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Environmental Justice of the European Green Deal: An Explanatory Critique of the Energy Transition

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Abstract:

The European Green Deal (EGD) is a response to multiple ecological problems caused by human activities, most notably climate change. Some of the main goals of the EGD is to reach net zero in emissions by 2050 and an economic growth decoupled from resource use. To do that, the EU is aiming to transform its energy system by moving away from fossil fuels to a renewable energy provision. Realising these goals would, however, translate into a drastic increase in raw material demand needed for renewable technologies. Extracting these materials is associated with severe socio-environmental effects.

This thesis uses Fairclough's critical discourse analysis combined with the theory of environmental justice to carry out an explanatory critique of the European Green Deal from a global environmental justice perspective. The material consists of the main communication from the European Commission on the European Green Deal paired with EU publications on critical raw materials and the Just Transition Mechanism. The thesis critically assesses the justice implications of the European Green Deal, which to a large extent relies on a dramatic increase in extractivism outside of the Union, reproducing unequal power relations between regions in forms of ecologically unequal exchange, ecological debt and green sacrifice zones.

The analysis aims to study what elements of the EGD discourse contribute to this problem and make it discursively possible. The analysis finds out that the discursive understandings of 'green' economy, 'clean' energy, and a 'just' transition may conceal the sustained resource intensiveness of the economic system, the unequally distributed environmental justice issues related to the production of renewable technologies, and the lack of global perspective in the 'justness' of the transition to renewables. By pointing out how the European Green Deal discourse may reinforce the excessive increase in extractivism outside of the Union, the thesis underlines the role and responsibility of the EU in mining ventures outside of its borders and related negative consequences of the energy transition.

Table of Contents

1 Introduction

In 2019, the European Union (EU) launched a European Green Deal, an overarching plan for the Union to cut its greenhouse gas emissions and transform its economy into a 'green' one under the leadership of Ursula von der Leyen, the president of European Commission (European Commission, 2019). The European Green Deal represents a larger phenomenon of green new deals (GNDs), attempting to change the course of environmental policy responses to multiple ecological crises, including climate change, combined with ambitious social policy (Gills & Morgan, 2020; Kolinjivadi, 2019). Some of the main goals of the European Green Deal is to reach net zero in emissions by 2050 and an economic growth decoupled from resource use (European Commission, 2019). In order to do that, the EU is aiming to transform its energy system by moving away from fossil fuels to a renewable energy provision. Beyond the environmental dimension of the policy framework, the European Green Deal is aiming at "turning the fight against climate change into an opportunity for jobs and growth", "reaping the benefits of technology and making it work for people" and "strengthening the EU's geopolitical clout" (European Commission, 2020[1]). Furthermore, the Just Transition Mechanism, with the notion of "Leaving no one behind" is a core aspect of the European Green Deal (European Commission, 2019; European Commission 2020[2]).

A cornerstone of the European Green Deal (EGD) and a prerequisite for reaching net zero in emissions is energy transition from fossil fuels to renewables. In practice, meeting the EU's energy needs by replacing fossil energy with renewable technologies requires significant amounts of metals and minerals not found or otherwise not substantially mined within the EU, meaning considerable implications on other regions of the world. Fulfilling the current, or perhaps even increasing energy needs of the EU by simply replacing carbon-intensive fossil energy with renewables, or what the EGD calls 'clean energy', could mean up to a 600 percent increase in demand for metals by 2030 (European Commission 2020[3]; EEB, 2021: 14). The rapid shift to renewables ignores risks related to the expansion of mining extractivism (Dunlap & Laratte, 2022). Even though the transition away from fossil fuels is necessary, and even more urgent followed by the Russian invasion of Ukraine and its implications on European energy provision, the current projections of the European Green Deal has

the risk of reproducing unequal power relations between regions. This is due to the massive speed and volume of introducing renewable technologies to account for the EU's level of energy consumption. Many of the crucial materials needed for renewable technologies are extracted outside of the EU in what has been classified as 'high risk zones' with regards to environmental degradation and social risks (Lèbre et al., 2020; European Commission, 2020[4]). Due to an increasing pressure on these materials, the responsibility of extracting them is difficult to be realised. Further, existing data (EEB, 2021: 23) suggests that due diligence policies of mining corporations are not enough to guarantee responsible mining practices. Beyond the corporate responsibility perspective, the complexity around the energy transition calls for an analysis on larger patterns of global power relations and understandings about environmental crises and responses to them.

1.1 Approach of the study

This thesis aims to critically assess the justness of the European Green Deal from a global environmental justice perspective, a perspective that seemed to be missing from the policy framework. The focus of this study is global power relations around the EGD energy transition. The thesis examines how the shift to renewables may actually increase social metabolism by intensifying extractivism particularly outside of the EU and how this is actually embedded in discourse. This expansion creates disconnection between "geographies of injustice along commodity chains" (Temper et al., 2015: 255). The analysis builds on Fairclough's critical discourse analysis with some methodological notions from discourse theory. The theoretical framework consists of environmental justice combined with relevant notions from world system theories. The theoretical discussion works as a guide for the analysis, which aims to examine how the EGD discourse reflects the theory on global power relations materialised in environmental injustices produced by the energy transition. The material of the study consists of EU communications and other publications on the EGD and the energy transition. Beyond that, the aim of the study is to contribute to environmental justice (EJ) literature by using the approach to investigate broad global patterns of environmental injustice and inequality related to the EGD discourse. As EJ research usually deals with case studies (ibid), bridging a global take

on EJ with a less used method in the field, critical discourse analysis, is a contribution to the approach.

The justification for the thesis stems from not only the lack of global justice, but also, and importantly, from the risks the EGD energy transition poses particularly to regions exporting the needed material. These include the risk of ecosides caused by the drastic increase in mining as well as human rights violations and other social risks related to mining. Mining ventures pose substantial pressure on the environment due to biodiversity loss, altering of composition, soil contamination, erosion and alteration of water regimes (Lèbre et al., 2020; EEB, 2021: 18-19). Furthermore, mining is disproportionately linked with violations of human rights, labour rights and environmental justice issues compared to many other industries (ibid). Underlining the notion of *global* environmental justice, the focus lies on the EU's relations to other regions of the world in forms of supply chains, while acknowledging that similar extractivism related problems do occur within the Union as well, although rarely at a similar scale. Nonetheless, the cumulative risk effect of mining ventures in the EU and Global North exists, with particular concern for indigenous peoples in the Arctic region (Lèbre et al., 2020) and should not be neglected, although this is not the focus of this study. In her decentralist critique of the European Green Deal, Daniela Huber (2020: 8) asks "how does the European energy transition impact on other parts of the world and how will Europe compensate those areas for the ensuing environmental and social costs?". This question led me to problematise the tension between the socio-ecological effects of extractivism, on one hand, and the EU's commitment to cutting its emissions and to a 'just' transition, on the other hand. Similarly, the resource-intensity of the energy transition led me to problematise the 'greenness' of the EGD and 'cleanness' of the energy transition.

Based on the methodological choices of this study, it is important to note that the aim is not to present empirical case studies about the implication of the EGD energy transition, but rather to examine how the EGD discourse may (re)produce uneven power relations in the form of environmental injustices. Following Fairclough's critical discourse analysis (CDA), I see the role of this work as an explanatory critique paying particular attention to global power relations. In practice, the thesis problematises the notions of 'clean' energy, 'green' economy and 'just' transition in

the EGD discourse and argues that the EGD has the risk, whether unintended or not, of reproducing unequal power relations between regions in forms of unequal ecological exchange, ecological debt and green sacrifice zones. This is due to the rapid expansion of mining extractivism and the EU's high reliance on imports to fuel the development of a 'green' economy.

The formulation of research questions draws on the method of the thesis, Fairclough's critical discourse analysis (CDA). Typical questions that can be addressed with Fairclough's CDA include:

Does the discursive practice reproduce the order of discourse and thus contribute to the maintenance of the status quo in the social practice? Or has the order of discourse been transformed, thereby contributing to social change? What are the ideological, political and social consequences of the discursive practice? Does the discursive practice conceal and strengthen unequal power relations in society, or does it challenge power positions by representing reality and social relations in a new way? (Jørgensen & Phillips, 2002: 87).

These questions work as a map guiding my analysis. More specifically, my research questions are:

Does the European Green Deal contribute to the maintenance of the status quo of an ecologically unsustainable economic system in the social practice? Or has the order of discourse been transformed, thereby contributing to social change towards a more ecological and fair economic system?

Does the discursive practice of the European Green Deal conceal and strengthen unequal power relations related to the distribution of environmental goods and bads between regions, or does it challenge power positions by representing reality and social relations in a new way?

In other words, the first question aims to investigate whether the European Green Deal does indeed initiate a social change in the social practice regarding material and energy use. The second question, on the other hand, deals with power relations, more

specifically global power relations between regions regarding extraction of natural resources. Here, drawing on environmental justice literature, the focus is on who uses resources, who benefits from them and who bears the costs.

1.2 Defining the key concepts

Being informed by discourse analysis, I acknowledge the discursive and polysemic nature of words in the meaning-making of social reality and my role as a participant in these processes within the relevant discourses. Consequently, by defining the key concepts now, my aim is not to present the 'right' or most 'truthful' definitions, but rather to discuss what makes using them meaningful in the discussion I contribute to, as well as to illustrate the conceptual starting point for the thesis. This does not mean that all definitions are necessarily equal, but rather that some of them are more applicable in certain contexts than others. Nevertheless, concepts are in a never ending movement and subjects for struggle (Jørgensen & Phillips, 2002). Ultimately, they get their meaning within the context they are presented in and in relation to other concepts (ibid). The following part is indeed an attempt to establish this context by discussing some of the central concepts.

1.2.1 Human-nature relationship

As one of the underlying issues, it is important to address the relationship between humans and non-human nature. In Western discourses, despite the contradicting position from a natural scientific point of view, this relationship is seen as somewhat dichotomous. According to such ontology, humans and nature are understood as separate systems, and nature largely reduced to mere 'resources' whose value depends upon their usefulness to humans (Kolinjivadi, 2019). Based on this understanding, the relationship with nature is largely instrumental and thus moral considerations apply mostly, if not only, to humans (Huber, 2020: 3). Building on this assumption it follows that the economy, as a system of exchange between humans, is also a separate system from 'nature'. This conceptualisation, however, disconnects the interactive relationship between human systems, such as economy, and ecosystems. Hence, it is more appropriate to define the economy as a material

subsystem of nature, “embedded in and dependent on the surrounding natural system”, as Vinnari & Vinnari (2021: 4) put it. This conceptualisation allows us to demonstrate that economic systems are dependent on the (well-functioning) surrounding environment. Further, it follows that economic systems have effects on earth systems, even though this is not considered or properly accounted for in mainstream economic theory (Gills & Morgan, 2020).

Based on the social constructionist view, ‘nature’ is not a natural or essentialist entity. Yet, I have chosen to use it as an analytical concept due to the following reasons. While the concept ‘nature’ is a social construct it is still a useful concept in the context of this thesis to signify the web of life. Even though humans are part of this ensemble, it is meaningful to distinguish their role in altering ecosystems, particularly since the industrialisation (Gills & Morgan, 2021). The significance of human activities *vis-à-vis* other living things and ecosystems is demonstrated in the concept of anthropocene, meaning a suggested current geological epoch, which is characterised by human-domination (Lewis & Maslin, 2015). Based on that, it is useful to distinguish between humans and non-human nature to pinpoint the responsibility of humans for the current ecological crises, even though from an ecocentric point of view humans are just one species in the web of life. This analytical distinction politicises the responsibility of humans for ecological crises. It then follows that disruptions in the non-human nature at the scale of what we are seeing today (see e.g. IPCC, 2022) will eventually cascade to human systems, including economy, giving the underlying motivation for this thesis.

1.2.2 Extractivism

Due to the link between extractive sectors and the energy transition, it is important to clarify what is meant with the analytical concept ‘extractivism’. Acosta (2017) defines extractivism as “activities that remove large volumes of non-processed natural resources (or resources that are limited in quantity), particularly for export, to cover the demand in central countries.” In addition to mining and oil drilling, perhaps the most often considered extractivist industries, forestry, fishery as well as agricultural and even touristic activities (see: Kolinjivadi, 2021) can be defined as extractivism (Acosta, 2017). Large-scale extractivism can be seen rooted in colonialism and the

subsequent neo-colonial relations (Acosta, 2013: 62). This is particularly apparent in the international trade system, where resource-rich countries export raw materials for wealthier countries' industrial production. As an economic model for the exporting party, extractivism creates dependence on volatile export profits and by doing so prevents other less harmful industries from developing (EEB, 2021: 16). Being often export-driven and thus dependent on external demand, extractivism produces only few benefits for the locality or country of origin (Acosta, 2013: 63). As such, it is linked with processes of accumulation (ibid), and arguably, accumulation by dispossession (see: Harvey, 2003) due to the large-scale disruption of local livelihoods and land ownership. Despite recent developments of so-called neo-extractivism, where governments particularly in Latin America have reclaimed a stronger role in economic activities by state-ownership of natural resources, the basic logic of neo-extractivism does not differ much from the traditional one: profit-prioritised activities with drastic socio-environmental costs, "subordinated to and motivated by external demand", while the control over trade belongs to and the largest share of profit goes to multinationals from wealthier countries (Acosta, 2013: 73).

The basic logic of extractivism pushes activities further deeper into rural and indigenous areas, where inhabitants are particularly vulnerable to the harms of extractivism due to residual colonial laws and pluralist land use and ownership practices not recognised by the state (EEB, 2021: 16). Further, extractivism is often related to many socio-ecological problems (see: Lèbre et al., 2020; EEB, 2021), further discussed in the theory chapter. In this thesis I focus on mining activities due to their centrality to the European Green Deal and its energy transition component. The centrality of extractivism to the energy transition is inevitable, as the large-scale deployment of renewable technologies would imply drastic increase in the mining sector. My analytical focus in extractivism lies in its environmental justice implications, which is the theoretical approach of the thesis.

1.2.3 Environmental justice

Moving on to the theoretical foundation of the thesis, environmental justice as practice refers to academic research, social movements and public policy (Sze &

London, 2008: 1331). Following Schlossberg (2013: 40), “the central idea is that generalised social injustices are manifest in environmental conditions, among other ways”. In this study, I lean on environmental justice as academic research and an analytical concept, yet acknowledging the importance of environmental justice movements. The concept of environmental justice originally evolved from experiences of environmental racism in the US. Mohai et al. (2009: 407) define environmental racism as ”any policy, practice, or directive that differentially affects or disadvantages (whether intended or unintended) individuals, groups, or communities based on race or color”. In more detail, the U.S. Environmental Protection Agency’s definition of fair treatment entails that “no population, due to policy or economic disempowerment, is forced to bear a disproportionate share of the negative human health or environmental impacts of pollution or environmental consequences resulting from industrial, municipal, and commercial operations” (ibid). This is a guiding idea when I speak of environmental justice: that no population regardless of race, gender, class or ethnicity should bear a disproportionate share of the negative consequences from industrial, municipal, and commercial activities. Applying this to a global scale, no region should become a sacrifice zone for other regions' development, whether labelled as green or not.

With the notion of *global* environmental justice I aim to highlight the unequal ecological exchange and ecological debt between regions, further discussed in the theory chapter. Based on these notions, I use the environmental justice approach to challenge unequal power relations that could be materialised in the energy transition. Furthermore, I insist on the emphasis of *global* environmental justice, since complex environmental crises, such as climate change and biodiversity loss, should be analysed and addressed globally, even though local realities are important and distinct manifestations of these crises. Furthermore, environmental justice implications of extractivism are consequences of systemic global power relations and certain larger patterns can be identified in cases around the world, despite local particularities. That is why a global perspective on environmental justice is appropriate in my analysis. As already pointed out, my focal point lies in extractivism-related environmental justice. Beyond this analytical focus, my analysis is informed by a historical perspective on environmental justice, that is, the EU’s disproportionately significant share of both present and historical emissions (Hickel,

2020) and high level of material consumption. I will discuss environmental justice further from a theoretical point of view later on in the theory chapter.

1.2.4 Global North – Global South distinction

Similarly to the human – non-human nature distinction, the distinction to 'the West and the rest', to Global North and South is an artificial social construct. Edward Said's (1978) study of Orientalism reflects how such a distinction indeed tells more about the self, in this case, the West, than about the 'other', the Orient. Recognising the problematic nature of such distinction, I still refer to the concepts of the Global South and North to a certain extent, as they are a useful categorisation in my analysis, pointing to the different histories related to colonialism and the positioning within the world system. By this conceptual choice, my aim is to avoid a spatial separatist and methodologically nationalist approach (see: Gore, 2013), where countries are seen as isolated individuals, whose 'performance' (e.g. development) depends upon the successfulness of their internal policies. Such an ahistorical position neglects issues, such as colonial history, (dis)possession of and access to natural resources and positioning in the global economy. Acknowledging these issues is of high importance in the case of extractivism for renewable technologies, due to the colonial roots of extractivism and the unequal ecological exchange and debt it reproduces between the North and the South.

My focus will be on extractivism of metals for renewables outside of Europe, since the topic of this thesis indeed demonstrates how different countries and regions of the world are differently positioned within the world system. Yet, it is important to note that similar mining activities take place in the Global North and the European Union as well, for example in the Arctic region affecting indigenous communities. Due to the global lens of this thesis and the unequal ecological exchange the European Green Deal may reinforce in the case of extractivism for renewables, I have decided to focus on areas external to the EU in the Global South. Nevertheless, similar neo-colonial extractive logics can be identified in the Global North, particularly in countries with indigenous populations, pointing out that the North-South distinction is not a clear cut geographical and dualistic, but rather dynamic.

2 Methodology

The method used in this study is critical discourse analysis, and the thesis is further informed by discourse theory. The methodological choices constitute the philosophical grounding for the thesis, and thus I will discuss them here before moving into the topic itself in more detail. My methodological discussion relies greatly on Jørgensen & Phillips' (2002) work, which I found useful in gaining a solid understanding of discourse analysis from varied points of view ranging from its philosophical foundations to different forms of practice of discourse analysis as a method. Beyond a mere method, discourse analysis represents a post-structuralist theoretical and social constructionist philosophical understanding of the social world (ibid: 4). In order to clarify the philosophical premises of discourse analysis in a concise manner, I will refer to four principles defined by Burr (1995: 2-5): 1. A critical approach to taken-for-granted knowledge, 2. Historical and cultural specificity, 3. Link between knowledge and social processes and 4. Link between knowledge and social action (ibid). In this study, I am particularly interested in studying the taken-for-granted nature of knowledge as well as the link between knowledge and social action in the case of the green transition.

This chapter is structured in the following way. I will start by discussing discourse analysis in general, positionality, and analysis of power and then move on to Laclau & Mouffe's discourse theory.

2.1 Discourse analysis

Jørgensen & Phillips (2002: 1) define discourse as "a particular way of talking about and understanding the world (or an aspect of the world)". Following Foucault (1972: 117), discourse defines conditions for existence. A demonstrating way of understanding what is meant with discourse is that instead of the infinite possible ways of saying, doing and being in a specific historical context, certain articulations of speech and courses of action are accepted as natural and normal while others are perceived as impossible or normatively marginalised as abnormal (Jørgensen & Phillips, 2002: 13). In this way, discourses can be understood as systems of exclusion.

The practice of discourse analysis investigates the “rules for what can and cannot be said and the rules for what is considered to be true and false” (ibid). Ultimately, it aims to point out that in fact “the given organisation of the world is the result of political processes with social consequences” (ibid: 48). Language is an integral part of discourse, since it is through language that “we create representations of reality that are never mere reflections of a pre-existing reality but contribute to constructing reality” (ibid: 8). That is to say, reality does exist, but we can only access it through language, essentially through socially constructed systems of meaning and representations within a discourse (ibid: 8-9, 35). Thus, discourse analysis is not interested in unveiling the ‘truth’, but rather in unveiling the taken-for-granted assumptions within discourses, excluded alternatives, and the consequences of these historically situated discourses (ibid: 14). The practice of discourse analysis allows to unveil contradictions, unjustified assumptions and the ideological nature of a given discourse (ibid: 24), and these aspects are of particular interest in this study.

What makes discourse analysis and post-structuralist theories in general particularly useful in social research is their applicability to investigating social change. This is because the meaning-making in discourse both constitutes and changes the world (Jørgensen & Phillips, 2002: 9), which allows for an analysis of social change, an aspect often missing from structuralist theories. Social change can be explained by discursive struggles aiming to affect the dominance of certain discourses over others and the meaning-making within them (ibid). As such, both the attempts to maintain the status quo and challenge it are political acts. It is important to note that different discourses lead to different effects and courses of action (ibid: 9), and thus it is meaningful to study discourses from a normative point of view with a goal of somehow changing the world for what is perceived as ‘better’. This is done by demonstrating the negative consequences of a discourse in question and deconstructing elements of discourse from naturalised understandings to objects for discussion and criticism (ibid: 178). The method of this thesis is critical discourse analysis (CDA), which is further discussed later on in this chapter. The notion of criticalness in CDA draws attention to unjust power relations embedded in discourse, which is a particular focus of this study.

Another aspect that makes discourse analysis a particularly applicable theory and method in social sciences is its usefulness in the analysis of power. In discourse analysis power is seen as both productive and constraining and 'truth' as a product of power (Jørgensen & Phillips, 2002: 14). With discourse analysis, we can analyse the consequences of discourse in social practice. Moreover, discourse analysis can unveil hidden power in the form of 'objective' knowledge and in what forms of talking and being are perceived acceptable or 'normal', what is excluded from this 'normality' and who benefits from it. Following Foucauldian understanding (see e.g. Foucault 1980: 119), power is seen as discursive and productive, as it produces subjects and their relations between each other as well as define what we can know about objects (ibid). In other words, power produces knowledge, identities and relations and thus, the social order is dependent on power (ibid). It is not, however, dependent on a *specific* kind of social order (ibid), which gives room for social struggle and alternative social orders, an important notion in critical discourse analysis.

2.1.1 Positionality, ontology and epistemology

As this thesis is based on critical discourse analysis and a social constructionist take on philosophy of science, it is of great importance to reflect upon the positionality and my role as a researcher in the production and interpretation of knowledge. According to a social constructionist anti-foundationalist understanding, all knowledge is only one of the possible representations of the world (Jørgensen & Phillips, 2002: 22). This applies to scientific knowledge as well. With regards to conducting discourse analysis, the researcher does not have a privileged positioning outside of the discourse in question, but rather is often embedded within the discursive structure under research (ibid: 49). As a consequence, "there are always other positions in terms of which reality would look different" (ibid: 22). Recognising the political nature of research, Smith (1999: 5) points out that research is "an activity that has something at stake" and which takes place "in a set of political and social conditions". In Jørgensen & Phillips's (2002: 49) words, discourse analysis "is a kind of political intervention: a contingent articulation of elements which reproduces or challenges the given discourses in the never-ending struggle to define the world." Drawing on this idea, this thesis is an explanatory critique, which is generally the purpose of critical discourse analysis, aiming to address existing injustices and

inequalities (Chouliaraki & Fairclough 1999: 33; Jørgensen & Phillips, 2002: 77). Through this, what Gibson-Graham (2008: 620) calls "performative epistemology of research", I aim to discuss a somewhat alternative and marginalised perspective on the green transition by building a social critique drawing attention to possible negative consequences of the discourse which are unevenly distributed between different social groups. This exercise allows for making these marginalised understandings "potential objects of policy" (ibid). Consequently, my position is not 'neutral' nor is it a privileged one with regards to assessing the data, but rather the study constitutes a political act emphasising certain perspectives among other possible alternative articulations in the field of neverending discursive struggle.

Moving into broader ontological and epistemological considerations, according to Fairclough, social reality consists of discursive and non-discursive mechanisms, which follow different kinds of logics (Fairclough 1992: 64). While I do agree, to the extent that it is not meaningful in most cases to apply the same theories to different domains of life, it is ontologically difficult to distinguish between discursive and non-discursive dimensions of social reality. This is because our access to observing these mechanisms, even tangible objects, and the theories we use in order to make sense of them are always tied to discourse. That is why I lean more on Laclau & Mouffe's understanding of discourse as entirely constitutive of social reality, meaning that non-linguistic practices and objects are also part of discourse (Jørgensen & Phillips, 2002: 19; 34-5). This ontological difference does not, however, prevent importing some aspects from Laclau & Mouffe's discourse theory into Fairclough's CDA (ibid: 54).

In social constructionism, categorisations of knowledge, such as 'science', 'theory' and 'data' are seen as socially constructed, as opposed to an objectivist view of theory as a model of reality to be tested. As a result of acknowledging the socially constructed nature of knowledge, the epistemic distinction between theory and material is not clearcut. The discursivity of these conventions does not necessarily mean that they are not useful or applicable. On the contrary, categorisations of the world and knowledge systems makes it possible for us to communicate and make sense of the world by giving meaning to things. Hence, I have divided this work into chapters like

'Theory' and 'Material', even though the theory chapter already includes empirical notions.

2.1.2 Laclau & Mouffe's discourse theory

In this chapter, I will shortly discuss Laclau and Mouffe's discourse theory, focusing on aspects relevant to my analysis. Unlike discourse analysis methods, Laclau and Mouffe's discourse theory is a pervasive theory of social reality. A starting point for the theory is that discourses, as systems defining reality and setting courses of action, are never complete nor stable and that they are in conflict with other discourses (Jørgensen & Phillips, 2002: 47). Therefore, the fixity of meaning can always be undermined if alternative articulations arise. A discourse is thus an attempt "to create a unified system of meaning" (ibid: 27) by reducing the polysemic nature of signs. Laclau and Mouffe use the concept of 'elements' to signify signs that have no fixed meaning, while 'moments' refer to those with fixed meaning within the given discourse (ibid). Some of the concepts Laclau and Mouffe use for different elements in discourse include nodal points, key signifiers, chain of equivalence and floating signifiers. Nodal points are privileged signs in a discourse, which by themselves are almost empty in meaning, but gain their meaning through chains of equivalence with other signs in a specific discourse (Jørgensen & Phillips, 2002: 39). Consequently, their meaning appears clearly defined within the given discourse. When different discourses have competing meanings for a nodal point, it is called a floating signifier (ibid; Laclau 1990: 28). In my analysis, for example, I define 'green' as a floating signifier.

The ideological nature of power relations is hidden by hegemonic language (ibid: 179). Drawing on Gramsci's concept, hegemony in discourse theory refers to a fixation of meaning which naturalises particular articulation (Jørgensen & Phillips, 2002: 48). The practice of discourse analysis can reveal the unsettledness of the hegemonic discourse (Laclau 1993: 281; Jørgensen & Phillips, 2002: 48). Competing discourses are in an antagonistic relationship, meaning that their articulations of reality are in conflict (ibid: 47). 'Objectivity' is reached when a certain way of organisation, that is, a certain discourse is consolidated to the point where the possibility of alternative ways of organisation are forgotten (Laclau 1990: 34). This is

a consequence of a political struggle or a 'hegemonic intervention', when a discourse creates an illusion of unambiguity by naturalising certain articulations and dissolving alternatives (Jørgensen & Phillips, 2002: 36). As a result, the conflict disappears and the given discourse becomes a dominant frame of reference for meaning and representation of reality (ibid). And it is through hegemonic processes that different subject positions and power relations are created as if they were not in conflict by concealing alternative ways of organisation (ibid: 41), an imporant notions for analysing power relations within discourse.

These being widely shared understandings in the field of discourse analysis, critical discourse analysis goes beyond to point out that not every individual or group is in an equal position to challenge the existing discursive structure (Chouliaraki & Fairclough, 1999: 125). This notion points to structural relationships of dependency often neglected in post-structural theory; even if certain structures like race or gender, or positioning in the world system, are socially created, they are notably difficult to change (Jørgensen & Phillips, 2002: 54-55). That is also why I chose critical discourse analysis as the method for this study, despite being informed by Laclau and Mouffe's discourse theory. Nonetheless, Laclau & Mouffe's theorising offers not only a grounded understanding on discourse analysis, but also a solid methodological starting point. Jørgensen & Phillips (2002) identify some guiding methodological questions that can help utilising Laclau & Mouffe's theorising as a method:

What discourse or discourses does a specific articulation draw on, what discourses does it reproduce? Or, alternatively, does it challenge and transform an existing discourse by redefining some of its moments? (ibid: 30).

As a starting point for answers to these questions, the nodal points of the specific discourses can be identified: what signs have a privileged status, and how are they defined in relation to the other signs in the discourse? (ibid).

What different understandings of reality are at stake, where are they in antagonistic opposition to one another? And what are the social consequences if the one or the

other wins out and hegemonically pins down the meaning of the floating signifier? (ibid: 51).

These guidelines and questions guide my analysis later on as a first step when assessing the data.

2.2 Method: Critical Discourse Analysis

Critical discourse analysis (CDA) is a method aiming to empirically study the relationship between language use and social practice (Jørgensen & Phillips, 2002: 69). In practice this means exploring the links between discourses and their ideological effects and social consequences, particularly those related to the creation and reproduction of power relations (ibid: 60). The analytical focus lies on the ideological effects of discourse, i.e. whether discursive practice maintains or changes social order (ibid: 69). The notion of *criticalness* in CDA has to do with unveiling how discursive practice promotes maintaining or advancing certain power relations, with an aim for social change (ibid: 63-64). Thus, CDA is not politically neutral (ibid). As the topic of this thesis is *justice,* and more specifically justice between different regions of the world, there is a clear normative starting point in my approach and an analytical focus on global power relations. Accordingly, I am not approaching this topic as an objectivist researcher but rather, I am aware of the motivation for studying it, that is, making a small textual contribution to the discussion on and awareness of globally just environmental policy.

2.2.1 Fairclough's Critical Discourse Analysis

I am using Norman Fairclough's critical discourse analysis (CDA) as the method in this thesis. Fairclough refers to discourse in three senses: 1. language use as social practice, 2. language use in a specific field (e.g. science) and 3. established way of speaking that gives meaning to experiences (Jørgensen & Phillips, 2002: 66-67). In my analysis, I am interested in discourse in the third sense, as I study the green deal discourse. According to Fairclough, discourse constructs social identities (identity function), social relations (relational function) and systems of knowledge and meaning (ideational function) (ibid). The ideational and relational (relations between

regions) functions are particularly important in my analysis, since the focus of the study is power relations related to the green transition and discursive understandings around 'green' transition, 'clean' energy and 'just' transition. Some of the key concepts Fairclough uses in his method include 'communicative event' and 'order of discourse'. Communicative event refers to a specific instance of language use, for instance an interview, a film (ibid: 67) or in my case, a political communication. The order of discourse means specific social domain, such as the media, which has its own specific discursive practices – it is "the sum of all the genres and discourses within a specific social domain" (ibid: 72).

Fairclough's approach examines discourses empirically and distinguishes between three levels of discourse: 1. text (linguistic features), 2. discursive practice (production and consumption of text) and 3. social practice, and all these three dimensions should be incorporated in the analysis (Fairclough, 1992). Text analysis should focus on vocabulary, grammar, cohesion and text structure (Fairclough, 1992: 74). The second dimension, discursive practice, functions as a mediator between text and social practice (Jørgensen & Phillips, 2002: 69). Analysis of discursive practice should include considerations over who has produced the text and what is the process behind, as well as how the text is distributed and who consumes it (ibid). Here, intertextuality and the particular context play an important role, as texts are influenced by earlier texts, and both producers and consumers of text draw on existing discourses, yet with the possibility of creatively changing them (Fairclough 1992: 102). Consequently, texts should be seen in relation to other texts and to the given social context (Jørgensen & Phillips, 2002: 70). As for the third dimension, discourse analysis should identify not only textual elements, but also the social consequences of different discourses and their representations of reality. In practice this means evaluating whether the given communicative event reproduces or challenges the order of discourse and the existing power relations within it, and what are the consequences for social practice (ibid: 69-71; 86-7). Here, perspectives from outside of discourse analysis literature are encouraged. To capture the essence of CDA, Jørgensen & Phillips (2002: 87) identify questions to guide the analysis:

Does the discursive practice reproduce the order of discourse and thus contribute to the maintenance of the status quo in the social practice? Or has the order of discourse

been transformed, thereby contributing to social change? What are the ideological, political and social consequences of the discursive practice? Does the discursive practice conceal and strengthen unequal power relations in society, or does it challenge power positions by representing reality and social relations in a new way?

Now, the analysis of power comes of importance. According to Fairclough, it is important to pay attention to who sets the agenda in communicative events and what is the relationship between the participants (Fairclough 1992: 152ff). Challenging the order of discourse can create change, but different actors have uneven possibilities for change as well as for accessing different discourses as a result of uneven power relations (ibid). Hegemonic relations restrict the flexibility of discourse, as dominant groups aim to maintain cultural hegemony in orders of discourse (Fairclough 1995: 56). A hegemonic struggle aims to create discursive change in the order of discourse by presenting an alternative articulation of discursive elements (Jørgensen & Phillips, 2002: 76). Consequently, Fairclough suggests that hegemony is a negotiation leading to a consensus on meaning (ibid). Fairclough defines ideology as 'meaning in the service of power', aiming to consolidate relations of domination (Fairclough 1995: 14). According to Fairclough, the "[T]he seemingly limitless possibilities of creativity in discursive practice suggested by the concept of interdiscursivity […] are in practice limited and constrained by the state of hegemonic relations and hegemonic struggle." (Fairclough 1993: 137). In this study, the struggle in the order of discourse of environmental policy is understood as a hegemonic struggle. In practice this means that different discourses, ranging from denialism to green deals and environmental justice, assign different meanings to environmental problems and accordingly suggest different responses to them. It is against this background that I move now into theoretical considerations. Further, Fairclough encourages an interdisciplinary perspective, taking into account not only linguistic but also social and cultural processes in discourse analysis (ibid: 66). Hence, macrosociological analysis on social structures and power relations become of importance (ibid), which is reflected in the theory chapter.

2.2.2 Bridging methodology and theory

I chose Fairclough's method as it underlines power relations and notions of justice, which aligns well with my theoretical considerations around environmental justice. As I analyse how the green deal discourse may reinforce or potentially even create new environmental injustices in the social practice, my aim is to interactively bring together the theoretical part of the thesis and discourse analysis so that they inform each other. In other words, I am investigating how the European Green Deal (EGD) discourse reflects the aspects related to global power relations discussed in the theoretical part of the thesis. In practice, I am keen to examine how the EGD discourse may produce certain elements of social practice, including ecologically unequal exchange, ecological debt and green sacrifice zones, which are examples of environmental injustice embedded in global power relations. Further, I am interested in how 'clean' energy, 'green' economy and 'just' transition are discursively understood and how does the EU relate to other parts of the world in the EGD communications. The three-dimensional analysis unfolds throughout the analysis and not separately in three parts. Yet, the theory chapter provides important notions particularly for the third dimension, social practice. Bearing this in mind, the analysis chapter deals with all three dimensions, with particular attention to textual extracts from the EGD documents.

Moving into theory in the following chapter, Jørgensen & Phillips (2002: 4) point out that different perspectives from non-discourse analytical approaches and different forms of knowledge allow for a broader understanding of the research topic, and this was precisely my aim in the theoretical part of this thesis. According to Fairclough, other theories beyond discourse analysis provide notions about the specific social practice in question (ibid: 86). The purpose of the theory chapter is not only to provide a lens into the topic of the thesis and an alternative discourse of environmental justice, but also to contribute to the analysis of Fairclough's method's third dimension 'social practice'. Moreover, the usefulness of theory in discourse analysis stems from how it can help us to "distance ourselves from some of our taken-for-granted understandings and subject our material to questions" (ibid: 22).

Environmental justice has not widely been linked with discourse analysis, but in this thesis I aim to bridge these two. According to Sullivan (2017: 223) “Understanding of environmental phenomena as knowledge constructions built discursively with significant power-effects in terms of access to land and 'resources'” is central to political ecology research. Our understandings of nature shape our actions and therefore, have ethical as well as eco-ethical implications *vis-à-vis* not only humans but also other beings (ibid). An analysis of global injustice materialised in environmental conditions requires looking at these underlying reasons. Environmental injustices are products of power relations and power relations are products of discourse. These are all implications of knowledge, or so to say, discourse, building a bridge between critical discourse analysis and environmental justice.

3 Theory

The theoretical part of the thesis draws on the environmental justice approach combined with relevant notions from world system theories. I will start this section by discussing the theoretical starting point of this study, environmental justice, its usefulness as well as shortcomings with regards to this thesis, which is followed by a discussion of mining related environmental justice implications, particularly the threat of creating green sacrifice zones. I see the role of environmental justice in my argumentation as an alternative discourse commenting on some of the problematic implications of the green deal discourse. Acknowledging the shortcomings of environmental justice, namely the lack of analytical tools for global power relations, I will introduce complementary concepts from world system theories and political economy to better fit the global approach of this study. These include unequal ecological exchange and ecological debt. My argument is that a global analysis of the energy transition exposes environmental injustices, which follow the patterns of unequal ecological exchange. These then generate ecological debt between regions and have the potential to create green sacrifice zones, which are geographically divided between those benefiting from the energy transition and those producing the means for the transition. This complex is a demonstration of uneven global power relations, essentially rooted in discourse. This discursive origin of the power relations in question is further examined in the analysis later on.

3.1 Introduction to Environmental Justice

Environmental justice is a broad approach within political ecology research, which is rooted in localised experiences of environmental injustice, such as distribution of environmental goods and burdens between different social groups. In this thesis, I lean on environmental justice as an analytical framework, while acknowledging its rootedness in social movements. The underlying understanding in environmental justice is that the environment, its distribution and use produces conditions for social justice. Since the emergence of environmental justice (EJ) research, the field has expanded to issues, including e.g. climate justice (see: Roberts & Parks, 2007), a

wider perception of the environment in everyday life and indigenous perspectives. The latter of these includes notions, such as ecological unity and interdependence of all species. (Schlossberg, 2013).

Originally, the concept of environmental justice and theorisation around it evolved in the United States in the 1980s around the disproportionate distribution of environmental burdens between different social groups, especially racial communities (Bullard, 1990; Mohai et al., 2009; Schlossberg, 2013; Warnelius et al., 2015). Thus, the concept of environmental racism is closely linked with environmental justice, which has later been combined with notions of gender and class. The pioneering First National People of Color Environmental Leadership Summit (1992) defined the principles of EJ movement, including e.g. rights "to be free from ecological destruction"; to be "free from any form of discrimination or bias"; the "right to clean air, land, water, and food"; the "right to political, economic, cultural and environmental self-determination of all peoples"; and the right "to a safe and healthy work environment", which are all relevant for the case of mining extractivism. Mohai et al. (2009: 425) argue that the realisation of these principles would require dramatic transformations for states and companies towards democratic operating procedures.

Beyond the distribution perspective, environmental justice has later explored the concepts of recognition, participation and capabilities (Schlossberg, 2013). In practice these include aspects like "access to environmental resources, the right to participate in decision-making, and the recognition of alternate world-views and understandings of development" (Temper et al., 2015: 262). The practice of EJ research has also moved beyond merely documenting local inequities to analysing the underlying reasons behind them (Schlossberg, 2013), an exercise which I intend to do as well at the level of discourse. The expansion in environmental justice research has been characterised by horizontal expansion to cover varied issues of environmental injustice, as well as vertical expansion to global environmental justice issues and relations between different countries and regions (Walker, 2009; Sze & London, 2008; Schlossberg, 2013). My aim is to contribute particularly to the latter of these,

as I intend to look at the increasing metal and mineral extractivism as a phenomenon of ‘green economy' (Temper et al., 2015), fostered by the energy transition in the EU among other parts of the world. Environmental justice implications of extractivism are indeed a manifestation of systemic global power relations and certain similarities can be identified in cases around the world, despite local particularities (Mohai et al., 2009: 418). That is why a global perspective on environmental justice is appropriate in my analysis.

Traditionally, EJ research has focused on local case studies, which despite many valuable analytical inputs and awareness-raising, may overlook larger patterns and relations creating environmental inequalities regionally, nationally and globally (Temper et al., 2015; Swyngedouw & Heynen, 2003). Many environmental justice issues are, however, global in nature and intimately linked with global political economy. Referring to Robbins’ (2012) robust introduction to Political Ecology, Temper et al. (2015: 258) put it aptly by stating that a mine is not an isolated object but connected to webs of global economy through value flows, accumulation and injustices. Thus, they (ibid: 257) call for a systematic “enquiry into the politics, power relations and socio-metabolic processes surrounding environmental justice struggles” by identifying patterns within a larger political economy and consolidating “a more general theory of extractivism-related conflicts” (ibid: 261). This study aims to address this research gap by analysing the socio-metabolic processes of extractivism for the energy transition as consequences of global power relations rooted in discourse. Moreover, the notion of power calls for a discourse analytic approach, as discussed in the previous chapter.

One of the key features in environmental justice research is its rootedness in grassroot movements. Sze & London (2008) call this feature ‘praxis’, meaning that theory and practice must inform each other. Within the scope of this thesis, my analysis will focus on the global systemic level. That is why the grassroot experiences are largely missing, which is one of the limitations of this thesis.

3.2 Environmental justice as a discourse

Beyond a theoretical approach and a field of activism, environmental justice can also be analysed as a discourse. Since this thesis is informed by discourse analysis and social constructionism, it is important to note that environmental justice does not represent an objectivist model, but rather it is also a discourse, which brings in important and alternative notions in relation to the European Green Deal. The reasoning for choosing environmental justice as a theoretical approach is related to its role as an alternative discourse challenging the hegemony of market oriented green economy, which the European Green Deal essentially represents, as well as its usefulness in supporting my methodological choices. This is an important notion, since one of the central insights of discourse analysis is that we are not dependent on a *distinct* discourse but can identify unjustified assumptions within and injustices caused by the prevailing discourse and challenge it, which is also the aim of this thesis.

Drawing on discourse theory discussed in the previous chapter, environmental justice can be seen as an alternative articulation of social reality, which challenges the ideas of market oriented green economy on the ideas of just transition and sustainability. Environmental justice research actively participates in struggles for knowledge production and legitimacy by raising alternative knowledge challenging state and company actions (Temper et al., 2015). Environmental justice struggles are caused by unequal power relations in the hegemonic organisation of social metabolism (Porto et al., 2009 cited in Temper et al., 2015: 261). In the hegemonic struggle for a just transition, environmental justice movements have argued that the attempt to 'green the economy' is not enough to solve socio-environmental injustices (Temper et al., 2015: 273). Instead, in their alternative articulation of reality, only by reducing and restructuring social metabolism, democratising institutions as well as prioritising community-based needs can socio-environmental crises be solved (ibid). My analysis builds on this notion.

3.3 Extractivism and environmental justice

Sze et al. (2010) point out that manipulation of the environment for economic gain is one of the key areas of analysis in environmental justice research. Extractivism represents precisely such activity and touches upon numerous environmental justice issues, including water and soil pollution, health, evictions, loss of livelihoods and exclusion from decision-making (Lèbre et al., 2020; EEB, 2021). Beyond the documentation of such environmental injustices (see: Environmental Justice Atlas, 2023), extractivism can be seen as a pattern of wider global power relations within the global economy, further discussed later on. Both existing literature and actors in the civil society have suggested that extractive industries follow a tendency to expand their activities to remote areas rich in resources, and particularly indigenous and other minority communities are affected by this expansion (Climate Justice Alliance, 2023; Gedicks, 2001; Global Witness, 2020; Mohai et al., 2009; Schnaiberg et al., 2002; Zografos & Robbins, 2020).

Schnaiberg et al. (2002) have explained this development by arguing that the capitalist drive for profit, or what they call the treadmill of production model, results in increasing extraction from the limited pool of natural resources, eventually leading to expansion to indigenous and other minority or alternatively kept lands. In the treadmill of production, valuations of ecosystems are based on market valuation, neglecting biological and social valuations (ibid) as well as the carrying capacity of ecosystems and the finiteness of natural resources. Other scholars have explained the same phenomenon by using the concept of social metabolism (the energy and material throughput of the economy) (Fischer-Kowalski & Haberl, 2007), arguing that the ever expanding social metabolism of the global economy leads to ecological conflicts (Martinez-Alier et al., 2010). This position differs from what is suggested in green growth theories, where it is assumed that energy efficiency and technological innovation allows for economic growth to be decoupled from material use. Existing empirical evidence, however, does not support this assumption (Hickel & Kallis, 2019; Wiedmann et al., 2020). For example, Hickel & Kallis (2019) demonstrate that current projections show no evidence for absolute long-term decoupling on a global scale.

Looking more closely at the focus area of this study, the following section discusses environmental justice issues around extractivism for the energy transition in more detail.

3.3.1 Environmental justice complexities around the energy transition

Lèbre et al. (2020) have explored the social and environmental complexities around extracting energy transition metals (ETMs). With a detailed description, they point out that mining has many severe socio-environmental effects, including environmental degradation by poor waste management and altering the host environment, lack of consultation, displacement, human rights violations and risk of violent conflicts, which all can amplify pre-existing vulnerabilities (ibid; Bebbington et al., 2018; Global witness, 2020; UNSDSN, 2016). What is more, the mining sector is disproportionately strongly linked with human rights violations compared to other sectors, as the industry has continuously had the highest recorded number of killings of activists and contestants, particularly in Latin America (EEB, 2021: 18; Global witness, 2020: 50). A European Environmental Bureau (EEB, 2021: 24) report found out that even companies with strong due diligence policies are systematically associated with human rights and environmental justice issues. Lèbre et al. (2020) argue that addressing these risks by respecting workers, communities and the environment is a core aspect of a 'just transition'. Although 'just transition' is a central concept in the European Green Deal discourse as well, its meaning is different, as we will see in the analysis of this study.

When it comes to the case of energy transition, and this is key, the utilisation of renewable energy requires robust infrastructures and technologies for converting energy into electricity and storing the energy (European Commission, 2020[3]: 60). In fact, in its foresight study on critical raw materials, the European Commission acknowledges that "[t]he shift to low-carbon energy systems will imply massive changes in the raw materials requirements" (ibid: 61). Some of the most central energy transition metals and minerals include cobalt, rare earth elements, lithium, platinum and nickel, and their demand is expected to increase drastically or in some cases, even exponentially (Lèbre et al., 2020; Zografos & Robbins, 2020). In effect, the material footprint of renewables is significant and not as unproblematic as often

implied. For instance, the strategically important cobalt and lithium are used for batteries for electric vehicles and energy storage (European Commission, 2020[3]; Lèbre et al., 2020). Lithium reserves are geographically very concentrated as more than half of the world's lithium reserves are located in the dry sea flats in Argentina, Bolivia and Chile (Zografos & Robbins, 2020). Lithium production in Latin America has been expected to increase by 199 percent by 2025 (ibid: 545). Such market pressure increases not only explorations and extraction but also the risks related to them, including most importantly environmental, particularly water risks. As for cobalt, 70 percent of global cobalt resources are located in areas which Lèbre et al. (2020) classify as high to very high ESG (Environment, Social, Governance) risk zones. Similarly to lithium, the world's cobalt reserves are geographically concentrated, as the Democratic Republic of Congo hosts about half of the world's cobalt (Lèbre et al., 2020). There, cobalt mining has been associated with dangerous working conditions, child labour, problematic allocation of mining licences and links to civil war (Zografos & Robbins, 2020: 545; RAID, 2016). In the case of other more widely used metals, including copper, iron and nickel, similar risks, especially land disturbance, may increase as a result of the energy transition (Lèbre et al., 2020).

Lèbre et al. (2020) confirm that "Future ETM demand is likely to drive mining developments in these resource-rich countries, placing pressure on existing social and environmental contexts". Besides the direct environmental justice impacts of mining, the industry relies on intensive energy use and emits significant amounts of greenhouse gases (EEB 2021: 18; Lèbre et al., 2020), compromising the seemingly unproblematic environment-friendliness of renewables. Lèbre et al. (2020) acknowledge this complexity by highlighting the dual role of mining for renewables with both positive and negative effects. Indeed, climate change is a textbook example of environmental injustice, where emissions are disproportionately produced by some regions, while the most severe costs are experienced in many cases by different regions, leading to an intensification of existing inequalities (Roberts & Parks, 2007). Further, the capabilities to cope with the climate crisis (Mohai et al., 2009) and the ability to respond to it reflect these global inequalities. The aspect of response, such as the European Green Deal, brings in new challenges, however. Historically speaking, Europe along with the United States are regions with most responsibility for anthropogenic climate change (Hickel, 2020). Now, as the EU has taken steps

toward a significant - and needed - energy transition, the response in itself creates new inequalities through the expansion of extractivism. The situation raises a significant environmental justice concern if the same regions bear both the brunt of climate change and the negative consequences related to the response to it. Lèbre et al. (2020) note that this complexity and the dual pressure to both boost and scrutinise, or at least regulate the mining sector has the risk of hindering the energy transition.

Lèbre et al. (ibid) demonstrate that “mining development affects regions unevenly”, as there is a clear geographical divide in their risk analysis between the geographical Global South and North. Further, their ESG analysis points out that many of the countries with high risk profiles also have a large number of mining projects, creating cumulative risk conditions. Furthermore, these countries are economically dependent on extraction revenue, while the wealthier countries and regions, including the EU, rely strongly on their exports to make the energy transition possible (ibid). Lèbre et al. (2020) conclude that “large-scale deployment of low-carbon energy technologies will continue to drive social and environmental risk”. Their analysis, however, overlooks colonial histories and global power relations by underlining governance issues when it comes to risks related to mining. The following aims to address this shortcoming with the help of some useful concepts from Political Economy and World System Theories.

3.4 Political economy of green energy: From Green Sacrifice Zones to Ecologically Unequal Exchange

Green sacrifice zones, ecologically unequal exchange and ecological debt are useful concepts that bring relevant notions to this study, explaining the larger patterns of global environmental injustice. My discussion proceeds from green sacrifice zones as a specific negative consequence of the energy transition to larger global patterns of which they are a part of with the help of ecologically unequal exchange and ecological debt.

The accumulative and concentrated risks related to mining ETMs can lead to the creation of so-called green sacrifice zones (GSZs). GSZs refer to sacrificed ecological

spaces which contribute to the political economy of green energy (Zografos & Robbins, 2020). The idea draws on the concept of "sacrifice zones", which was originally used for areas polluted by nuclear weapon development during the Cold War and later also for areas suffering from chemical pollution. Zografos & Robbins define GSZs as areas and people "affected by the sourcing, transportation, installation, and operation of solutions for powering low-carbon transitions, as well as end-of-life treatment of related material waste" (ibid: 543). In practice this could mean different social, environmental, health and economic costs and their distribution between different social groups. GSZs are thus a result of shifting costs of economic production to third parties. Zografos & Robbins argue that Green New Deals could lead to this kind of cost shifting, green or climate colonialism and green sacrifice zones as a result of increasing pressure on material extraction in indigenous and other marginalised lands, particularly in the Global South. Climate colonialism in their definition means "domination of less powerful countries and peoples through initiatives that intensify foreign exploitation of poorer nations' resources or undermine the sovereignty of native and Indigenous communities in the course of responding to the climate crisis" (ibid: 543).

Mining for renewables has a particular risk of reinforcing the development of cost shifting and green sacrifice zones due to the severe socio-environmental impacts of extractivism, the high level of concentration of resources and the geographical gap between those benefiting and those bearing the costs. For instance, almost 50 percent of global cobalt reserves are located in the Democratic Republic of Congo in an area which is classified among the ten most polluted areas in the world while also being affected by the severe social risks related to cobalt mining (Van Brusselen et al., 2020: e159). The end products using cobalt, particularly electric vehicles, are however primarily used in wealthy countries, including the EU. Zografos & Robbins (2020) argue that such division traces back to colonial forms of knowledge, where entitlement to materials is associated with 'whiteness'. Further, this kind of extraction is justified as a response to climate change, following a colonial salvation rhetoric (ibid). This leads to a contradictory situation, where addressing a severe global challenge, climate change, is done at the cost of global justice, compromising the just transition. As a result, inhabitants of green sacrifice zones become displaced (physically or in health or livelihoods etc.) not by climate change itself but rather by the government-led response to it in the name of 'common good' (ibid), adding up to

the complexities around climate justice. Climate Justice Alliance (2023) raises concerns particularly for turning “low-income communities, communities of color and indigenous communities into sacrifice zones”, emphasising the core areas of environmental justice. Based on these notions, I argue following Mastini et al. (2021) that supply chain justice in the acquisition of materials for energy transition should be a core dimension of a just transition, and the lack of this perspective is a main shortcoming in the European Green Deal. Green sacrifice zones are not, however, a feature specific to the energy transition, but a materialisation of larger global power relations regarding use of natural resources. The concepts of ecologically unequal exchange and ecological debt help us to get a grasp of these patterns.

The theory of ecologically unequal exchange draws on the economic theory of unequal exchange (see e.g. Hornborg, 1998). According to the ecologically unequal exchange theory, there are asymmetries in the transfers of biophysical resources, in addition to those of market power in the global economy (Dorninger et al., 2021). These asymmetries reproduce global inequalities and geographically disproportionate distribution of ecological burdens (Wiedmann & Lenzen, 2018). Ecologically unequal exchange research has with the help of biophysical indicators identified global patterns which point to how wealthier countries have over-utilised the limited amount of global natural resources, resulting in economic prosperity while environmental degradation has been dislocated in the commons and particularly the Global South (Temper et al., 2015). The input-output modelling of Dorninger et al. (2021) provides empirical evidence for ecologically unequal exchange as a sustained feature of the global economy from 1990 to 2015.

Ecologically unequal exchange is closely linked with the extractive expansion and now more recently, to the energy transition. This is due to the severe environmental impacts of mining extractivism and the steeply increasing energy transition mining, leading to environmental impoverishment, while the resources are used for the European energy transition and consolidation of EU’s geopolitical power (see: European Commission, 2019). This proposition is supported by ecologically unequal exchange theory, as it suggests that resources necessary to economic growth and technological infrastructure (in this case energy transition and ‘green growth’) are more likely to be accessed by wealthy and powerful countries despite their possibly distant location (Dorninger et al., 2021).

Similar ideas have been explored by the theory of ecological debt which has particular value for environmental justice research and for this study. As Warnelius et al. (2015: 22) put it, environmental justice examines how "the distribution of ecological burdens follows general patterns of power distributions", and the concept of ecological debt allows for an application of similar analysis at a global scale. Born in Latin America in the 1990s, the concept of ecological debt speaks of cumulative historical injustices between the Global North and South (ibid; Temper et al., 2015). Bringing these two approaches together combines the notions of race, gender and class from environmental justice and geographical inequality between regions from ecological debt (Warnelius et al., 2015). As this thesis deals with global power relations, the focus will be on the latter of these, while acknowledging that race, gender and class issues may add up on the experiences of injustice.

3.5 Take-away from theory

Based on the theoretical discussion above, I argue that moving away from fossil fuels is necessary and inevitable (further speeded up in Europe by the Russian invasion of Ukraine), but not a silver bullet to addressing multiple socio-ecological crises. As one of the purposes of discourse analysis is to unveil unjustified assumptions within a discourse, my analysis scrutinises the Green Deal discourse which presents renewables as a largely unproblematic response to climate change. This view is simplified, neglecting the resource-intensity of these technologies if not accompanied with notable reduction targets in energy use, as well as the related environmental justice issues. Mining for the energy transition presents a complex case of environmental justice, where measures aiming at responding to climate crisis, which in itself is a materialisation of environmental injustice, create new environmental justices e.g. in the form of green sacrifice zones. As Kolinjivadi (2019) puts it "If the GND does not address the uneven patterns of where production and consumption take place then it threatens to derail "green" or energy-efficient transformations in the global South". He argues that the energy shift should go hand in hand with decolonisation of trade relations in order to avoid negative effects of extractivism. While the energy transition is a necessity, it should be accompanied by serious reflections about the resource-intensive lifestyle in the EU. Building on this

theoretical discussion, the following analysis aims to reflect these notions in the discourse analysis of EU publications.

4 Material and Analysis

As the material for this study, the European Green Deal communications are analyzed using Fairclough's critical discourse analysis as discussed in Chapter 2. In the analysis, I am interested in the relationship between the text (the EGD communications), and the social practice, the expanding extractivist sector. I aim to study what are the possible implications of the green deal discourse in the defined area of social practice. By pointing out how the European Green Deal discourse may reinforce the excessive increase in extractivism outside of the Union, I aim to underline the role and responsibility of the EU in mining ventures outside of its borders and related negative consequences of the energy transition.

4.1 Material

The material analysed in this study consists of communications and other publication by the European Union, mainly the European Commission. The most central text analysed is the communication from the Commission on the European Green Deal from 2019. This is the text that introduces the EGD and its key policy areas to EU citizens and other stakeholders. Since this is when the EGD was launched, paving a new direction in EU policies, it is a suitable text for analysis of social change, which is one of the main purposes of discourse analytical research. Moreover, the text explains and justifies the planned actions by the EU against the background of how environmental crises are discursively understood and interpreted by the EU. To complement this text, which does not explicitly deal with the question of acquisition of the energy transition metals, I look at the Critical Raw Materials for Strategic Technologies and Sectors in the EU Foresight Study (European Commission, 2020[3]), Critical Raw Materials Resilience Communication from EU institutions (European Commission, 2020[4]) and the Just Transition Mechanism (European Commission, 2020[2]). Compared to the EGD communication, these are more detailed texts and look into the realities behind what realising the goals set by the EGD would actually require. In other words, they reflect the social practice the discourse is producing. Furthermore, the Just Transition Mechanism gives us an understanding about how justice is understood in the policy framework and what is prioritised, since justice is after all a key aspect of the EGD discourse.

4.2 Context of the European Green Deal

Generally, the context of the European Green Deal (EGD) can be identified as the multiple ecological problems caused by human activities, which since the late 20th century have widely been discursively understood as threats (see e.g. Brundtland Commission, 1987). Perhaps the most notable of these in the public discourse has been climate change, which is also the main target area of the EGD. The discourse around these problems and concerns over them have been most vocally communicated by the scientific community (Wallace-Wells, 2019), accompanied by civil society and grassroot movements demanding for action against these threats. These discourses can be seen as alternative articulations of reality, challenging the hegemony of the prevalent production model of the economic system based on drastic exploitation of nature. Trippel (2020) argues that a clear discursive change around the perception of climate change and its seriousness can be identified after the publication of the IPCC Special Report "Global Warming of 1.5 ºC" in 2018. Trippel notes that after the report was published, "mainstream media outlets began communicating on the devastating consequences of surpassing the 1.5 ºC target". During the following year after the publication of the IPCC 2018 report, the Commission of the European Union launched its European Green Deal. In EU affairs, this shift in thinking about climate change is most visible when comparing the leadership of Commissioner von der Leyen to that of her predecessors (ibid). It was only with the European Green Deal that environmental issues became a key priority and mainstreamed in different policy areas after years of siloed approach.

What makes the 2018 report particular is its alarmist position *vis-à-vis* climate change, which was quite unorthodox for the previously cautious IPCC (Trippel, 2020). Despite the clarity of message about the threats of climate change during the previous decades, Wallace-Wells (2019: 155) claims that such an alarmist position had earlier been considered negatively. In practice this could be seen in who is attributed with research funding and who gets a say in advisory boards of political institutions (Hansen, 2007). The IPCC's report in 2018 was then seen as groundbreaking, given the non-radical reputation of the panel. This discursive change had been reflected in political discourses as well. Whereas before

environmental action was considered a “nice to have” in Trippel’s words (2020), it had now become a necessity for governments to address. Trippel goes on to argue that policy-makers “non-systemic approach and narrow focus” was due to a false dichotomy whereby the economy, particularly job market and the economic growth imperative were considered as higher priorities. This idea is indeed a false dichotomy as it neglects the dependency of the economic system on ecological systems (ibid) as well as detaches the discursive construct ‘the economy’ from the material reality of environmental crises.

Another alternative articulation of reality, which had in turn hindered effective action against climate change and environmental degradation is the climate scepticism discourse. Climate scepticism can be divided into epistemic scepticism, which questions the whole validity of climate change discourse, and response scepticism, which questions the purposefulness of climate action (Gökçin, 2019). Surprisingly, it is in fact the response scepticism that has contributed more to the lack of will to act against climate change (ibid).

The European Green Deal draws on many discourses, such as sustainable development, green economy (i.e. green growth) and environmentalism. Indeed, the EGD is an excellent example of a hegemonic struggle, as it aims to accommodate multiple competing discourses from many different interest groups, including environmentalists, response sceptics, the financial sector, agricultural sector, industries and people who rely on the use of fossil fuels, to name a few. What makes this hegemonic struggle particularly tangible, is the fact that the struggle takes place in the terrain of representational democracy, the European Union, where different competing discourses are subjected to voting and where elected representatives act promoting and impeding different discourses. Simultaneously, the struggle for votes affects the way decisions are carried out. The popular beliefs and discourses around climate change then “re-confirms the beliefs of, in particular, policy-makers” about what should or should not be done about climate change (Trippel, 2020).

Trippel (2020) argues “If we want to ensure the long-term growth and prosperity of our global economies, we must take the threats arising from climate change and environmental degradation seriously and fundamentally reform the way our economies operate.” While this statement is mostly justified, the question remains, does the European Green Deal actually do this; does it fundamentally reform the way

the economy operates. The following part focusing on textual analysis of the European Green Deal main communication (2019) aims to answer this question using CDA, with a normative focus on the environmental justice of the energy transition. Moreover, Trippel's statement includes an assumption that growth is possible to be maintained while effectively changing the course of environmental crises. As discussed in the previous chapter, empirical evidence regarding the relationship between economic growth and resource intensity of the production model challenges this position (Hickel & Kallis, 2019).

4.3 Analysis

As discussed above, the underlying problems concerning the global environmental justice of the EU's energy shift are not explicitly addressed in the EU's communications. Thus, the analysis aims to study what elements of the EGD discourse contribute to this problem and make it discursively possible. These include 1. The idea of green growth without a convincing attempt to down-scale energy and material consumption 2. The discursive understandings around 'just' transition and 'clean' energy and 3. EU's positioning towards other parts of the world and its responsibility for environmental problems. I analyse these notions in light of the empirical data discussed in the theory section.

The European Green Deal (EGD) intertextually draws on the original, British Green New Deal (GND) from 2008. The central idea of GNDs is to initiate a socio-environmental shift toward an ecologically sustainable and socially fair society. The EGD defines this goal in the main communication (European Commission, 2019: 2) as follows: "The EU has the collective ability to transform its economy and society to put it on a more sustainable path". The word 'transform' gives an idea of a dramatic change and an impression of a European Union aiming at a hegemonic intervention in the order of discourse. As a new articulation, the EGD is thus a hegemonic solution to an underlying political-discursive conflict of the past few decades, that is, maintaining a profit-oriented and resource-intensive economic model vs taking serious action against climate change and other environmental crises. There is a clear change in how central environmental issues are on the EU's agenda and how severe

they are understood to be in the EGD compared to the work of previous Commissions of the EU (Trippel, 2020). This message can be seen in one of the subtitles “Designing a set of deeply transformative policies” and the opening words of the Commissions EGD communication (European Commission, 2019: 2):

> It [The European Green Deal] resets the Commission’s commitment to tackling climate and environmental-related challenges that is this generation’s defining task. The atmosphere is warming and the climate is changing with each passing year. One million of the eight million species on the planet are at risk of being lost. Forests and oceans are being polluted and destroyed.

In these passages the reality of multiple environmental problems is firmly acknowledged. Besides climate change, also biodiversity loss, deforestation and pollution in forests and oceans are mentioned, giving a holistic look at the multiple concurrent environmental problems. Addressing environmental problems is said to be “this generation's defining task”, which will be done by designing “deeply transformative policies” and “reset[ting] the Commission’s commitment”, again consolidating the impression of a radical change. The change is portrayed as a pervasive one, which can be seen in statements like “All EU actions and policies should pull together to help the EU achieve a successful and just transition towards a sustainable future” (ibid: 19). Further, it is said that “The Commission has already set out a clear vision of how to achieve climate neutrality by 2050” (ibid: 4), communicating a high level of certainty and viability of the plan.

I will now textually analyse the very title of the European Green Deal, following Kolinjivadi’s (2019) decolonial commentary on Green New Deals. The title of EGD and GNDs in general draws attention to a discursively important notion, “What does it mean to be ‘green’?” as Kolinjivadi (ibid) puts it. This ‘greenness’ has become a widely used term in many different social domains, not only environmental policy or political thinking, but also and importantly in a wide range of economic activities, consumerism and lifestyle. It generally refers to an idea of environment-friendly practices but is in itself quite ambiguous and can be used for many kinds of activities. Hence, the word ‘green’ can be seen as a floating signifier, which different discourses, including the EGD, aim to fill with their own versions of meaning. Greenness is not

explicitly defined in the EGD, but the environmental action is generally described as the "Commission's commitment to tackling climate and environmental-related challenges" (European Commission, 2019: 2). This is planned to be done in practice by reaching net zero in greenhouse gas emissions by 2050 and by decoupling economic growth from resource use (ibid). One of the most central means to reach these goals is the energy transition, which will be discussed in later on in detail.

Moving on to the word 'deal', "A 'deal' on whose terms?" (Kolinjivadi, 2019). Kolinjivadi approaches the word by investigating "what the current "deal" is and why it must be fundamentally restructured". 'Deal' in GNDs refers to the 'social contract' aspect of the policy framework. In the EGD (European Commission, 2019: 2), this aspect is described as follows:

> At the same time, this transition must be just and inclusive. It must put people first, and pay attention to the regions, industries and workers who will face the greatest challenges. – A new pact is needed to bring together citizens in all their diversity, with national, regional, local authorities, civil society and industry working closely with the EU's institutions and consultative bodies.
>
> The European Green Deal launches a new growth strategy for the EU. It supports the transition of the EU to a fair and prosperous society that responds to the challenges posed by climate change and environmental degradation, improving the quality of life of current and future generations.

These passages communicate a strong, even a normative social commitment, with expressions like 'people first' and adjectives like 'just', 'inclusive', 'fair' and 'prosperous'. Later in the document (ibid: 3) the Commission claims "to put sustainability and the well-being of citizens at the centre of economic policy", giving an impression of a transformation in the economic system. Throughout the document, aspects of 'greenness' and 'social contract' are discursively tied together by referring to "a new path of sustainable and inclusive growth" (ibid: 2). Finally, the notion 'European' distinguishes the EGD from other GNDs. Calling it 'European' instead of the European Union's Green Deal consolidates an idea of the EU as the leading actor in Europe.

The following will investigate key elements of the discourse from the environmental justice perspective: marketisation of discourse, discourse around 'clean' energy, discourse around 'just' transition and the EU's positioning *vis-à-vis* other parts of the world.

4.3.1 Marketisation of discourse and discourse around 'green' economy

Fairclough's concept of marketisation of discourse (Fairclough, 1992; 1993) refers to a hegemonic project, where the spread of market discourses across orders of discourse have become "a driving force in the wider societal development" reaching into public institutions, among others (Jørgensen & Phillips, 2002: 87). This can also be seen in the European Green Deal discourse. For example, the EGD is referred to in multiple EU communications as a 'growth strategy'. The imperative of economic growth is persistent in the EGD discourse, but it is linked with adjectives like 'sustainable' and 'inclusive'. One of the key goals of the EGD is to decouple economic growth from resource use. This is an interesting discursive construction, as it allows economic growth to appear as a solution to environmental crises, or at least for these two to coexist. The introduction chapter of the EGD communication (2019: 2) is titled "Turning an urgent challenge into a unique opportunity" and in the Commission's press release (European Commission, 2020) on powering a climate-neutral economy it is said that this growth strategy is "a roadmap to make our economy sustainable by turning climate and environmental challenges into opportunities across all policy areas". Other solutions the EU suggests are tax reforms to "boost economic growth and resilience to climate shocks" (European Commission, 2019: 17). In other words, what makes it possible to see the response to environmental problems in such a positive light is the Commission's belief in turning them into economic opportunities. Escobar (1995) has even suggested that sustainable development discourse aims to save growthist economy, not the environment. A similar idea can be traced in the EGD too. Growth is given a new meaning; it is redefined as a tool to solve environmental problems. While growth can certainly provide some needed resources for the green transition, this idea entails an inherent conflict: growth itself requires material resources and produces emissions. And while green growth scenarios are theoretically possible, in light of empirical evidence they are rather a matter of belief.

The Commission sees great potential in global markets for low-emission technologies, sustainable products, and circular economy solutions (European Commission, 2019: 7), which could benefit the EU financially. 'Green' finance and investments play a key role in the EGD in the form of EU taxonomy, for instance. Here, the floating signifier 'green' is filled based on EU negotiations about what 'green' means in the order of discourse of finance (see: Trippel, 2020). These initiatives build on not only the EU's commercial interests, but also discursive ideas of 'green growth' and of the ability of market tools and technological innovations to solve environmental problems. In practice, this decoupling is planned to be done by "sustainable product design and mobilising the potential of secondary raw materials" (European Commission, 2020[4]), which by themselves do not seem convincing, considering the level of decoupling needed. The idea of a 'green growth' is justified by historical evidence on the EU's emissions (European Commission, 2019):

> The EU has already started to modernise and transform the economy with the aim of climate neutrality. Between 1990 and 2018, it reduced greenhouse gas emissions by 23%, while the economy grew by 61%.

However, this calculation overlooks outsourced emissions and cost-shifting related to European consumption. Besides emissions, a key problem in 'green growth' thinking is the lack of evidence about declining resource use. In its Critical Raw Materials Resilience Communication (2020[4]: 5), the EU refers to the OECD's forecasts according to which the "global material use will more than double" between 2011 and 2060, "despite improvements in materials intensity and resource efficiency and the growth in the share of services in the economy". For metals, the projected increase during the same timeframe is +150%. The increase in use of metals is highly relevant with regards to the energy transition and introduces one of the key contradictions in the EGD discourse.

Another element from market discourse in the EGD (European Commission, 2019) is speaking of 'natural capital'. Defining nature as 'capital' speaks of a marketised understanding in which the natural (and social) elements are referred to as 'capital', underlining an economic valuation and instrumentalist relationship to non-human nature. The idea of ecological services captures this instrumental relationship well

(ibid: 13): “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”. Here, life-sustaining functions are defined as “services”, giving an idea of a transaction. Consequently, the EGD still accommodates an instrumentalist understanding of the environment, based on ideas of separation of humans and nature as opposed to ideas of ecological unity. This can be seen in vocabulary like ability to ‘predict and manage environmental disasters’ (ibid: 18), emphasising managerial measures against environmental threats. As Kolinjivadi (2019) puts it, “It [GND] implies that environmental degradation is merely a symptom of bad management in an otherwise non-negotiable economic development model”.

As a result, managerial market tools play a central role in the EGD’s toolbox for addressing environmental problems. For example, the Commission proposes “developing standardised natural capital accounting practices within the EU and internationally” (European Commission, 2019: 17) for businesses and other stakeholders to manage environmental risks and mitigation opportunities. Again, market vocabulary and market logic are extended into managing environmental problems, whereby environmental externalities are compensated by pricing mechanisms (Sullivan, 2017: 228). Environmental disruptions are referred to as ‘environmental risks’ that should be managed and integrated into the financial system, similar to market risks. Here, Sullivan’s (2017: 228-32) analysis of the ontology of 'the green economy' becomes useful. The ideas of natural capital and decoupling stem from green economy ontology, which permits “different units of nature in different places and times to be exchanged for each other” (ibid: 230). In other words, environmental benefits and externalities are made into numeric units that can be moved and managed flexibly. This kind of thinking allows discursively to disengage economic activity from its *de facto* ecological effects. Accordingly, environmental damage is not reduced but it is in fact sustained (ibid).

These notions point out that the marketisation discourse is clearly visible in the EGD discourse. In practice they imply that market discourse is so pervasive that it constitutes a relevant way of giving meaning and understanding, in this case, non-human nature and environmental changes.

4.3.2 Discourse around ‘clean’ energy

The key role of the energy sector in producing emissions is acknowledged in the European Green Deal communication (2019: 6): “The production and use of energy across economic sectors account for more than 75% of the EU’s greenhouse gas emissions.” Energy production is thus a focal point in the EGD, and the idea of ‘clean’ energy acts as a discursively produced solution to the environmental problems the EGD aims to address. EU’s “Clean Planet for all” analysis envisions “the shift to a climate-neutral economy through the deployment of renewable energy generation and e-mobility solutions” (European Commission, 2020[3]: 9). By ‘clean technologies', the EU refers to e.g. solar panels, wind turbines, electric vehicles, and energy-efficient lighting (European Commission, 2023). The resource-intensity of a rapid deployment of ‘clean’ energy and technologies is hidden from the discourse, although it is later acknowledged in the Commission’s Foresight Study on Critical Raw Materials:

> The rapid deployment of renewable energy in the EU and worldwide will put some pressure on the supply of certain relevant raw materials used in PV systems. Some of them have a high supply risk and are defined as [critical raw materials] for the EU. (European Commission, 2020[3]: 39).
>
> The shift to low-carbon energy systems will imply massive changes in the raw materials requirements, due to the deployment of the technologies described above. (ibid: 61).

On specific technologies and materials the study mentions following forecasts:

> A critical aspect for the EU is that these volumes are not enough to satisfy the European demand for Li-ion batteries. As a result of the increasing introduction of EVs (EV), mobile electrical appliances (3C) and stationary decentralised energy storage systems (ESS), demand for lithium-ion batteries is expected to skyrocket yearly (> 30%) for the next 10 years. (European Commission, 2020[3]: 20).
>
> Based on the long-term decarbonisation scenarios for the scale-up production of the renewable generation technologies such as wind and solar PV, the demand for several materials will increase significantly by 2050. EU demand for the the raw materials used in wind turbines, in particular REEs in PMs, is expected to increase by up to six times in 2030

> and up to 15 times in 2050 in addition to current EU consumption in the most severe scenario. (ibid: 64).
>
> A renewable energy system is more than just renewable electricity production; it also requires technologies for energy storage, new infrastructure, automation and smart/digital technologies. (ibid: 64).

We can see here that the EU's "Clean Planet for all" analysis recognises the direct connection between the energy transition and the skyrocketing raw material demand, as well as the risk of replacing fossil fuel reliant economy with one reliant on raw materials:

> Using the mid-century models and scenarios of the EU's "Clean Planet for all" analysis, this study translates the shift to a climate-neutral economy through the deployment of renewable energy generation and e-mobility solutions into raw materials demand. (European Commission, 2020[3]: 9).
>
> The new industrial strategy for Europe proposes to reinforce Europe's open strategic autonomy, warning that Europe's transition to climate neutrality could replace today's reliance on fossil fuels with one on raw materials, many of which we source from abroad and for which global competition is becoming more fierce. (European Commission, 2020[4]: 1).

In light of these forecasts, it seems that despite the intended transformative changes, the very fundament of the economic system, the reliance on extensive exploitation of the environment, stays intact. Looking at the geography of energy transition metal (ETM) extraction discussed in Chapter 3, the reliance on the importation of the ETMs on the EU's behalf could then translate into cost-shifting of environmental burdens in the form of green sacrifice zones and ecologically unequal exchange.

Beyond the environmental aspect of renewable technologies, strategic and financial interests related to them are key to the EGD:

> EU industry needs 'climate and resource frontrunners' to develop the first commercial applications of breakthrough technologies in key industrial sectors by 2030" (European Commission, 2020: 8).

Accordingly, ETMs play a strategic role in the realisation of the EGD and thus a reliable access to them is high on the Union's agenda:

> Access to resources is also a strategic security question for Europe's ambition to deliver the Green Deal. Ensuring the supply of sustainable raw materials, in particular of critical raw materials necessary for clean technologies, digital, space and defence applications, by diversifying supply from both primary and secondary sources, is therefore one of the pre-requisites to make this transition happen. (European Commission, 2019: 8)
>
> It [the Commission] will work with global partners to ensure the EU's resource security and reliable access to strategic raw materials. (ibid).

The strategic importance of these resources for the EU is not a central topic in the EGD communication, but it is reflected in EU initiatives, including European Raw Materials Alliance and the EU's Critical Raw Material (CRM) list. Launched in 2020, the European Raw Materials Alliance is "dedicated to securing a sustainable supply of raw materials in Europe"..."[b]y bringing together all relevant stakeholders along strategic value chains" (European Commission, 2023). The CRM list is a regularly reviewed and updated list of raw materials based on a combined risk analysis of economic and supply risk factors. The purpose of the CRM list is to ensure the EU's "reliable and unhindered access to certain raw materials" through strengthening EU's competitiveness, fostering efficient use and recycling, increasing awareness, negotiating trade agreements, and developing research and innovation (ibid). Ensuring this "reliable and unhindered access" to strategic resources, largely located outside of the EU, resembles colonial ideas of entitlement to resources and patterns of ecologically unequal exchange. This is because the resources necessary to green economy and technologies are more likely to be accessed by wealthy and powerful countries despite their often-distant location (Dorninger et al., 2021). As we have seen, exporting these resources does little to benefit the local communities, but on the contrary, is associated with many environmental justice risks.

The race for strategic resources is justified by the green transition, stating that it is in fact a prerequisite for the transition to happen, while at the same time the link between intensifying extractivism and 'clean' technologies is recognised. This is a key inconsistency in the discourse. The importance of these materials is argued by their link to industry, modern technology, and benefits for the environment (European Commission, 2023). The European Commission website on CRMs states that "raw

materials are closely linked to clean technologies. They are irreplaceable in solar panels, wind turbines, electric vehicles, and energy-efficient lighting" (ibid). Here, we can see a discursive claim where 'clean technologies' are essentially equated with environmental benefits.

The Commission's CRM communication (European Commission, 2020[4]:) takes a more critical stance on the problems related to extractivism than the EGD communication and mentions the need for reducing material consumption:

> The EU's open strategic autonomy in these sectors will therefore need to continue to be anchored in diversified and undistorted access to global markets for raw materials. At the same time, and in order to decrease external dependencies and environmental pressures, the underlying problem of rapidly increasing global resources demand needs to be addressed by reducing and reusing materials before recycling them.
>
> The enormous appetite for resources (energy, food and raw materials) is putting extreme pressure on the planet, accounting for half of greenhouse gas emissions and more than 90% of biodiversity loss and water stress. Scaling up the circular economy will be vital to achieve climate neutrality by 2050, while decoupling economic growth from resource use and keeping resource use within planetary boundaries.

However, the need to reduce material usage or "keeping resource use within planetary boundaries" (ibid) are not convincingly reflected in key policies beyond circular economy initiatives, which by themselves are not sufficient. Furthermore, the Commission refers to the central issue discu in this thesis, the risk of cost-shifting environmental injustices related to the energy transition to other parts of the world:

> The OECD concludes that the growth in materials use, coupled with the environmental consequences of material extraction, processing and waste, is likely to increase the pressure on the resource bases of the planet's economies and jeopardize gains in well-being. Without addressing the resource implications of low-carbon technologies, there is a risk that shifting the burden of curbing emissions to other parts of the economic chain may simply cause new environmental and social problems, such as heavy metal pollution, habitat destruction, or resource depletion. (European Commission, 2020[4]).

Yet, this tension is not reflected in policies. Instead, the discursive construct of 'clean' energy together with green growth ideas allows for an ideological closure and a dissolution for the antagonistic tension between fossil fuelled profit-oriented economic system and effective climate action. This rearticulation implies that 'cleanness' or environment-friendliness of energy is first and foremost to be measured in greenhouse gas emissions, while material intensity and the origin of required materials related to the production of renewable technologies is overlooked. While renewable energy may be an efficient tool against climate change, a more integrated understanding of the multiple environmental problems, including biodiversity loss and pollution, is missing. Further, it implies that downscaling the EU's energy use or restructuring the resource-intensive economic system does not need to be high on the agenda beyond energy efficiency and circular economy, as long as fossil energy is replaced by a 'clean' one.

The extractive origin of clean energy technologies is not addressed in the EGD communication (European Commission, 2019), yet environmental problems related to extraction are recognised later in the document in the industry and biodiversity chapters:

> From 1970 to 2017, the annual global extraction of materials tripled and it continues to grow, posing a major global risk. About half of total greenhouse gas emissions and more than 90% of biodiversity loss and water stress come from resource extraction and processing of materials, fuels and food. The EU's industry has started the shift but still accounts for 20% of the EU's greenhouse gas emissions. It remains too 'linear', and dependent on a throughput of new materials extracted, traded and processed into goods, and finally disposed of as waste or emissions. (ibid: 7)
>
> The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services' 2019 Global Assessment Report 21 showed worldwide erosion of biodiversity, caused primarily by changes in how land and sea are used, direct exploitation of natural resources, and with climate change as the third most important driver of biodiversity loss. (ibid: 13)

Despite recognising that the expansive global extraction poses "a major global risk" as well as its connections to greenhouse gas emissions, biodiversity loss and water stress, extraction is not a central component of the policy framework nor mentioned in relation to renewable technologies in the main communication. The Biodiversity

Strategy commits "to address the main causes of biodiversity loss in the EU" (ibid: 13). Contradicting this commitment, biodiversity loss is mainly addressed through conservation initiatives although the main driver of it is, as recognised in the document, "resource extraction and processing of materials, fuels and food" (ibid: 7).

While it may be justified for the EU to concentrate its efforts on its own geographical area, the consequences of biodiversity loss are transnational and reflect global power relations, where the EU's share of the global pool of resources is significant (Wiedmann et al., 2020). Even though the importance of the environment is reaffirmed by strong statements like "All EU policies should contribute to preserving and restoring Europe's natural capital" (ibid), it remains unclear what it means in practice, bearing in mind that *all* policies should contribute. One of the concrete measures mentioned in the document is "increasing the coverage of protected biodiversity-rich land and sea areas building on the Natura 2000 network" (i.e. unique biodiversity zones protected by EU law) (ibid: 13). Nevertheless, the European Environmental Bureau report (2021: 26) points out that Natura 2000 areas have already been affected by mining for the energy transition in Sweden. Thus, the level of protection in these areas seem to be insufficient.

I will now move onto an analysis on the discourse around 'just' transition and the EU's positioning *vis-à-vis* other parts of the world.

4.3.3 Discourse around 'just' transition

The Just Transition Mechanism is described in the European Green Deal main communication (2019: 16) as follows:

> As part of the Sustainable Europe Investment Plan, the Commission will propose a Just Transition Mechanism, including a Just Transition Fund, to leave no one behind. The transition can only succeed if it is conducted in a fair and inclusive way. The most vulnerable are the most exposed to the harmful effects of climate change and environmental degradation.
>
> The need for a socially just transition must also be reflected in policies at EU and national level. (ibid).

Although this citation refers to the idea of climate justice, acknowledging that those most exposed are the most vulnerable, in addition to expressions like 'leaving no one behind' and 'fair and inclusive transition', the actual policies under the Just Transition Mechanism have a strong industry and employment focus and concentrate on those affected by the transition policies inside the EU, not by environmental problems themselves:

> The Just Transition Mechanism will focus on the regions and sectors that are most affected by the transition because they depend on fossil fuels or carbon-intensive processes. (ibid).
>
> It will also strive to protect the citizens and workers most vulnerable to the transition, providing access to re-skilling programmes, jobs in new economic sectors, or energy-efficient housing. (ibid).

Despite the importance of such efforts, the Just Transition Mechanism and the EGD in general do little for those directly affected by climate change and environmental degradation inside the EU and importantly, outside of it where the most severe effects of both climate change and response policies are experienced. In the EGD communication (2019: 21), the EU commits to "support a just transition globally", but this is not reflected in the policies. As Kolinjivadi (2019) argues, "For a GND to work however, it cannot be limited to discussions and action within the borders of a single country or region". This lack of credible global scope in the just transition mechanism is a key shortcoming of the EGD.

Since global justice is not a central topic in the EGD, an analysis on the EU's discursive positioning vis-à-vis other parts of the world is needed. In the European Green Deal communication (2019: 20), the EU recognises the global nature of environmental problems and consequently the need for a global response. The EU sees its role as a leading actor and an advocate in 'green deal diplomacy' "by setting a credible example", helping others to revise and implement climate action and "convincing and supporting others to take on their share of promoting more sustainable development" (ibid). The EU claims to "promote and implement ambitious environment, climate and energy policies across the world" with the means of "diplomacy, trade policy, development support and other external policies" (ibid).

Some of the concrete tools the Commission proposes are making the adherence to the Paris agreement a necessity for future trade agreements and using the EU's "expertise in "green" regulation to encourage partners to design similar rules" (ibid). Here, the EU takes the role of a guide-giver in the green transition, reflecting some colonial connotations of a developed adult guiding the developing child (Escobar, 1995). While the EU may indeed be a forerunner in 'green' regulation, the Union's level of consumption and the material footprint put into question the EU's role as a credible example. Further, it overlooks alternative ways of organising society in a more sustainable way. Moreover, the EU underlines its falling emissions, appealing for the responsibility for other regions. While this may be true and the importance of other regions' climate action is undeniable, this claim overlooks outsourced (and historical) emissions of the EU's, contributing to patterns of ecological debt, and the fact that EU's per capita emissions are still higher than those of e.g. India (World Bank, 2020). Thus, the calculation methods of emissions and other ecological burdens are never entirely neutral and unproblematic but can be used to underline certain aspects. Finally, in light of the material reality of resource acquisition for the energy transition the EU's attempt for policy coherence in the area of climate action does not seem credible.

The EU recognises its economic power in the EGD communication, as it claims to "use its economic weight to shape international standards that are in line with EU environmental and climate ambitions" (European Commission, 2019: 22). Speaking of "EU environmental and climate ambitions", the EU underlines its own agenda and own interpretation of effective climate action. As already discussed, EU's environmental goals are intimately linked with other interests, namely access to resources. Although the promotion of global climate action is well justified, it goes hand in hand with the EU using its leverage to safeguard access to key resources and by doing so, essentially maintain its resource-intensive economic system, based on outsourcing environmentally and socially harmful activities. In fact, in the Commission's Critical Raw Material Communication (20204: 15) the EU plans to use trade policy tools, such as "Free Trade Agreements and enhanced enforcement efforts" to "ensure undistorted trade and investment in raw materials in a manner that supports the EU's commercial interests". On that line, the Commission states:

> The use of EU external financial instruments, such as development cooperation, neighbourhood funding and the Partnership Instrument Policy Support Facility will help to leverage private investment, thus ensuring that mutual benefits are achieved and that EU companies can participate on a level playing field in projects taking place in third countries. (ibid: 16).

In the communication, the EU refers to some difficulties in setting up new critical raw material projects, including risks, costs, lack of incentive and financing among others. One of the mentioned reasons is "the lack of public acceptance for mining in Europe" (ibid: 14). This particular citation calls attention to some problematic notions. First, why is it that the public in Europe have difficulties in accepting mining projects? Does it perhaps have something to do with the socio-environmental costs of such projects? Second, is mining then more accepted by the public outside of Europe? In fact, the 'right to say no', or more precisely the lack of it, is referred to as one of the key problems in mining projects (EEB, 2021). This kind of thinking echoes some colonial ideas about European (or 'white') entitlement to resources outside of Europe (Zografos & Robbins, 2020: 545). The EU aims to safeguard its access to critical raw materials through trade policy tools, "undistorted trade and investment" supporting EU's commercial interests, energy and economic diplomacy and strategic partnerships with resource-rich third countries (European Commission, 2020[4]: 15). In these partnerships the EU sees its role as helping

> partner countries' to develop their mineral resources sustainably through supporting improved local governance and dissemination of responsible mining practices, creating in turn value added in the mining sector and drivers for economic and social development (ibid: 16).

Here, we can identify ideas from a developmentalist discourse whereby economic activities based on industrial resource extraction can be translated into economic and social development, mimicking the historical socio-economic development of the West. Again, the EU takes the role of a guide-giver, implying that with its support for improved governance, third countries can drive their socio-economic development in a field of industry that, however, lacks public acceptance inside the EU. In other words, the standards of responsibility seem to be different for different regions. The

Commission does acknowledge the key risks related to critical raw material extraction:

> High supply concentration in countries with low standards of governance not only poses a security of supply risk, but may also exacerbate environmental and social problems, such as child labour. Conflicts arising from or aggravated by access to resources are also a recurrent source of international tension. (ibid: 16).

In this global race for strategic resources, the EU distinguishes its partnership from those of other economic powers, by attributes like “sustainable” and “responsible” strategic partnerships (European Commission, 20204: 15). While the EU may indeed pay more attention to responsibility than its competitors, it does not eliminate the inherent problems related to the export-dependent nature of extractivism. These include exporting cheap unprocessed raw materials with low tariffs while processing takes place somewhere else, followed by exporting processed products with higher tariffs (EEB, 2021: 33). Such a model rooted in colonial histories prevents exporting countries from developing processing and diversifying their economies (ibid). These problems put into question whether the envisioned developmentalist path based on extractivism is possible under the current power dynamics of the world economy, and given the severe environmental costs, even a viable one.

5 Discussion and Conclusion

One of the key aspects of Fairclough's critical discourse analysis is to study what kind of consequences does the discourse have on social practice: does it maintain the status quo or accelerate social change? And what are the consequences regarding power relations? (Jørgensen & Phillips, 2002). Regarding the question of social change, the European Green Deal contributes to both social change and maintaining the status quo. One of the most significant changes in social practice is in the area of energy provision, a cornerstone of economic activities, which is to be reorganised entirely. Another change in social practice is the role environmental issues play in policymaking, which is a result of the discursive change around the perception about the severity of environmental threats. Consequently, all policies should at least in theory address these threats. As for maintaining the status quo, the analysis reveals that despite these changes in the discourse, many aspects of social practice are left intact.

The language of the EGD communicates a dramatic change, a total reset of all EU policies and there clearly are new directions in many key policies, including the shift to renewables, circular economy initiatives, new regulations (e.g. corporate sustainability due diligence and deforestation among others) and financial instruments (e.g. taxonomy). These changes alone, however, do not reflect the transformative language presented in the EGD communication. First, the basic logic of the profit-oriented economic system based on extensive use of environmental resources and consumption has not changed and could potentially even intensify as a result of the energy transition, questioning the credibility of 'green growth' scenarios. The reliance on fossil fuels is likely to be replaced by one on raw materials, further enhanced by the energy transition, making the transformation apparent rather than a pervasive one. Second, the EU's high level of reliance on imports in raw materials associated with severe socio-environmental costs is likely to intensify, contributing to patterns of unequal ecological exchange between regions, and in the case of mining of ETMs, to the creation of green sacrifice zones. Thus, the vision of a 'green economy' presented in the EGD can be seen as a 'passive revolution', where pursuit of gradual change is hindered by "power preserving strategies that continually fall short of what is needed" (Gills & Morgan, 2021). Based on the analysis, we may ask what is actually

being preserved and conserved in the European Green Deal? Following Escobar (1995), it can be argued that it is actually the economic system that is being saved from environmental crises in the green deal discourse, not the other way around. This can be seen rooted in the ontological separation of humans and beyond human nature and a disconnection between economic activities and their ecological effects in the discourse. Based on that, the discourse in fact turns ecological crises into economic opportunities and repurposes growth into a 'green' one. Here, the ambiguous floating signifier 'green' gets a new meaning.

In the discourse, renewable energy is given an attribute of 'cleanness' and it dissolves the tension between the needed action against environmental crises and the system that is producing them. By introducing 'clean' energy, both can in fact exist and more transformative actions in the social metabolism are not needed. Furthermore, the core of the environmental action is reduced to curbing emissions based on numeric calculations and movable units of nature, while other environmental problems, particularly biodiversity loss resulting from extractive activities is largely dismissed.

The analysis unveils some inconsistencies in the EGD discourse. In the discourse, there are multiple interests at play. In the global race for raw materials, ensuring the EU's unhindered access to certain resources is justified by the realisation of the green transition, while geopolitical, strategic and commercial interests play a key role. This leads to a contradictory situation where on one hand, the EU is well aware of the socio-environmental risks related to the expanding extractivism and on the other hand, it sees this expansion as a prerequisite for the green transition. Similarly, the EU does recognise the need to reduce material use but is also expecting a skyrocketing demand in critical raw materials. This inner conflict in the discourse is not addressed in policies beyond 'sustainability' initiatives, another ambiguous floating signifier in the discourse. Moreover, environmental injustices related to this quasi-colonial race for resources are largely overlooked, which can be seen as a continuation of colonial ideas of entitlement to resources and naturalised understandings of the Global South as a resource provider. This complex reproduces ecologically unequal relations between regions, as it is the wealthy that have access to key resources needed for growth and key technologies, while communities and countries of origin benefit in a limited way. Beyond that, colonial ideas are visible in

the discourse in the role the EU takes as an inherently good example and a guide-giver in green regulation and climate action, supporting partner countries towards a developmentalist path and overlooking alternatives. Further, the EU admits using its economic weight in shaping international environmental standards so that they are in line with its own agenda. By doing so, the EU uses international environmental policy as a tool to consolidate its global power.

This thesis carried out an explanatory critique of the European Green Deal from a global environmental justice perspective. Based on this approach, I argued that the just transition mechanism or at least some kind of similar policy should extend to a global understanding of justice, considering the EU's share of both historical and current emissions (including outsourced emissions) as well as resource and energy consumption, colonial history and the EU's heavy reliance on importation of extracted resources. Evidently, the EU cannot solve all problems globally and the focus on its own territories is understandable, yet the lack of a credible global perspective is ahistorical and inefficient, considering the global and integrated nature of environmental problems. My aim is not to question the transition to renewables as such, as it is no doubt an inevitable and needed step for moving away from an economy powered by fossil fuels. Rather, I aim to highlight that our understanding of the green transition is highly discursive. The discursive understandings of 'green' economy, 'clean' energy, and a 'just' transition may conceal the sustained resource intensiveness of the 'green' economic system, the unequally distributed environmental justice issues related to 'clean' energy production, and the lack of global perspective in the 'justness' of the transition to renewables.

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