligible for access to the fund are "territories with high employment in coal, lignite, oil shale and peat production, as well as territories with greenhouse gas-intensive industries, which will be either discontinued or severely impacted by the transition."

According to Bruegel, the following formula will be used to determine the amount of money a country could potentially receive: the carbon intensity of it's NUTS-2 regions, i.e. Medium-sized regions and bigger cities, would be weighted by 49%; employment numbers in the mining of coal and lignite would be weigthed by 25%; employment in the industrial economy would be weighted by 25%; the production of peat would be weighted by 0.95%, and lastly, the production of oil shale would be weighted by 0.05%.[340] The Commission already provided a sheet detailing how much every EU member state will receive out of the fund, based on all of these factors combined with each other. It will suffice to only name the top five beneficiaries, as they amount to 62.4% or 4.678 billion euro of the fund's budget. Poland will receive 26.7% or 2 billion euro, Germany will receive 11.7% or 877 million euro, Romania will recieve 10.1% or 757 million euro, the Czech Republic will receive 7.7% or 581 million euro, and Bulgaria will receive 6.1% or 458 million euro.[341] Given these numbers, it seems very clear that the fund was originally designed to convince countries in Eastern Europe, who depend on emission heavy industry and were therefore sceptical of the EGD, to back the emission reduction targets.[342] Poland, specifically, in December refused to accept the zero-emission by 2050 target.[343] But as the situation currently stands, Poland might lose 50% of the funds it was promised as European Council President Charles Michel's proposal for a new EU budget states "For member states that have not yet committed to a national objective of climate neutrality by 2050, access to the Just Transition Fund will be limited to 50% of their national allocation".[344] Disregarding these developments, because of another of its characteristics, the fund can be characterized as a fiscal gift to Poland, Germany, Czechia, and Bulgaria. The investment plan states:

338 Ibid., p. 21f.
339 Ibid., p. 19.
340 Cameron, Claeys, Midões et. Al, Just Transition Fund, p. 3.
341 Just Transition Mechanism Allocation, p. 4f.
342 Morgan, Poland's Just Transition Bonus; Adler & Varoufakis, The EU's Green Deal; Harvey & Rankin, What is the European Green Deal
343 Morgan, Poland's Just Transition Bonus.
344 Ibid.

> "To unlock one euro from the Just Transition Fund, each Member State will be required to allocate a minimum of 1.5 and a maximum of 3 euro from the European Regional Development Fund and the European Social Fund Plus. This spending from the EU budget will be supplemented by national co-financing according to cohesion policy rules. This could bring the total amount of public funds mobilised through the Just Transition Fund to between EUR 30 and 50 billion"[345]

Thus, to achieve money from the fund, member states have to re-allocate money from their ERDF and ESF+ to projects the fund is supposed to support. To comply with the EU's cohesion policy, that is trying to achieve a reduction of economic disparities between regions within the EU, member states will have to co-finance projects for territories in other states. As Bruegel explains,

> "it is naïve, or even misleading, to claim that the funds devoted to the JTF will be additional to the EU budget, given that the first stage of the MFF negotiations is focused on agreeing on an overall headline number. This means that once an agreement is finally reached, the JTF will fall under this aggregate number and therefore the amount devoted to the JTF will mechanically reduce the funds devoted to other programmes."[346]

Based on this assumption, Bruegel compiled a table showing the amount of redistribution from ERDF and ESF+ envelopes and of co-financing each country would have to undertake for the financing of the the fund and projects related to it. This table shows, that after re-allocation and after receiving their shares in the fund and financiation through the cohesion policies, four principal benefactors would emerge: Poland, Germany, Czechia, and Bulgaria, while Italy, Spain, Portugal and Hungary would suffer through this re-allocation.[347]

The Just Transition Fund though is not the only a mechanism to win over Eastern European states for the Commissions plans. The EU ETS Modernisation Fund is supposed to further deliver 14 billion euro to "address the low-carbon investments in its ten beneficiary Member States (Romania, Bulgaria, Hungary, Latvia, Lithuania, Estonia, Czech Republic, Poland, Slovakia, Croatia)," which earlier in the investment plan were just described as "lower-income Member States."[348] Neither Spain, Belgium, Portugal, Greece, or Luxembourg are mentioned in this list, even though they, like the Eastern European countries, are net beneficiaries of the EU budget.[349] While Poland and Hungary are the main beneficiaries, they are directly followed by Greece and Portugal, then Romania and then Belgium.[350] This is another indicator for the transition mechanisms mainly being

345 Sustainable Europe Investment Plan, p. 19.
346 Cameron, Claeys, Midões et. Al, Just Transition Fund, p. 7.
347 Cameron, Claeys, Midões et. Al, Just Transition Fund, p. 4.
348 Sustainable Europe Investment Plan, p. 7 and 19.
349 Buchholz, Which Countries Are EU Contributors And Beneficiaries.
350 Ibid.

designed to buy the support of Eastern European countries. Apart from these considerations, one might ask why Germany, the biggest economy wihtin the EU, would be in need to receive funds from the Just Transition Mechanism or even through the cohesion projects.

To apply for the fund EU member states have to "identify the eligible territories through dedicated territorial just transition plans, in dialogue with the Commission and consistently with their National Energy and Climate Plans."[351] Theoretically, every territory whose just-transition plans, presented by their national governments, has been accepted, would receive support from the fund.[352] Projects envisioned by the fund would include on the economical level efforts of diversification, investment for new companies, research, digitalisation, or the enhancement of the circular economy plan.[353] On the social level, support for up- and reskilling of workers would be supported, alongside of assistance for job-search.[354] Lastly, efforts of Land restoration, e.g. the decontamination of industrial sites, or reforestation, would be supported.[355] The establishment of a procedure which forces national governments to lay out plans for how they want to support specific territories in restructuring the economy while maintaining opportunities and social security nets, such as financing efforts of reskilling workers, which have to be approved by the Commission seem like a step into the right direction. But similar measures in the past tended to not reach the people who were actually in need of them. Daniela Gabor, professor for economics and macro-finance at the UWE Bristol, warns that the money might disappear into the pockets of local elites, who will funnel money intended for transition to their business.[356] She cites the case of the Valea Jiului Region in Transylvania, were local decarbonisation firms, due to their "connections to Romania's political elites [...] capture[d] the "market" for reskilling services, but private investment and jobs in new economic sectors never actually materialised."[357] As Bruegel puts it,

> "The primary target of the JTF should be, in our view, to support workers who will lose their jobs as a result of the decarbonisation process. This, by itself, should help the transition by making necessary, but intrusive, climate policies socially, and thus politically, acceptable."[358]

Furthermore, national governments might find ways to funnel the tranisition money either to persons or to areas, who are central in ensuring their maintenance of power in their particular countries. It is therefore encessary for the Commission to establish strict and efficient control

351 Ibid., p. 20.
352 Ibid., p. 22.
353 Cameron, Claeys, Midões et. Al, Just Transition Fund, p. 5.
354 Ibid.
355 Ibid.
356 Gabor, European Green Deal.
357 Ibid.
358 Cameron, Claeys, Midões et. Al, Just Transition Fund, p. 10.

mechanisms to assure that the aforementioned misuse of transition funds will not occur. Additionally, the “territorial just transition plans” proposed by the national governments, the Commissions's monetary distribution decisions, as well as the money's trajectory from the EU to actors within the regions need to be as transparent as possible to further prevent the fund not reaching it's designated recipients.

Concludingly, Bruegel judges the scope and size if the JTF very critically. Given it's size of 7.5 billion euro, it is unrealistic that the fund will achieve it's goal of delivering social support, aiding land restoration, and economic revitalisation in territiories affected by restructuring economic sectors damaging the environment.[359] Even if through the different re-allocation mechanisms and cohesion policies 50 billion euro would be mobilised additionally, it seems unlikely that the fund would be able to cover these three sectors in every EU member state. But generally, it is difficult to account for how much money would be needed in the coming years for these projects, as the investment plan does not provide any estimates in this regard, or a justification for the number of 7.5. billion euro at all.[360] Some estimates delivered by Bruegel state that in the energy sector alone, 1.6 million jobs are at risk in the period of 2021 to 2027, which would translate to 6.7 billion euro of funding for labour market services. Bruegel therefore suggests to limit the funds focus on social support alone and to a lesser extend to land restoration,[361] and money should rather be distributed to certain projects and not accross all over Europe.[362] Finally, it is necessary to control what programmes will suffer through re-allocations within the EU budget and if their original scope was similar to the one of the JFT.[363] If this was the case, the fund would be a rebranding of former programmes.[364] A question that Bruegel does not answer, or only hint at, is why this re-naming and re-allocation takes place. Solving this issue might show, that the funds aim is not necessarily to aid territories in alleviating “the social and economic costs of the transition to climate neutrality“. As has been shown, five countries would mainly benefit through the implementation of the fund: Poland, Germany, the Czech Republic, Bulgaria, and Romania, Germany being the outlier as a non-Eastern European country and being a net-contributor to the EU's budget. The puntitive measure of cutting Poland's possible funds by 50% for refusing to accept the zero emission targets, is a clear indicator for the fund originally being aimed at convincing them to back the Commission and the EGD. Similar considerations might have played a role in the case of the Czech Republic, Bulgaria, and Romania. In the case of Germany, the fund might be a way of stifling the entrenchment of the

359 Ibid., p. 1.
360 Ibid., p. 7.
361 Ibid., p. 8.
362 Ibid., p. 1.
363 Ibid., p. 7.
364 Cameron, Claeys, Midões et. Al, Just Transition Fund, p. 7.

radical right-wing AfD in the emission heavy economic sectors in e.g. Saxony, Saxony-Anhalt or Brandenburg, where the AfD threatens to overtake the CDU party, of which Ursula von der Leyen is a member. Political considerations seem to have been the main motivator for establishing the Just Transition Mechanism. This might also be a reason for it's small size, as this would not hurt the EU budget too much and would be a bearable cost for other EU countries to bear. If this was the case, then it does not matter that the mechanism due to lack of transparency, size, and elaboration concerning it's other two pillars, would abrely be able to achieve it's objectives, because it's actual goal would lie in negotiations between EU member-states via budgetary measures.

8.3 Blackrock as a Supervisor for Sustainable Finance

A final word on the sustainable invetsment plan has to be said regarding the plans vision for "Putting sustainable finance at the heart of the financial system", as the way how this project will apparently be realised carries with it implications for how other parts of the plan will be implemented.[365]

The goal of implementing a sustainable financial system, according to the investment plan, lies in putting "in place clear long-term signals to guide investors to sustainable investment".[366] To this end, the Commission wants to create a taxonomy, that "will determine whether an economic activity is environmentally sustainable, based on performance criteria for its contribution to at least one of the six environmental objectives."[367] Furthermore,

> "Companies will need to increase their disclosure of climate and environmental data so that investors are fully informed about sustainable investment opportunities and can better direct their investment in support of the Green Deal. To this end, the Commission will review the Non-Financial Reporting Directive."[368]

Leaving aside the fact that the Commission does not put it's focus on citizens gaining better access to information about companies's sustainability, but investors, the establishment of a common taxonomy and the review of the Non-Financial Reporting Directive appear like necessary steps into the right direction. The Non-Financial Reporting Directive establishes what companies have to disclose to the market about their activities. Eleni Choidas, currently manager of the Association for Financial Markets in Europe, called the review of this directive "a crucial missing piece of the

365 Sustainable Europe Investment Plan, p. 10.
366 Ibid.
367 Ibid.
368 Ibid.

puzzle. […] High quality data from issuers will facilitate compliance with the Disclosure Regulation and the Taxonomy by financial market players."[369]

These ideas put forward by the Commission are part of a bigger, global process where an ever growing number of actors from the financial sector try to introduce the concept of sustainability into banking and investment procedures.[370] For this goal, the implementation of the so-called ESG principles play a major role in guiding finance and investment. The principles are as follows: Environment, meaning concerns for climate change, GHG emissions, resource exploitation, waste; Social, meaning concerns for labour conditions, health and security, employment and diversity, and local communities; and Governance, meaning concerncs for corruption, fiscality, or taxation.

In April 2020, the Commission announced that the world's largest investment manager Blackrock would advise the EU on the integration of these ESG principles into the European banking sector.[371] For this service, the company's Financial Markets Advisory sector will receive 280,000€ from the Commission.[372] Blackrock holds shares of a majority of globally important companies.[373] According to research done by The Guardian, the investment manager controls shares valuing around $87bn belonging to fossil fuel companies and is therefore a top-three investor in the world's eight largest oil companies.[374] The investment manager also holds shares in nearly every major European bank, amongst them Deutsche Bank, Santander, BNP Paribas or ING which, in turn, are also involved in oil companies.[375] If the EU was to realize it's environmental protection objectives, these companies would face financial challenges.

By participating in and shaping the EU's banking regulation, the Blackrock would not only be directly involved with the EU's legislature, but also influence the political framework in which the companies Blackrock holds shares in act, by e.g. changing regulations on investment or lending.[376] Furthermore, Blackrock has quite a negative track record regarding climate friendly measures, opposing 82% climate related shareholder resolutions at companies it participates in.[377] As late as September 2019, Blackrock supported lobbying efforts to weaken the EU's regulatory and surpervisory work.[378]

Since the beginning of 2020 though, the company tried to readjust it's position, on climate change,

369 Hay, European Green Deal, p. 2.
370 García de Quevedo Ruiz, Finanzas e Inversiones, p. 34f.
371 Jolly, Blackrock.
372 Ibid.
373 Ibid.
374 Ibid.
375 Changefinance.org Open Letter, European Commission.
376 Jolly, Blackrock; Blanken, Bock zum Gärtner.
377 Ibid.
378 Changefinance.org Open Letter, European Commission.

at least publically, by aiming to turn environmental sustainability into one of the companies cores.[379] A key document in this was a letter by Larry Fink, Chairman and Chief Executive Officer of the company, citing mainly the concern of Blackrock clients for sustainability and investment into more environmentally friendly companies.[380] Does this mean that Blackrock is going to take a more environmentalist direction, that it will fulfil through the task it was granted by the EU? This can be doubted. For one, it can be assumed that Blackrock, through it's far reaching connections, and the publication of the Commissions EGD Investment Plant, knew that the Commission would look for an advisor in matters of sustainable investment. As a preparatory measure and as to justify it's application to the public, the company might have intended to present itself as green.
But even if one supposes that Blackrock will start following a more sustainable investment strategy to appease it's clients, who as a driving force also should not be underestimated, this does not mean that it will not continue to participate in environmentally damaging companies. As an investment manager, the company can allocate funds to whichever companies it's clients prefer. Therefore, as long as enough clients opt to invest in fossil fuel companies, Blackrock will enable them to do just that. Additionally, the environmentally friendly economical sector, containing e.g. photovoltaic cell production, will foreseeably grow due to the EU's plans. Thus participating in this sector would financially be a smart choice. The question of Blackrock's position towards climate change might therefore not be that relevant, since it's only concern is increasing their and their clients profits (as is the task of an investment manager). Still there is an obvious conflict of interest regarding Blackrock's advisory position, as no matter if it holds shares in environmentally damaging or environmentally friendly companies, it is going to aim to strengthen the position of the enterprises it participates in. If the Commissions choice of Blackrock is an indicator of how other projects envisioned by the sustainable investment plan, and by extension the EGD, will be handled, prospects for actually achieving the climate objectives appear negative.

8.4 Conclusion on the capacity of the “Sustainable Investment Plan”

All in all, the “Sustainable Investment Plan” fails to deliver on it's promises. It does not provide the correct amount of additional funds needed to close the EU's investment gap for the 2030 55% emission reduction targets, while it's proposal on closing this gap falls short of at least two trillion euros. The promised number of one trillion euro is partly based on instances of counting money multiple times if it is allocated to different projects, or promising funds to be new, when they are

379 Jolly, Blackrock.
380 Fink, CEO Letter; Gabor, European Green Deal.

actually already part of investment programmes by the EU, and therefore would not be eligible for closing the investment gap. For renvenus envisioned to stem from the ETS, a sufficiently high prize for emissions is lacking. Furthermore, the EU will have to rely heavily on private investors, who it will give guarantees paid for by public funds. This not only pose concerns of transparency, but also of democratic control and legitimacy. Similarily, the Just Transition Mechanism lacks in size to fully realize it's proclaimed objectives. But since it was likely only designed to win over Eastern European Countries, especially Poland, to support the Commission and it's goals, the issue with the Just Transition Mechanism rather lies in the area of political maneuvering and negotiations within the EU. As the Commission has, due to the desing of the EU and it's institutions, only a limited frame of action regarding the MFF and the EU's annual budget, as well as political decision making, compromises and deals constantly have to be struck between the Commission, the Council, the EP, between member states, and between parties within the EP. Within this context, designing an effective policy that would have the necessary scope and would be free from one-sided concessions, seems to be impossible.

But even giving the Commission the benefit of a doubt in this regard, it is difficult to defend it's decision to appoint Blackrock as a supervising institution for integrating the ESG principles into the EU's banking sector. Considering the company's track record in participating in many of the world's most pollution heavy economic sectors, it's pledges towards green investment seem doubtful, which, again, leads to questioning the sincerity of the EU's sustainable investment ambitions. The only silverlining in this matter seems to be that Blackrock only follows the principle of doing what a majority of customers, who at the moment seem to push for more green investment. If this push is strong enough and will not be subject to severe volatilities, remains to be seen.

9. Conclusion

In the introduction, the question was posed of how adequate the EGD is in dealing with the challenges of climate change and in realizing the objectives it describes. While all in all it can be said that the deal addresses nearly every issue that is relevant to the debate surrounding environmental protection, the measures it proposes often consist of errant approaches, amplify prexisting advantages of economically dominant actors, are restricted in their functionality by the EU's legal framework, and rely on the idea of a circular economic transformation that lacks further research to reliably understand it as delivering further economic growth independent of resoruce usage. It further fails to present a grander strategy to influcence and incentivise changes in consumer behaviour towards more environmentally friendly products. Additionally, necessary

funding for the deal will be insufficient on part of public actors, as well as intransparent and lacking democratic legitimacy on part of private actors. Meanwhile promises of a “just transition” have turned out to simply be a code for buying some countries agreement to the EGD. Since the EGD, as of yet, is only a preliminary strategy and will be furterher expanded upon, any conclusion on the deal can itself only be preliminary. It is uncertain, if concerncs mentioned and predictions made in this thesis will end up as negatively as they were presented. Statistics have been cited showing that EU countries have in the last decades indeed made steps into the direction of environmental protection, albeit very slowly. But if the policies proposed by the EGD, the investment plan, and the concept of the CE are at all an indicator for future, further transformations might not occure as fast as necessary and might disproportionately favour economically stable actors.

For some of these shortcomings, the Commission is not at fault. As has been pointed out, important tools of the EU for combating climate change, like the MFF, necessitate the cooperation of every member state and cannot be decided upon against their will. Compromises and less radical measures are the only manner in which the Commission is able to influence European politics at all. Additionally, EU institutions only command the competence of drafting legislature in the area of economic, production and trade regulations, while in the area of shared and supporting competences it heavily relies on the cooperation of political actors in the member states. Specifically the shared competences, encompassing e.g. legislature regarding the environment and energy, pose a challenge.

How then did the Commission choose to face these very challenges to achieve its goals? To quickly summarize again, the objective of the EGD was to deliver climate neutrality by 2050, while mainting a competitive and sustainable model of economic growth, designing a just transition, and placing the EU as a global leader in climate related questions.

One of the tools the Commission wants to utilize to descourage fossil fuel usage in the production, transport, and energy sector, was a further extension of the ETS. Revenues of the ETS where promsied to be used for the just transition. As has been pointed out, the ETS is currently not fulfilling it's task due to low, unregulated carbon prices, something the Commission has only promised to revised in the invetsment plan. A further problem of the ETS is that it is restricted to the EU, thus creating the “risk of carbon leakage”. The Commission wants to implement price adjusting measures against this risk, to raise prices for products of uncertain ecological origin produced outside the EU, thus proposing a quasi-protectionist strategy. This might also represent a method to ensure the competitiveness of a more strongly regulated European economy on the world market.

Related to the question of the ETS was the reduction of GHG emissions in the energy sector. Instead of funding the expansion of renewable energy production or proposing renewable energy

production targets for the coming decades, the Commission instead focused on funding the renovation of buildings towards more energy efficiency to fight “energy poverty”. While this might lower kWh prices, this strategy would mainly lead to advantages for property owners and might end up costing people living in rental arrangements more, as renovations would give landlords a cause to raise rents. Furthermore, these renovations might become superflous, due to urbanisation, since especially old buildings in the countryside are more in need of renovations for energy efficiency than modern city buildings. It should be mentioned though that the member states command a high rate of autonomy in the energy sector and that the Commission therefore does not have many tools to introduce a transformation in this regard. Furthermore, a lot of porgress already has been made in the construction of renewable energy plants during the last decades, though this might also be related for to the geostrategical need of making Europe energy-independent from Russia or Saudi Arabia.

Regarding pollution in transportation, the Commission proposed to shift cargo loads towards rail- and waterways, which would utilize electricity or biofuel. Biofuels are also presented as a viable alternative for air-traffic. What the Commission does not mention though is that the capacity for producing biofuels for now is far too low to cover the European fuel demand. A reduction in fossil fuel driven transportation like aviation to the advantage of strengthening railway networks for private transport is not mentioned. The EGD further fails to adress private road transportation, which makes up the majority of GHG emissions in the transport sector. Here the Commission fails to present a strategy that will lead to the usage of more environmentally friendly vehicles. Equally, instead of promising funding for public transport within cities, and trying to reduce private traffic in urban areas, the EGD only mentions introducing regulations for air pollution.

In the area of alimentation, the Commission introduces a “Farm to Fork” strategy, which in the long run is supposed to revitalize biodiversity, produce healthier eating behaviours, and turn farming in general into a more environmentally undertaking. For this, the EU promises to fund farmers, though a majority of funding will go to a small number of big agricultural companies, as they are the main producers of farming products in the EU. The problem of monocultures damaging biodiversity is not addressed wihtin the EGD. Neither are measures to further farmers resilence towards heat, drought, or inundations. Finally, the Commission believes, that through labeling agricultural products, and forcing companies to disclose more production related information on the packaging, consumer behaviour will be sufficiently influenced to change. If consumers lack knowledge of how to classify the given information though, these regulations would not serve the intended goal. While directly influencing the agenda of school curricula is impossible for the EU institutions, plans for funding educative initiatives could have been presented. The only thing the EGD mentions in

regards of financially supporting education and research is connected to channeling funding towards finding technological solutions to climate change, which in itself is necessary, but should not remain the only option in this area, as technological progress cannot reliably predicted.

While the objective of “greening national budgets” remains highly dependent on member states willingness to comply with climate goals, the pledge to connect EU legislature to a “green oath” and adding memoranda to legislation that explain how laws would serve to fight climate change, is difficult to evaluate. While the “green oath” seems more like a publicity catchphrase, the memoranda could serve the cause of legislative transparency. But similarily to how the “climate pact”, which aims at cooperating with citizens, NGOs and private institutions to improve environmental EU legislature, the effectiveness of these measures is constricted by the high complexity of legislative texts, especially in the EU context, to the point where only legal experts would truly be able to use these tools.

On the world stage, the EGD envisions the EU as a “Global Leader” in fighting climate change. Here lies the true crux of the Commissions plans: Even if Europe were to achieve climate neutrality by 2050, this would not be enough to prevent global warming, as the majority of heavily polluting nations are not part of the EU. Options for the EU to influence these nations are limited and it is unpredictable of diplomacy will manage this challenge. It seems to be apparent though that through asymmetrical trade regulations the EU aims at exploiting the African market for European investors, possibly in an attempt to further grow European companies and maintain the global European economic competitiveness under the condition of further restrictions related to environmental protection and the transformation towards the CE.

The“Circular Economy Action Plan”, as has been pointed out, presents sensible ideas regarding recycling, waste management, product durability, and general sustainability. Given the growing production of waste and demand for resources, it is also a deeply necessary strategy. Based on studies promising further growth regarding profits and jobs until 2030 due to a more efficient usage of waste and resources, it seems plausible that an actual desire exists on the side of politicans and companies to implement these very ideas. But questions remain about how combinable continued growth and true circularity are, since no studies exist analysing effects of a continued transformation towards circularity past 2030. As a closed, circular system implies, that nothing would leave or enter the economic flow, further growing the economy does not appear to be a given. Furthermore, the European economy would have to be separated from the global economy if one would want to implement true circularity, as only then value chains and resource origins would be possible to monitor and regulate completely As the CE action plan implies, this will not be the strategy chosen, the EU will stay connected to the world economy and therefore profit from

resource exploitation around the world, even if Europe itself turns towards a more circular model.
For financing its climate ambitions, the Commission envisioned the “Sustainable Investment Plan”. While the plan promises one trillion euro to close the investment gap that exists for achieving the goal of reducing emissions by 55% by 2030, it does not disclose that this money will not be sufficient. Also, the plan only gives the numbers for necessary investments under the old reduction condition of 40%. Additionally, the number of one trillion euro is partly reached through attributing money of different EU programmes multiple times, and through relying on money by private investors. These investments would not be subjected to rules of transparency, public control or democratic legitimacy, as would be expected for an issue that is critical to every citizens well-being. This problem is amplified by the EU contracting Blackrock to oversee the implementation of sustainable investment rules in the European banking sector, whilst the company itself has vested interests in influencing regulations to maximise its own and its clients profits. Lastly, the “Just Transition Mechanism”, which was promised to financially aid the economical transformation of regions who heavily rely on fossil fuel usage, is too small in size to achieve its ambitions and furthermore is mainly a tool to win over countries such as Poland for the EGD, or to help Ursula von der Leyen's party in German federal states where the conservatives are politically struggling.
Concludingly, while the EGD addresses a large array of environmental challenges, though failling to rethink processes of urbanisation, strengthening resilence towards environmental catastrophes, or aiming to change general consumer behaviour through e.g. awareness campaigns, the deal upon further inspection reveals a sinister set of policies, that might aid in combating climate change, but are insufficent, either by design or through institutional restrictions, for achieving a just transition or decoupling growth from resource usage. And while climate neutrality might be achieved by 2050, this would probably be at the cost of continued environmental destruction around the world.
This analysis can only be considered as preliminary though. As the issue at hand is too complex and influenced by a too diverse number of factors and actors, predictions and conclusions made cannot be seen as a certainty. Further research is needed in the years to come, focusing on other strategies proposed by the Commission under the framework of the EGD, including analyses of national legislature, regional political and environmental trends, international European diplomatic action, or scientific studies regarding specific measures to combat climate change in certain areas. For this, a continued effort of the European scientific community and civil society is necessary, to in the end push for further efforts towards environmental protection, as the task is too big to be dealt with outside of cooperative efforts.

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