Carbon colonialism:
How forest-related carbon removal projects in the Global South reproduce colonial power structures

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Summary

Current efforts to limit global warming are falling short and forest-related carbon dioxide removal (CDR) projects are increasingly relied upon by states to reduce greenhouse gases in the atmosphere. CDR in the forest sector encompasses reforestation, reduced deforestation, afforestation, as well as silvicultural investment and sustainable forest management. The term carbon colonialism was introduced to describe CDR-projects as a new variation of colonialism by using climate policies to reproduce power structures that allow for the exploitation of the Global South. Under this term, CDR-projects have been criticised for promoting continued overconsumption, placing the burden of the resulting negative environmental impacts on the Global South, and reproducing historically oppressive systems with colonial dynamics. As forestry is mentioned as a priority in terms of adaptation and mitigation in achieving the Paris goals in around 50% of the Nationally Determined Contributions as updated in 2021, the number of CDR-projects on an international level will increase in the coming years and it is therefore crucial to consider these justice-related problems.

This paper unveils and criticises power structures that are present in the discourse on CDR-projects and spaces for action by conducting a Postcolonial Critical Discourse Analysis (PCDA) of the UNFCCC annual reports, COP session documents, as well as related COP documents from the UNFCCC platforms REDD+ and Climate Action, retrieved from the UNFCCC website in the period of 2015 to 2021, yielding a sample of 231 texts. Postcolonial theory is aimed at uncovering issues of oppression, inequality and fighting for equal access to resources and power internationally. This is combined with Critical Discourse Analysis (CDA), a research strategy focused on highlighting power imbalances and injustices in textual discourse and how these are reproduced and perpetuated. The insights from this research reveal that carbon colonialism is present in the discourse on CDR-projects as most projects take place or are planned in the Global South and there is an overemphasis of its potential positive effects and relative ignorance of its potential negative effects and environmental justice issues. There is currently still limited

political liberation of formerly colonised countries and addressing this in international climate discourse is a first step in challenging these power inequalities and advancing the cause of environmental and social justice.

Keywords; carbon dioxide removal, carbon colonialism, justice, postcolonialism, discourse

2

Table of contents

4

Tables

Figures

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Preface

In my first year of Master's, Prof. Dr. Frank Biermann, Dr. Carole-Anne Sénit, a group of my fellow students and I set up the Decolonizing Sustainability Study Group out of our interest to engage with subjects related to decoloniality in our sustainability research. In this way, I was introduced to the main streams and topics in this research area, and this sparked my interest to also write my thesis about a topic related to this. After some discussions on different topics, I decided to focus on forest-related CDR-projects as these were still quite unknown to me and are expected to see a massive increase in relevance and execution in the coming years. The connection between the more technical focus of CDR-projects themselves and the implications for social and governance issues fits well with my interdisciplinarian background in my bachelor's as well as my Master's.

I would like to thank my supervisor Prof. Dr. Frank Biermann for his help and feedback throughout the research process. Secondly, I want the express my appreciation for Dr. Carole-Anne Sénit for offering her time and interest as the second reader of this thesis. Lastly, I would like to thank all my peers for offering guidance and feedback throughout the writing process.

List of abbreviations

AFOLU	Agriculture, forestry, and other land use
AGFC	African Green Finance Coalition
CDA	Critical Discourse Analysis
CDM	Clean Development Mechanism
CDR	Carbon Dioxide Removal
CER	Certified Emission Reductions
COP	Conference of the Parties
EIG	Environmental Integrity Group
EU	European Union
G77 & China	Group of 77 and China
GHG	Greenhouse Gasses
IPCC	Intergovernmental Panel on Climate Change
ITCC	International Tropical Timber Council
LCIPP	Local Communities and Indigenous People Platform
LDC	Least Developed Countries
NDC	Nationally Determined Contributions
PCDA	Postcolonial Critical Discourse Analysis
REDD+	Reducing Emissions from Deforestation and forest Degradation
SDG	Sustainable Development Goals
SFM	Sustainable Forest Management

1. Introduction

1.1 Problem definition

1.1.1 CDR and net-zero Glasgow COP26

Current efforts to limit global warming to 1.5 °C or a maximum of 2 °C are falling short and the planned climate actions are so far inadequate to reach this goal (Allen et al., 2018). The focus has therefore shifted increasingly to geoengineering solutions to reduce CO_2 stocks in the atmosphere or to alter radiative energy budgets (Lawrence et al., 2018). To achieve the goals of the Paris Agreement, net-zero CO_2 emissions needs to be achieved in the period 2050 to 2070 and net-negative emissions are probably required after (Parson & Buck, 2020). Many countries started looking into net-zero emissions by 2050 policies after the Paris Agreement, in which a need for stronger mitigation action was highlighted (IPCC, 2013). These policies are aimed at decarbonising the economy by reducing emissions as much as possible and offsetting the remaining greenhouse gas (GHG) emissions using solar geoengineering or carbon dioxide removals (CDR) (Pye et al., 2020). Around two-thirds of the global economy is currently covered under net-zero policies with pledges made by governments, cities, regions, and corporations (Fay et al., 2021).

CDR is included in the IPCC models to achieve 1.5 °C or maximum 2.0 °C temperature rise but has not received more practical or systematic considerations before the introduction of net-zero policies in 2021 and at the COP26 (IPCC, 2022; Figure 6). CDR in the forest sector encompasses reforestation, reduced deforestation, afforestation, as well as silvicultural investment and sustainable forest management (SFM) (Cornelis Van Kooten, 2020). There is currently insufficient research to determine the effectiveness of CDR-projects (Withey et al., 2019), but they are already incorporated into many Nationally Determined Contributions (NDC) under the Paris Agreement, with some countries relying on Agriculture, Forestry, and Other Land Use (AFOLU) projects for up to 25% of their targets (Cornelis Van Kooten, 2020; Grassi et al., 2017). At the Glasgow COP26 a declaration was released which was signed by 141 states,

defining the AFOLU sector and forest-related CDR as a crucial factor in counteracting the imbalance created by anthropogenic GHG emissions (COP, 2021).

1.1.2 CDR-projects and carbon trading

In the Kyoto Protocol, the first international protocol that aimed to limit and reduce GHG that entered into force in 2005, the main mechanism defined for reducing emissions was a market driven mechanism called emissions trading (Bachram, 2004; UNFCCC, n.d.). GHG emissions are defined as a commodity by the creation and trading of permits to pollute that can be generated through emission reductions or investments in reduction schemes, such as AFOLU projects (Bachram, 2004; UNFCCC, 2021a). Even though the carbon trading scheme under the Kyoto Protocol has expired, an altered version of an international carbon market was introduced in the Paris Agreement (UN, 2015), and there are many private carbon offsetting schemes in place. Carbon offsetting has been criticised based on the fact that this mechanism allows for rich countries to emit more than their fair share, appropriating the atmosphere and its capacity to absorb GHG emissions in the process (Hickel, 2020b). Furthermore, it transfers the responsibility of mitigation and sequestration from the affluent countries that are the big polluters to the countries where the projects are executed which are mostly located in the Global South (Ervine, 2012). The availability and feasibility of large-scale CDR-projects in the Global South is often assumed in negotiations and policies, often without consideration for the effects on social and environmental conditions on a local level (Carton et al., 2020).

The term carbon colonialism was introduced by Ereker (2000) in a study on the involvement of a Norwegian company that acquired land in Uganda with the goal to plant a forest and to sell the carbon credits to Norwegian industries. The term has been used to describe carbon related projects as a new variation of colonialism by using climate policies to reproduce power structures that allow for the exploitation of the Global South (Bachram, 2004). For reforestation and afforestation projects, this mainly concerns tropical areas because these are found to have the most potential for sequestering carbon in plants and soil (Tyrrell et al., 2009).

9

1.1.3 Problem definition

CDR-projects are at risk of violating human rights when the local communities and ecosystems are not considered, with possible impacts on food security, the depletion of water and energy supplies, soil degradation and land grabs (Adelman, 2017). Due to the large scale of most CDR-projects, these impacts can be significant (Schneider, 2019). Land grabs can be defined as acquiring the control of copious amounts of land for the purpose of extraction, resource control or commodification at the expense of local communities (Baker-Smith & Attila, 2016). There has been growing evidence that human rights violations related to CDR-projects in the Global South are already taking place, with the most known examples being the displacement of poor and Indigenous communities due to tree plantations projects (Carton et al., 2020; Ervine, 2012). Furthermore, the benefits from these projects are often unevenly distributed and mostly benefit only a small, and in general a wealthier, group of locals (Parson & Buck, 2020).

Carbon offsetting has been criticised due to the capitalist focus on increasing consumption, which has been one of the main causes of the environmental crisis in the first place (Ervine, 2012). Adelman (2017) describes the continued transgression of planetary boundaries due to excessive consumptions levels and energy use and states that "the risk is that geoengineering is a merely predictable extension of the hubristic mastery [of the planet] that has led to climate warming" (p. 133). CDR solutions thus do not challenge the destructive consumption ethic currently in place and do not offer a solution for this root cause, only symptom control (Ervine, 2012).

1.2 Societal and scientific background

1.2.1 Societal background

Even though there are negative sides to CDR-projects, a significant increase is still necessary to achieve the sequestration of the amount of carbon as defined in the NDCs and bridge the current situation to a zero-emissions society. As most larger goals and pledges to forest-related CDR were set in 2021, now is the window of opportunity to investigate the issues associated with these projects as to implement them

as sustainable and just as possible. Lastly, without reflection on power relations, CDR-projects are at risk to reproduce historically oppressive systems with colonial structures as well as being ineffective in contributing to the Sustainable Development Goals (SDGs) when not considering the side effects of CDR-project, such as, amongst others, reducing inequalities and promoting sustainable consumption.

1.2.2   Scientific background

AFOLU projects as a mitigation option are included in most NDCs that were submitted for the Paris Agreement and make up around a quarter of planned emission reductions, moving forests from being a source of anthropogenic emission to a net sink in 2030 (Grassi et al., 2017). In the 2021 NDC synthesis report, almost 50% of all NDCs refer to forest being an adaptation priority, with foci such as increasing and maintaining forest coverage to 42% of global land area, and 55 % of the Parties considering forestry as a priority area in mitigation policies (UNFCCC, 2021b). Some Parties consider the effects of forest-related projects on Indigenous people and local communities in their NDC, but it is not said which ones they consider, how many nor is it mentioned what the overall progress is towards achieving forestry goals (UNFCCC, 2021b). Cornelis Van Kooten (2020) investigated the mitigation potential of forest and concluded that 900 million ha of land can be reforested or afforested, resulting in a possible reduction in future temperatures of more than 30% in the most optimistic scenario. However, he stresses that AFOLU projects take a long time before the potential of carbon capture is realized and this does not fit in with the time frame that is needed to combat the urgent problem of climate change.

In February 2022, the IPCC Impacts, Adaptation and Vulnerability Report of Working Group II for the Sixth Assessment report was published (IPCC, 2022). In this report, there is a significant increase in discussions on forest-related CDR and its potential positive or negative effects as compared to previous Assessment reports. When approaching the ecological dimension of CDR, afforestation, especially on large scales, can have negative effects on biodiversity, water balances, and the erroneously marking of open ecosystems as degraded and suitable for afforestation, resulting in degradation of ecosystems. The potential negative social effects that are mentioned are the risk of maladaptation and malmitigation,

11

including climate injustices, displacement of local communities and their access to land for food production and ecosystem services, negative impacts and increased inequalities for Indigenous communities, and violent displacements. The report indicates that it is essential to include local knowledge into the projects to target where forest interventions are most beneficial and to avoid harm, as well as the integration of state and private investments for the long-term viability, and the recognition of material as well as non-material benefits that SFM brings.

The carbon trading scheme under the Paris Agreement is a slightly adapted continuation of the one as set up under the Kyoto Protocol. Bachram (2004) has been one of the first to connect the critique on the carbon trading schemes with the concept of carbon colonialism and has paved the path for further research in this area. They have condemned the trading scheme for not combatting the actual root of the problem, which is the use of fossil fuels and increase of energy use, and instead exacerbates environmental and social injustices. Bachram (2004) describes not combatting consumption levels in the Global North as follows: "Responsibility for over-consumptive lifestyles of those in richer nations is pushed onto the poor, as the South becomes a carbon dump for the industrialised world." (p. 11). It is discussed in the paper that large-scale tree plantations were set up in the Global South with destructive effects such as biodiversity loss, water table disruption, and pollution from herbicides and pesticides, as well as excluding marginalised and Indigenous communities from the resources they depend on for their livelihood. Only projects managed by official parties, such as states and companies, qualify for emissions trading, whereas forests managed by local communities do not. This indirectly promotes neo-colonial land grabbing practices for monoculture plantations. Bachram (2004) concludes: "Emissions trading therefore becomes an instrument by means of which the current world order, built and founded on a history of colonialism, wields a new kind of "carbon colonialism." (p. 19).

The first noteworthy continuation in the scholarship about the relation between offsetting, carbon colonialism and overconsumption is the paper by Ervine (2012). They mention that even though

12

northern leaders recognise their role in global warming due to their industrial development and the resulting exploitation of resources, serious action to combat the causes are still lacking. Carbon offsetting does not combat mass consumerism and places the burden of dealing with the negative effects on the Global South. This fortifies historic unequal power relations where resources and people from the Global South are exploited in a neo-colonial pattern.

1.2.3 Gap in literature

As can be concluded from the literature discussed, some work has been done on the relation between carbon offsetting schemes and the notion of carbon colonialism. However, these papers were all published before the Paris Agreement was adopted and do not specifically investigate recent AFOLU projects and carbon colonialism. Since the focus has shifted to net-zero policies and the explosion in the amount of CDR pledges in the last two years, it is vital to now research how this has shifted the discourse on this topic. Calls from Indigenous people and voices from the Global South have increasingly urged the UNFCCC for the consideration of the potential of carbon colonialism resulting from carbon trading schemes, but it has so far not been discussed in other UNFCCC discussions or documents (UNFCCC, 2022b). Some references are made to potential power asymmetries and benefits and burden sharing in the 6th Assessment Report, but it remains to be seen whether these are taken up in international political discourse on climate change. A postcolonial view on UNFCCC documents and the negotiations that led to their creation can help to uncover power structures on a global scale and their effects on policy creation.

1.3 Research questions and aim

Based on the literature gap and the increasing societal relevance of this topic, the research question is defined as follows:

In what ways are colonial power dynamics present and reproduced in climate

negotiations on forest-related carbon dioxide removal projects in the period 2015-

2021 and how has this influenced the implementation and effects of these projects?

To be able to analyse this discourse, Postcolonial Critical Discourse Analysis (PCDA) has been chosen as the research approach. PCDA is a combination of postcolonial theory and the method of Critical Discourse Analysis (CDA), integrated among others by Sanz Sabido (2019). They describe that postcolonial theory is focused on power imbalances resulting from (post)colonial conditions and structures that are reproduced and perpetuated in modern societies. CDA is a research strategy that aims to highlight power structures and how these are reproduced in media discourse. It is argued that the use of language and the socio-political context are connected and that asymmetrical distributions are reflected and sustained in language (Fairclough, 1995). The processes around the use of language and the creation of discourses veils the reality of socio-political structures through the self-reproduction of commonly used language that is considered as 'normal' or 'natural' (Couldy, 2008; Fowler et al., 2019). As the goals of the two overlap, postcolonial theory offers a more theoretically grounded framing to contextualize CDA in research that is focused on post-colonial phenomenon (Sanz Sabido, 2019).

The research question can be answered by looking deeper into the topic using the four related sub-questions. All sub-questions are connected to steps in the research framework (Figure 2), which is elaborated upon in chapter 3. The first sub-question is: 'What is the historical context of global negotiations on CDR-projects from 1992 (adoption of UNFCCC) to 2021 (COP26) and what actors can be identified in this field?'. This sub-question aims to create an overview of the historical knowledge on this topic to contextualize the subject.

The main results section consists of two sub-questions. The second sub-question is: 'What are the most frequently used terms in literature to describe CDR-projects and the Global South, how often are they used in the sample texts and are there changes over time?'. This question aims to identify trends over time in topics related to this discourse. The third sub-question is: 'Can processes of Othering be identified within the discourse on CDR-projects?'. Othering is a concept in postcolonial theory that refers to the processes in which Others are created in a discourse, who are considered to be different or less

than the those that hold power. This concept is further discussed in chapter 2. This sub-question creates an overview of the discourse as well as analysing it using the concept of Othering.

Based on the findings of the previous sub-questions, the result of sub-question four, 'How can the findings from the analysis be explained using PCDA?', is to place the results in light of PCDA. Lastly, the fifth question is: 'How do the findings relate to broader debates in postcolonialism and what are possible ways to counteract power inequalities in the negotiations on CDR-projects?'. The results of this research are placed in the broader societal and theoretical context to be able to give recommendations to counteract inequalities and issues in CDR-projects.

The aim of this research is to give insight into the negotiation process on the planning of CDR-projects as well as their role in the climate goals at a global level and define whether elements of carbon colonialism can be identified in this discourse. Postcolonial theory is used to analyse the findings and offer a critique on the current situation. Carbon colonialism is a concept that has been used in the literature in the past, but no research has yet been done about more recent discourses and whether these issues are still prevalent in international negotiations on CDR and climate action. By identifying whether the problems that are known to be related to CDR-projects are reproduced in current debates and the high number of net-zero pledges, negative effects can be prevented or counteracted before the projects take place in order to minimise harm to communities and ecosystems.

2. Theory

In this chapter, postcolonial theory is further elaborated upon and its relationship with the concept of carbon colonialism is explored. Afterwards, the main concepts that are used in this research are defined and connected to relevant literature. These concepts are then embedded in the conceptual framework and their connections are explained.

2.1 Postcolonial theory

Postcolonial theory is a type of critical theory, where a critical theory is defined as a theory that "maintains a non-dogmatic perspective which is sustained by an interest in emancipation from all forms of oppression, as well as by a commitment to freedom, happiness, and a rational ordering of society" (Bronner & Killner, 1989, p. 1). Critical theory is focused on investigating and criticising power structures, oppression and what is presumed to be the objective truth (Agyepong, 2019). Critical theory is especially relevant to use in qualitative research, since it produces research that illuminates the experiences of disadvantaged groups in a way that does not further oppress or marginalise them (Winkle-Wagner et al., 2019).

The methodologies used in critical inquiry are aimed at addressing issues of oppression from historical, economic as well as socio-political perspectives, considering gender, race, class, disabilities, sexual orientations, and the intersectionality that exist between these elements that make up diverse identities (Pasque & Pérez, 2016). Because of the colonial nature of the issues related to forest-related CDR that are rooted in these historical, economic, and socio-political forms of influence, taking a critical approach to the discourse is appropriate. The goal is to bring about social change, justice, and equity, and changing the status quo to combat inequalities (Winkle-Wagner et al., 2019). This is a relevant approach for the analysis of forest-related CDR-projects because many plans are being written for projects that are not yet executed and issues related to CDR can still be prevented or improved at this stage.

Postcolonialism was defined by Young (2001) to involve all nations in Africa, Asia and Latin America that are in a situation of subordination to Europe and North America and a resulting inequal economic position. Most of the theoretical foundations and work for this theory has been done in the second half of the 21st century, but its approach and findings remain relevant to this day. The theory of postcolonialism criticises these inequalities and continues the anti-colonial struggle by fighting for the equal access to resources, well-being, and power of diverse cultures (Young, 2001). Postcolonial critique combines a consideration of the history as well as the present from the perspectives of colonised societies and people, defining the contemporary social and cultural impact and working towards the liberation from historical oppressive structures (Sardar et al., 1993). Postcolonial theory has brought to the fore the considerations of the interconnectedness of issues about race, nations, ethnicity, and migration with cultural production and representations of these issues therein (Moore-Gilbert, 1997). It is focused on the social, political, economic, cultural, and psychological experiences of the regions and people that have been colonised and examining, analysing, and critiquing colonial power structures (Agyepong, 2019).

Postcolonial theory seeks to engage with different forms of emancipatory politics, contribute to achieving goals such as equal access to resources, challenging all forms of domination, and encourages the articulation of collective forms of cultural and political identity (Young, 2001). A postcolonial critique on the discourse on CDR can contribute to achieving these goals in the implementation of future projects. An interdisciplinary approach allows for defining effective political interventions by combining various sources of information and creating "connections between different forms of intellectual and engagement in the world today" (Young, 2001, p. 11).

2.1.1 Colonialism and the environment

The process of colonialism has been harmful for the environment, resulting in species extension, exploitation of natural resources, pollution, deforestation, and the plantations of crash crops, of which the effects are still felt to this day (Anjum, 2021; Huggan & Tiffin, 2008). Huggan & Tiffin (2008) argue that "operation of the European empires both initiated and depended upon a globalism that still provides the

17

economic, communicative and, at least to a degree, political foundation for the highly diverse

interconnections grouped as 'globalization' today" (p.2). Development as defined as by the European

standard is considered as the natural goal and the only way forward, for which the SDGs have been

repeatedly criticised (Potter et al., 2012; Ziai, 2016). This is often referred to as the development

paradigm. As colonised countries provided their colonisers with raw materials that fuelled the European

industrialisation in the past, they are now subjected to land grabs for CDR-projects which reproduces the

exclusion from resources and profit experienced by the local people (Adelman, 2017; Huggan & Tiffin,

2008).

2.1.2 Postcolonial theory and carbon colonialism

In the current day, the world operates according to an economic system that was developed and is still

mostly controlled by the Global North (Hickel, 2020a; Young, 2001). This continued dominance has effects

on the political, cultural, economic, and military power in the world and is rooted in the colonial era

(Gellner, 1993). Nkrumah (1965) has argued that independence is only a theory, because the new states are

still trapped in the economic systems that are directed from outside the country and the implications that this

has for political policy. This phenomenon is defined as neo-colonialism. CDR and offset trading have been found

to uphold these neo-colonial elements that obscure the geopolitical nature of the distribution of emissions

through a carbon market (Lohmann, 2008). The postcolonial lens is therefore still relevant as an approach

to contemporary societal phenomena and CDR specifically.

Carbon colonialism is a critical view on the appropriation of land and resources in the Global South

with the goal of sequestrating carbon and can be classified as a contemporary issue that is characterised

by the power structures that are present in international economic systems. Within this research,

postcolonial theory is used to assess to what extent colonial power structures exist and are reproduced

in climate negotiations on CDR. A focus on the role of actors from the Global South and their

representation, or lack thereof, is central within this theory. One of the premises of postcolonial theory is

that colonial structures are still reflected and reproduced in current institutions and this research is aimed

18

at testing this hypothesis. One of postcolonialism's commitments is to develop new forms of theoretical work that allow the researcher to engage and contribute to ideological and social transformation, as this research aims to do through giving recommendations on normative action at the end (Young, 2001).

2.2 Concepts

2.2.1 Global South

Many terms have been used to describe the regions outside of Europe and North America that are mostly low-income and often marginalised culturally and politically, such as The Third World, developing countries, and the periphery (Dados & Connell, 2012). These terms have been criticised for creating an idealisation of the developed countries and by using the term developing countries, it is suggested that it is necessary for these states to strive to fit into the mould of developed countries (Potter et al., 2012). Dados & Connell (2012) describe the term Global South as a shift from the focus on development or differences in culture to a focus on geopolitical relations of power. It is not merely a term to refer to 'developing' countries, but "It references an entire history of colonialism, neo-imperialism, and differential economic and social change through which large inequalities in living standards, life expectancy, and access to resources are maintained." (Dados & Connell, 2012, p. 13). Due to the focus on geo-political power structures and the colonial and imperialistic notions embedded in the discourses on development that fits with the focus of PCDA, this term is used throughout this research. It should however be noted that the established use of terms in the UNFCCC is developed, developing and Least Developed Countries (LDCs).

2.2.2 (Post-)Colonialism

Colonialism is broadly defined as the subjugation of one people over another (Young, 2001). The European colonial expansion was accompanied with the development and spreading of the capitalist system based on economic exchange (Ashcroft et al., 2000; Young, 2001). Post-colonialism refers to the period after liberation of colonies, but also to the effects of this colonization on cultures and societies (Young, 2020). Postcolonial critique is, as Young (2001) describes it, "the product of resistance to colonialism and

19

imperialism" (p. 15). It both refers to postcolonial in the temporal sense as well as the continuation and reproduction of power structures of economic and political domination under the capitalist system (Young, 2001).

Historically, colonialism was focused on the extraction of resources from the colonised countries or the permanent settlement of the colonisers in the colonised country, establishing the global outreach of western capitalism in the process (Young, 2020). After World War II, more and more states achieved independence, but the economic influence and control of the coloniser were maintained, resulting in what is called neo-colonialism (Nkrumah, 1965). Gramsci (1971) discussed that a shift occurred from the colonisers having a hegemonic position enforced by military power to one enforced by civil society, where the ruling class was established on a political, economic, cultural, and ideological level. In this situation, the local ruling class makes up "an elite that operates in complicity with the needs of international capital for its own benefit" (Young, 2001, p. 45). This phenomenon where only a small group of local elite benefit from the foreign economic activity has also been observed in CDR-projects in the Global South (Parson & Buck, 2020).

The focus on increased consumption in offsetting markets has been criticised by many scholars, and already finds its roots in early postcolonial discussion. Nkrumah (1965) argues that the unsustainable demands of western living standards and the resulting social and class conflicts were elevated to an international level, resulting in the international division of labour. In this way, he continues, foreign capital is not invested in local economies to support development, but for the exploitation of the formerly colonised countries, increasing the gap between the rich and poor countries. The idea that development was the way forward after the anti-colonial struggles was based on the condition that countries had economic agency, but the institution of a global capitalist market and the transposition of European concepts and practices without consideration for local cultural conditions resulted in failure and took agency away from the Global South (Young, 2001).

2.2.3 Discourse and representation

Foucault (1971) describes a discourse as a bounded area of social knowledge about the world, which is subjective, and the understanding thereof is created through the discourse itself. Discourse determines what statements can be made, what rules apply, what classifications there are, and who has the power to change or uphold them (Ashcroft et al., 2000). Discourse joins power and knowledge, for controlling what is considered knowledge results in having the power to decide what is known and in what way, especially over the ones that do not possess this knowledge (van Dijk, 2001). Colonial discourse is about the relationship between the coloniser and the colonised based on the assumption that the coloniser's culture is considered to be superior (Young, 2020). The practice of colonial modernity does thus not solely exist of military and economic strategy, but also the generation of a specific historical discourse of knowledge that is associated with political power (Said, 1978). Discourse demonstrates that forms of knowledge are constructed using certain kinds of languages that are loaded with cultural assumptions and the discourse thus becomes an ideological production of texts produced from an array of institutions, disciplines, and geographical areas (Said, 1978). For language to be regarded as true, it should conform to a language and paradigms that encompass specialized knowledge that is approved of within the discourse (Foucault, 1971).

Texts are regarded as an interactive social product in discourse analysis, where it interprets and produces languages within a specific situation (Young, 2001). Calvet (1974) defined a theoretical framework for the analysis of language in colonial situations where the discourse as maintained by the state reinforces ideological structures. This includes the value system of colonialism that favours the language and culture of the coloniser over those the colonised. The Eurocentric knowledge production is seen as the only legitimate manner of knowledge production, which has resulted in a power distribution that favours the Global North (de Sousa Santos, 2018). A discourse is formed and defined by rules and conditions that operate on and form the concepts and objects that it constructs, and discourse analysis is the identification of these conditions (Young, 2001). Main questions for analysis are therefore who is

21

making the statements, and who has the legal, institutional, and professional status to be allowed to occupy the discursive site where the statements are made (Young, 2001).

Actors that are engaged in a discourse are not entirely powerless with regards to their own representation, but also influence the discourse themselves. Agency is the ability for a marginalised individual to act freely and to initiate action without being limited or steered by the construction of their identity (Ashcroft et al., 2000). When related to colonialism, it encompasses the ability of post-colonial subjects to act, to engage or resist imperial power (Ashcroft et al., 2000). Representation is "the production of meaning through language" (Hall, 1997, p. 16) and happens continuously as people attach meaning to a description, portrayal, symbols, depictions, and imaginations. When looking at the discourse through this lens, Global South actors need to have sufficient agency to participate meaningfully in negotiations and contribute to the representation of themselves as well as the topics being discussed.

The concept of the Other is recurrent in postcolonial theory. In *Orientalism*, Said (1978) makes a distinction between the Orient, countries considered as belonging to the East, and the Occident, the Western countries. He discussed information about the Orient is filtered through a system of knowledge that filters the Orient for Western consciousness. The Orient is thus spoken about, and it is not considered to be of importance whether the information about the Orient is accurate, but more so whether it fits within the discourse that was created about the Orient. Said's research into the Orient can be seen as forerunner of the Other, a concept that was introduced later by Spivak (1985) that is more frequently used in postcolonial theory. The term Othering refers to the process of colonial discourses that creates Others, which are considered to be different or less than those who hold power (Agyepong, 2019). Over time, this process of Othering is mainstreamed through the use of discourse and representation, to the point that the people defined as Other will define themselves as such. This is a tool that allows for the reproduction and maintaining of power structures in a discourse (Agyepong, 2019).

As discussed in the introduction, carbon colonialism is the appropriation of resources in the Global South to create carbon offsets to be sold to countries, companies, and individuals to enable the continuation of overconsumption in the Global North. The concept of carbon colonialism is closely tied to the concept of environmental justice, which addresses the inequitable distribution of environmental benefits and burdens that exist along and cocreate issues of social inequalities (Schlosberg, 2013). Ashcroft et al. (2000) describe that these issues can be observed in neo-colonial structures of appropriation of land and ecosystems in the Global South for the benefit of multinational companies from the Global North. Based on the neo-colonial structures of CDR-projects, it is expected that focus on CDR-projects is a continuation of status quo which allows continued emissions and exploitation of resources in the Global South. This allows for the justification of overconsumption in the Global North as well as shifting the burden of lowering the carbon stocks in the atmosphere to the Global South, with resulting issues regarding land grabbing, ecosystem integrity, and human rights.

2.3 Conceptual framework

In Figure 1, the conceptual framework is displayed based on the concepts defined above. It is established that to reach the Paris goals, the implementation of CDR-projects is necessary to a certain level. However, when not considering the potential negative effects on local communities and international power and economical systems, these projects risk producing issues that are related to the concept carbon colonialism. Carbon colonialism influences the position of the Global South in the international political and economic arena as well as the potential benefits and burdens of these projects on a local level. The Global South is influenced by the representation and participation in international negotiations on climate change, as well as influencing their own representation and participation in these discourses, if they have sufficient agency to do so. Better representation and participation of the Global South can help improve the implementation of CDR-projects in order to reduce issues related to carbon colonialism. The representation and participation of Parties is researched through analysing the discourse on climate

23

negotiations through the lens of the theory of post-colonialism, which is also guiding for the discussions

of carbon colonialism and the position of the Global South within international climate negotiations.

Figure 1

Conceptual framework
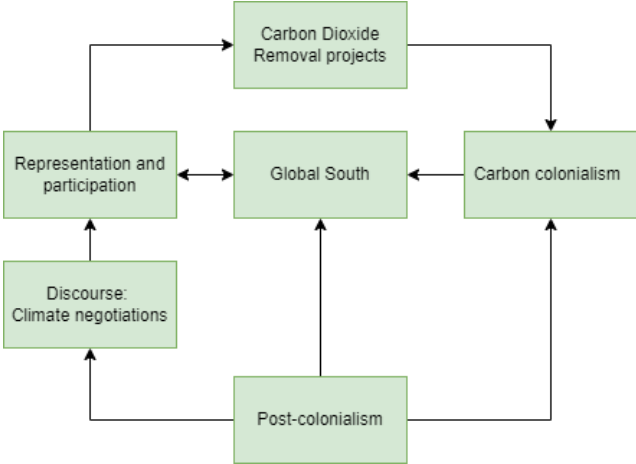
3. Research design

In this chapter, the research framework is introduced and explained, as well as connected to the sub-questions. As most CDR-projects are still in their preparation phase and the relation between carbon colonialism and CDR-projects has not been researched yet, this study has an exploratory character. The data collection is discussed, both the quantitative and qualitative methods are elaborated upon, and the PCDA is further elaborated upon. Lastly, the reliability and validity of this research is touched upon.

3.1 Research framework and sub-questions

PCDA is a method based on the Discourse-Historical Approach to CDA introduced by Wodak (2009) and adapted by Sanz Sabido (2019). It is divided into six steps, as illustrated in Figure 2.

Figure 2

Research framework, adapted from Sanz Sabido (2019)
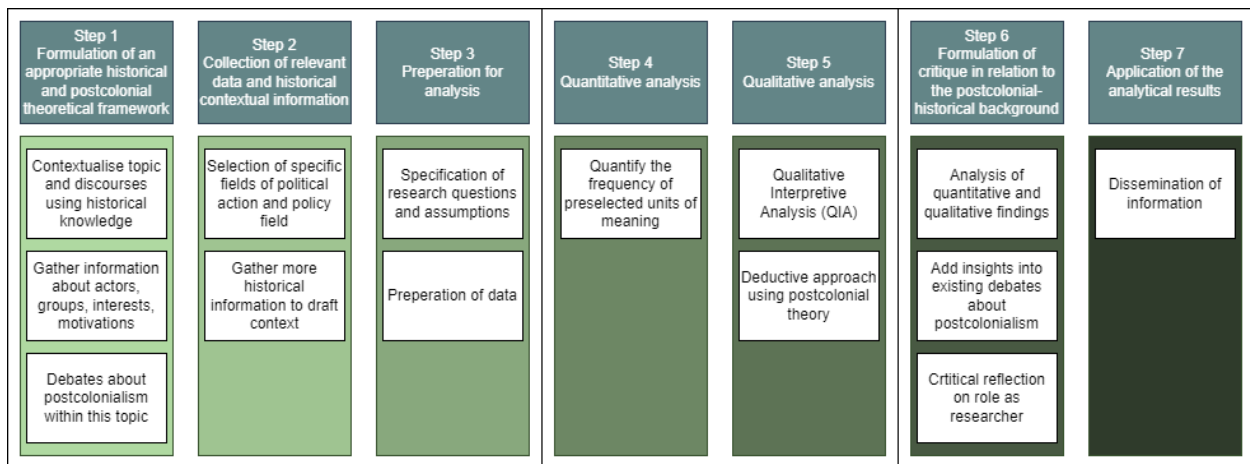
The first two steps make up the orientation phase of the research. Firstly, a formulation of a theoretical postcolonial approach and an appropriate historical framework was needed. Postcolonialism has a rich theoretical background and contesting meanings exist (Sanz Sabido, 2019). This debate should be highlighted to find the most appropriate approach for the topic of CDR-projects and their context, as has been in the theory section. The historical contexts and their effects on the present-day political arena are discussed under the first sub-question (Table 1) by doing desk research into the international climate

governance landscape starting from the adaptation of the UNFCCC in 1992 up until the COP26 in 2021. The context is especially important, as postcolonial theory is "everchanging and contextual. To operate politically, its impacts should be considered in relation to specific conditions and the particular moment." (Young, 2001, p.11). The relevant actors that were found to be mentioned often in the data sample are discussed as well. History has had a defining role in the configurations and power structures in the present and its effects are still felt to this day on a societal, cultural as well as political level and postcolonial theory allows for making connections between past and present politics (Young, 2001).

Secondly, the specific field of political action and policy was specified, and the relevant data was collected. Looking at the political field as a whole is necessary because discourse is characterised by a dialectical relation between the discursive event and the elements of the situation, the institutions that are involved, and the social structures that frame the field (Fairclough et al., 2011). The political field that is discussed in this research is the international climate discourse under the UNFCCC, including the COP, annual reports, and the UNFCCC platforms that are relevant to forest-related CDR.

Steps three and four make up the analysis phase. Postcolonial structures in global climate negotiations are a complex social problem and it is therefore advised to use a multi-method approach to create a thorough understanding (Piazza & Wodak, 2016). Sub-question two addressed the quantitative analysis, where the terms that are frequently used in discourse on CDR-projects and the Global South were counted in the data sample. Changes over time in the usage of terms were identified using a time-series approach. The preselected units were defined using the literature on both CDR and postcolonial theory. The terms and their logical variations were counted and put into Excel to create graphs and identify trends over time. After this, sub-question 3 (Table 1) dove into whether processes of Othering can be found in the discourse on CDR-projects. This was done by conducting a qualitative analysis using the deductive method of Qualitative Interpretative Analysis (QIA), which is further discussed later in the chapter.

The last two steps encompass the critical reflection on the results and the formulation of normative critique. The critique was based on the findings of the quantitative and qualitative analysis and comes forth by answering sub-question 4 (Table 1). The critique must add insights into postcolonialism in relation with the studied context (Sanz Sabido, 2019) and this was addressed in sub-question 5 (Table 1). The possibility of value-free science is rejected in CDA as science is always part of and influenced by social structures, making science socio-politically situated (van Dijk, 2001). The critical stance of the PCDA method requires reflexivity in the research and on the context and is addressed in a critical reflection in the discussion chapter (Agger, 1991). Lastly, to make a broader impact, the results are to be disseminated to reach the targeted audience.

Table 1

Sub-questions and related steps

	Sub-question	Research framework
1.	What is the historical context of global negotiations on CDR-projects from 1992 (adoption of UNFCCC) to 2021 (COP26) and what actors can be identified in this field?	Step 1 + 2
2.	What are the most frequently used terms in literature to describe CDR-projects and the Global South, how often are they used in the sample texts and are there changes over time?	Step 3
3.	Can processes of Othering be identified within the discourse on CDR-projects?	Step 4
4.	How can the findings from the analysis be explained using PCDA?	Step 5
5.	How do the findings relate to broader debates in postcolonialism and what are possible ways to counteract power inequalities in the negotiations on CDR-projects?	Step 5

3.3 Data collection and analysis

The sample of texts was gathered from the UNFCCC website and the related UNFCCC platform sites. First, all UNFCCC annual reports were gathered, as well as the COP meeting notes and all COP related documents of relevant UNFCCC platforms. Platforms were either excluded because they do not have content related to CDR or do not have documents that are related to the COP, Reducing Emissions from Deforestation and forest Degradation (REDD+), and Climate Action were eventually defined as being

relevant for CDR as well as being related to the COP. The full in- and exclusion criteria are included in

Appendix A. The time frame of the data sample is 2015, when COP 21 took place and the Paris Agreement

was adopted, to 2021, the year of COP 26 in Glasgow. In total, 231 texts were analysed. The data sample

for the year 2020 consists of only two documents and is thus negligible compared to the other years due

to the cancellation of the COP because of the COVID-19 pandemic.

3.3.1 Quantitative analysis

For the quantitative analysis, preselected units of meaning were defined using literature on postcolonial

theory and CDR and counted to identify usage of terms over time. The goal of this analysis was to create

an overview of how often the terms are used in documents to assess how lively the discussions on these

topics are, as well as to identify trends over time. The categories and their terms are displayed in Table 2.

For the categories concerning the Global South and carbon colonialism, terms are only included when the

terms refer to relevant thematic subjects and the full criteria list can be found in Appendix B.

Table 2

Categories and terms for quantitative analysis

Category	Terms
CDR	Emission* removal GHG emission* removal Greenhouse gas* removal Carbon removal Carbon dioxide removal CO_2 removal Carbon sink Carbon sequestration
Forest related CDR	Reforestation Afforestation Reduced deforestation Silvicultural investment Sustainable forest management
Global South Note: only when referring to relevant thematic subjects, see appendix B	Global South Developing countr* Least developed countr* Least-developed countr* Third World
Carbon colonialism	Appropriation Land grab

Note: only when referring to relevant thematic subjects, see appendix B	Responsibility Justice Power Human right Agency

3.3.2 Qualitative analysis

QIA is a method of qualitative research often used to explain social phenomenon through the usage of categories that are systematically interrelated. For this research, the deductive approach to QIA was used (Figure 3), meaning that the analytical framework is derived from an existing theory. The main concepts from theory were defined as the categories and indicators for the degree of prevalence of the concept as the codes. The representation of actors in the media can be explored with a postcolonial lens to see who appears to benefit from the representation, how actors are framed, and who is not represented at all, making them 'invisible' in the discourse, and how the conflict is contextualized (Sanz Sabido, 2019). The process of coding is iterative, meaning that there was repetitive interplay between the collection of data, the theory that is used, and the analysis of the data (Cho & Lee, 2014). When the coding was exhaustive, the categories were compared across cases. The coding process was done in NVivo, a qualitative data analysis software.

Figure 3

Procedure for a deductive approach to qualitative contents analysis (Cho & Lee, 2014)
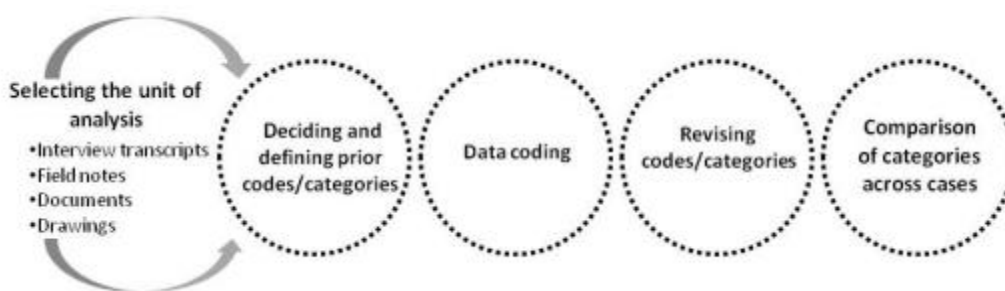
The categories and codes used in the QIA are displayed in Table 3. The first selection of terms was defined based on the desk research done for the introduction and theory chapter. During the coding process, codes were added that came forth from the data sample, which are displayed in bold text in Table 3.

Firstly, the categories of actors and historical context are based on Sanz Sabido (2019) approach to PCDA. The specific codes in the actor category are a combination of codes that are seen in other analyses as well as the personal prediction of relevant codes within the context of this research. The historical context category was taken out, as there were no references to this in the data sample.

Carbon colonialism, as defined in the introduction, includes critiques on lang grabbing, the appropriation of resources, and the transfer of responsibility. As these are all related to environmental and social justice, the code of justice was also added to this category. Several other codes were added throughout the coding process to assess the presence of carbon colonialism in the data sample, namely investments in the forest-sector, whether the local context was considered in the setup of the projects, and whether power dynamics were discussed. Furthermore, there were discussions in the data sample on whether the Global North was taking their responsibility, what the responsibilities were of the Global South in climate action, and critiques on current consumption patterns and the need for increased action and pledges of net-zero policies. The discourse is more likely to portray colonial aspects if the issues and topics in this category are not discussed or only to a limited extent, as this indicates a lack of consideration of these issues.

The category CDR-projects was first divided into content about the implementation of projects, possible negative or positive effects, and technical aspects of CDR-projects. Possible negative effects have been briefly discussed before and include the violation of human rights, depletion of resources, soil degradation, land grabs, and the uneven distribution of economic gains. Positive effects include the contribution of CDR-projects towards the Paris climate goals, co-benefits that can contribute to the achievements of the SDGs, the improvement of water, soil, and air quality, reduced impacts of extreme weather events, poverty reduction, increased ecosystem resilience, and the reversal of biodiversity loss (Honegger et al., 2021). An overrepresentation of positive effects and ignorance or limited discussion on potential negative effects indicates a higher risk of carbon colonialism.

Multiple other codes were added to this category during the process. Firstly, REDD+ projects and mentions were coded separately, as well as UNFCCC agreements that were relevant for CDR, NDCs that encompasses CDR, the goals and potential of CDR-projects that were set up, as well as references to carbon markets and other related initiatives. Lastly, statements on CDR not being a suitable solution for the climate crisis and the necessity of CDR in combatting the climate crisis were added during the coding process. The effects of COVID19 on climate action was added as a separate category.

Codes in the category of the Global South were not defined beforehand in order to minimise the researcher's bias in the search and definition of this category. During the research process, three codes were defined. Firstly, all references to CDR-projects in the Global South were coded, as well as all references to financial mechanisms for climate action in the Global South. Lastly, some mentions were made to minimising the potential adverse effects of climate change and climate action on the Global South. If most or all CDR-projects are found to take place in the Global South, this is an indication that the issues related to carbon colonialism are more likely to be present. However, an inclusive, equitable and just discussion on financing and preventing adverse effects indicate a lower chance of the occurrence of carbon colonialism.

The category of participation was divided in two statements, namely 'Global South has the agency to speak' and 'no participation of Global South'. The code that refers to statements that the Global South should be included was added during the coding process. To uncover processes of Othering, the code of instances where the Global South is discussed as the Other was defined, as well as when no distinction was made between the Global North and South. Several references were made in the sample to the need for equal consideration of the Global North and South and this code was also added. Furthermore, the representation and consideration of Indigenous peoples was included as well as instances where the Global South was specifically mentioned, but in a neutral manner that did not fit with processes of Othering.

Table 3

Defined categories and codes

Category	Codes
Actors	**Art** **Civil society** and NGOs **Communities** Countries and/or persons **Individuals and consumers** **International and intergovernmental organizations** **Sub-national authorities** **Media** **Policy makers** **Private sector** (business, **investors**) **Scientific community** **Youth**
AFOLU sector	**Emissions from the AFOLU sector**
Carbon colonialism	Land grabbing Appropriation of resources Transfer of responsibility Justice **Investments** **(Non-)consideration of local context** **Power** **Global North (not) taking responsibility** **Global South responsibilities** **Change (needed) in consumption patterns** **Increased action needed or net-zero policies**
CDM	**CER and carbon market**
CDR Projects	Implementation - **Barriers to implementation** Possible negative effects (social, ecological, economical) Possible positive effects (social, ecological, economical) Technical aspects **REDD+** **Carbon market** **Other related initiatives** **Goals and potential of CDR** **UNFCCC agreements on CDR** **NDCs** **CDR is not a suitable solution** **Necessity of CDR**
COVID19 effects	
Global South	**CDR in the Global South** **Financial mechanisms** **Minimizing adverse effects on Global South**
Participation	Global South actors have agency to speak

	No participation
	Global South should be included
Representation	Global South as the Other
	Equal consideration of Global North and Global South
	No distinction made between Global North and Global South
	Consideration of Indigenous peoples
	Specific consideration of Global South (neutral)

3.3.3 PCDA

By conducting the PCDA, insights were generated into colonial power structures that are still present and reproduced in the international climate discourse on CDR-projects. By placing the findings into the broader context as well as in current debates about postcolonialism, it can be assessed how the found structures have influenced the implementation and effects of CDR-projects. This is especially important because instances of human rights violations as well as ecological damage have been associated with CDR-projects. Postcolonialism is a theory that offers the critique of current practices to allow intervention through the insertion of alternative knowledges into the current power structures and combat the domination of Western knowledge (Young, 2020).

3.4 Reliability and validity

The validity of the research was ensured through triangulation of the sources as well as the methods. Triangulation is considered as the strategy in qualitative research to improve the validity by converging information from various sources to create a comprehensive understanding of the research topic and its complexity (Carter et al., 2014). Furthermore, extensive notes were written throughout the analysis and coding process to be able to justify the defined themes and categories after the analysis has been finished. This is referred to by Sandberg (2005) as a researcher's interpretive awareness. It is not possible to be completely free of interpretations and bias and this should be acknowledged and explicitly dealt with. By doing so throughout the research process, the reliability is increased, and the critical reflection is more thorough.

4. Historical context

Research into CDR has been criticised for not taking into account the historical context and lessons learned from over 30 years of negotiations and projects on carbon sinks and removal (Carton et al., 2020). If there are references to past experiences, it often solely focuses on technical aspects, while research from the social sciences about the politics and governance, as well as the justice dimensions and complexity of socio-ecological systems is largely ignored (Carton et al., 2020). In this chapter, a brief overview is given on the historical context of forest-related CDR and relevant actors within this field are identified.

4.1 The start of international environmental governance

The Framework Convention of 1992 is focused on reducing GHG emissions and does not mention CDR, but it is not ruled out that the "stabilization of greenhouse gas concentrations in the atmosphere at a level that would avoid dangerous anthropogenic interference with the climate system" (UNFCCC, 1992, p. 3) cannot be partially achieved through the removal of GHG gasses. There are references in Article 4 to "addressing emissions by sources and removal by sinks" (UNFCCC, 1992, p.4), as well as the aim to conserve, enhance, and promote sustainable management of sinks, including forests (UNFCCC, 1992). In conclusion, even though there not yet any specific references to CDR, the importance of carbon sinks was incorporated in the Framework Convention.

4.2 Kyoto Protocol and REDD+

In the Kyoto Protocol, which was signed in 1997, only a limited role was attributed to forest-related CDR due to the scientific uncertainties related with this strategy and its effectiveness (Carton et al., 2020; Vonhedemann et al., 2020). The industrialised countries were required to reduce their emissions and one way of achieving this was by participating in the Clean Development Mechanism (CDM) (UNFCCC, 2022e). CDM projects were aimed at reducing or removing emissions and mainly took place in developing countries, which allowed them to sell Certified Emission Reductions (CERs) (Boyd et al., 2008). Forest-related projects were allowed under the CDM, but in practice only a small fraction of activities was forest-

related (Vonhedemann et al., 2020). CDM was a market-based policy approach and has helped shape the present carbon market (Vonhedemann et al., 2020).

The negotiations on the inclusion of carbon sinks in the CDM was a highly political process and has been accused of partiality, which was aggravated due to the overrepresentation of scientists from the Global North (Carton et al., 2020). Negotiations on sinks took place throughout the 1990s and afforestation and reforestation was eventually recognised as a CDM activity in 2002 (Boyd et al., 2008). Most CDM projects took place in the Global South, and CDM has been criticised repeatedly for placing the burden of the required work to achieve emissions reduction and removal on the Global South (Vonhedemann et al., 2020). A point of critique on CDM was that industrialised countries could essentially pay off their responsibility for their emissions by investing in CDM projects, which only sporadically took place within their own countries, while continuing business-as-usual (Carton et al., 2020).

REDD+ was introduced in 2007 and was incorporated as an important mechanism for climate mitigation in the Paris Agreement in 2015 (Vonhedemann et al., 2020). REDD+ is aimed at compensating the Global South for forest-related CDR, including preventing deforestation, forest degradation, the conservation of carbon stocks and SFM (UNFCCC, 2022f). It was first set up to be a system based on financial incentives regulated through an international carbon market, but this market has not yet materialised, and projects are mostly funded through aid and budgetary allocation, resulting in a much smaller operation scale than intentioned (Carton et al., 2020).

Since REDD+ has been set up and implemented, improvements have taken place, but some serious limitations are still prevalent. Equity concerns have been expressed by scientists and civil society, as well as the critique that the burden for CDR and its trade-offs is still placed on the Global South (Carton et al., 2020). Furthermore, REDD+ projects have been criticised for allowing rampant consumerism and emissions in the Global North to continue, while most profits and benefits of these projects taking place in the Global South are funnelled back to the Global North, thus restricting the development opportunities

35

for regions in the Global South (Carton et al., 2020). Lastly, the small scale at which REDD+ currently operates does not target the bigger processes of deforestation, as different policy areas have to fight for scarce resources and many state as well as non-state actors have an interest in maintaining the status-quo (Vonhedemann et al., 2020). This small scale can also be observed in the few documents from REDD+ in the data sample and few discussions on REDD+ in the other documents.

4.3 NDCs and net-zero pledges

The first NDCs as defined by the Member States for the first round for the Paris Agreement have no mentions of CDR, even though the ambitions stated require CDR-projects to achieve the defined reductions (IPCC, 2022; Pozo et al., 2020). However, in the modelling that was used to calculate the 1.5 °C and 2.0 °C scenarios, CDR was included to achieve the necessary GHG reduction (Stender, 2018). So even though CDR is not explicitly mentioned in the Paris Agreement, the assumptions on which the contents are based do include CDR in the projections. The IPCC Special Report on Global Warming of 1.5 °C, published in 2018, has confirmed that large-scale CDR is needed to compensate for the historical and ongoing emissions, especially when considering the sectors in which emissions are harder to abate (Allen et al., 2018).

The Marrakech Partnership for Global Climate Action, Climate Action in short, was created in 2015 to support and promote ambitious mitigation and adaptation action towards achieving the Paris Agreement and focuses on fostering collaborations between governments, the private sector, regions, cities, and investors (UNFCCC, 2022c). Climate Action aims to accelerate sectoral systems transformations through different initiatives and setting up different projects, such as the Race to Zero campaign and Climate Neutral Now Initiative (Climate Action, 2019; UNFCCC, 2022a, 2022d).

Net-zero pledges are increasingly being adopted by countries and these more far-reaching commitments imply an even greater reliance on CDR (Pozo et al., 2020). In the synthesis report on the NDC, adaptation measures are discussed, including reforestation and afforestation measures (UNFCCC,

2021b). Examples of quantified forest-related CDR goals in the NDCs are; increasing forest coverage to 42 per cent of land area, protecting 3.5 million ha forests, and reforesting 1,000,000 ha forests by 2024 (UNFCCC, 2021b).

4.4 Relevant actors within this field

The main governance structures have been discussed, but as mentioned before, the negotiations on these are highly political and many important actors engage in the process. The three platforms that are analysed, namely the UNFCCC, REDD+, and Climate Action, function as fora for actors to discuss and negotiate topics related to climate change. The actors that engage in these fora are divided in four subgroups: the private sector, civil society and NGOs, and country groupings. These discussions of the groupings are guided by the words and topics that are most often referred to in connection to them in the data sample, which was done by generating a word cloud in NVivo per category.

4.4.1 Private sector

The private sector has been mentioned most often in the data sample (Appendix D) and includes all references to companies, investors, and banks. Throughout the years, the role of private investment in climate finance is discussed more frequently and the aim is to increase private investment in climate friendly projects significantly, especially related to adaptation projects and investment in the Global South. Another development that can be distinguished is the rise of net-zero pledges that was initiated by sub-national governments and companies. This is mostly discussed in Climate Action documents, as this platform is focused on non-state action for climate change.

4.4.2 Civil society and NGOs

The second category is made up of civil society and NGOs and includes the subcategories of communities, youth and children, and Indigenous group NGOs. Forestry is a much-discussed topic by these actors, as it is one of the words that is mentioned the most in this coding category. In the community category, the position of local, marginalised, vulnerable, poor, and Indigenous communities are referred to regularly. Mentions regarding youth and children are mostly linked to activist movements and certain countries

where they are active, such as Fridays for Future. The consideration of Indigenous communities and inclusion of Indigenous organizations and local knowledge are discussed throughout the period, but an increase can be observed with the founding of the Local Communities and Indigenous Peoples Platform (LCIPP) in 2015.

4.4.3 Countries

The last category are countries, governments or persons directly related to them. Noteworthy is the observed shift from mostly state-focused action to more regional and sub-national action by cities and regions during the analysed period. Cities and regions generally set more ambitious action and were amongst the first to pledge net-zero policies. Most countries are part of UNFCCC Party groupings to pool resources and gain more influence in the negotiation processes at COP. Groupings with twenty or more mentions in de data sample were included and are showcased with all their Member States in Figure 4. The groupings that are mentioned less than 20 times in the data sample can be found in Appendix C.

Global North countries and groups

The two main groups that are comprised of Global North actors are the European Union (EU) and the Umbrella Group. The EU has tried to establish itself as a leader in climate action, with differing achievements and recognition (Parker et al., 2015). They have renewed this ambition to be a frontrunner in addressing climate change with the announcement of the European Green Deal in December 2019 (Bloomfield & Steward, 2020). The Umbrella Group was founded after the adaptation of the Kyoto Protocol and consists of twelve countries and can be characterised as an alliance of non-European developed states, but plan to eject Russia and Belarus for their role in the Ukrainian invasion (Audet, 2013; Farand & Lo, 2022).

Global South countries and groups

More different groupings with Global South actors are active in the COP and the most often mentioned include the Alliance for Small Island States (AOSIS), the African Group, the Independent Alliance of Latin

America and the Caribbean (AILAC), The Group of 77 (G77) and China, and the LDCs. AOSIS is one of the older alliances with their founding date in 1990 and is comprised of 39 Small Island Developing States (SIDS) and low-lying coastal states (AOSIS, 2021). AOSIS acts as an advocate for SIDS and the existential threat that climate change poses to these states, with a focus on climate justice in their activities, and has achieved notable influence in UNFCCC negotiations (Onifade, 2021). However, the submissions and ideas of the SIDS are often weakened in final documents and agreements and have not resulted in any legally binding or recognition of state responsibility (Onifade, 2021; UNFCCC, 2021b) The G77 and China was established in 1964 and aims to further the economic interests of developing countries in UN institutions (Sjur et al., 2008). There are currently 134 members in G77 (The Group of 77, n.d.). Due to the size of G77 and China, it is harder to reach consensus and the group fractures in smaller coalitions focused on regional or topical interests (Allan & Dauvergne, 2013). The LDC Group aspires to support LDCs in climate negotiations and consists of forty-six countries (LDC Climate Change, n.d.).

Mixed groups

Two groups are comprised of countries both from the Global North and Global South, namely the Environmental Integrity Group (EIG) and G20. The EIG is an institutional investor in the energy sector, was founded in 2000 and has six member states (EIG, 2022; UNFCCC, 2021b). The countries in the coalition seem to have few shared features aside from a sense of incompatibility with the other already existing groups (Audet, 2013). Lastly, the G20 is a coalition comprised of the twenty largest economies in the world. The G20 aims to secure global economic growth and prosperity and work closely with the Global Bank (G20, 2021).

Figure 4

UNFCCC Party groupings

| SIDS	G77		SIDS + Africa	Africa Group		AILAC		EU	Umbrella Group
Cook Islands	American Samoa	Kiribati	Mauritius	Algeria	Libya	Guatamala	Chile	Austria	Australia
Palau	Anguilla	Maldives	Seychelles	Angola	Madagascar		Colombia	Belgium	Belarus
	Antigua and Barbuda	Marshall Islands		Benin	Malawi		Costa Rica	Bulgaria	Canada
	Aruba	Martinique		Botswana	Mali		Honduras	Croatia	Iceland
	Bahamas	Micronesia (Federated States of)		Burkina Faso	Mauritania		Panama	Cyprus	Israel
	Bahrain	Montserrat		Burundi	Morocco		Paraguay	Czech Republic	Japan
	Barbados	Nauru		Cape Verde	Mozambique		Peru	Denmark	Kazakhstan
	Belize	New Caledonia		Cameroon	Namibia			Estonia	New Zeland
	Bermuda	Niue		Central African Republic	Niger			Finland	Norway
	British Virgin Islands	Pacific (13)		Chad	Nigeria			France	Russian Fed.
	Cabo Verde	Papua New Guinea		Comoros	Rwanda			Germany	Ukraine
	Caribbean (16)	Puerto Rico		Congo	São Tomé and Príncipe	EIG		Greece	USA
	Cayman Islands	Saint Kitts and Nevis		Côte D'Ivoire	Senegal	Korea	Mexico	Hungary	
	Northern Marianas Islands	Saint Lucia		DR Congo	Sierra Leone		Georgia	Ireland	
	Comoros	Saint Vincent and the Grenadines		Djibouti	Somalia		Switzerland	Italy	
	Cuba	Samoa		Egypt	South Africa		Liechtenstein	Latvia	
	Curacao	Sao Tomé and Principe		Equatorial Guinea	South Sudan		Monaco	Lithuania	
	Dominica	Singapore		Eritrea	Sudan			Luxembourg	
	Dominican Republic	Sint Maarten		Ethiopia	Togo			Malta	
	Fiji	Solomon Islands		Eswatini	Tunisia			Netherlands	
	French Polynesia	Suriname		Gabon	Uganda			Poland	
	Grenada	Timor-Leste		Gambia (Republic of The)	Tanzania			Portugal	
	Guadeloupe	Tonga		Ghana	Zambia			Romania	
	Guam	Trinidad and Tobago		Guinea	Zimbabwe			Slovakia	
	Guinea-Bissau	Turks and Caicos Islands		Guinea-Bissau				Slovenia	
	Guyana	Tuvalu		Kenya				Spain	
	Haiti	U.S. Virgin Islands		Lesotho				Sweden	
	Jamaica	Vanuatu		Liberia				UK (-2020)	
	Afghanistan	Brunei Darussalam	Iran	Mongolia	Qatar	Thailand			
	Argentina	Cambodia	Iraq	Myanmar	Saint Kitts and Nevis	Turkmenistan			
	Azerbaijan	China	Jordan	Nepal	Saudi Arabia	United Arab Emirates			
	Bangladesh	Ecuador	Kuwait	Nicaragua	Sri Lanka	Uruguay			
	Bhutan	El Salvador	Laos	Oman	State of Palestine	Venezuela			
	Bolivia (Plurinational State of)	India	Lebanon	Pakistan	Syrian Arab Republic	Viet Nam			
	Brazil	Indonesia	Malaysia	Philippines	Tajikistan	Yemen			

5. Results

In this chapter, the qualitative and the quantitative results are presented. The results are placed in the broader historical and political context and analysed throughout the chapter.

5.1 Quantitative results

An increase in the number of documents over the years can be identified, which is due to improvements to the webpages and availability of documents online. The values for the later years are therefore generally higher, but the results were not weighed for the number of documents because the aim is to identify the engagement in the discourse on CDR in general, and not per document. Documents from 2020 were excluded in the figures because no COP took place in 2020 and therefore only two documents are available for this year.

Figure 5

Categories over time
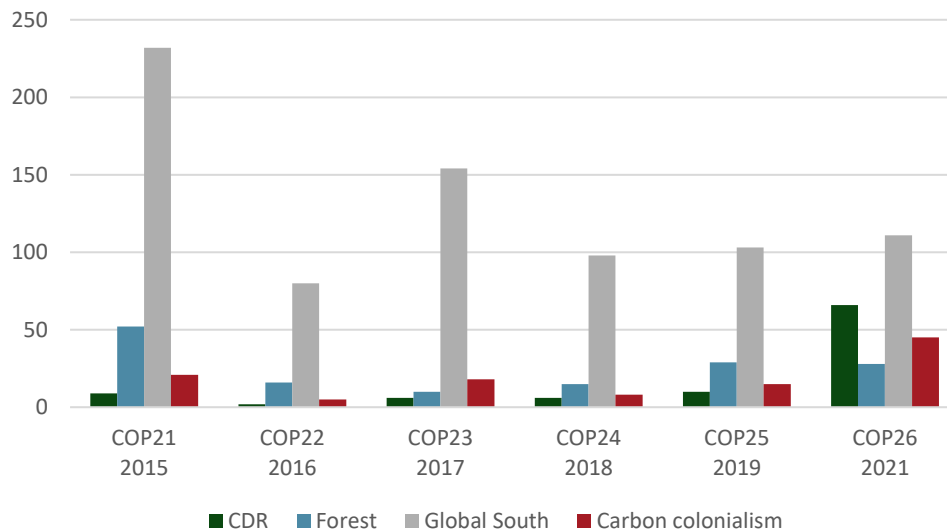
The first observation that can be made from Figure 5 is that there were very few mentions of CDR and other terms that fall under the category of carbon colonialism over the period up until COP26, when the number of mentions experiences an explosive growth. This is in line with the increase of net-zero pledges of which most include CDR (Burns et al., 2021). In COP21, there is a substantially higher usage of terms

related to the Global South compared to the other years. In this year, negotiations were held about the content and wording of the Paris Agreement, and the topic of common but differentiated responsibilities of developed and developing countries was a much-discussed topic. Many discussions were held on financial mechanisms to support developing countries in achieving the Paris goals and this can explain the higher frequency of terms related to the Global South.

Figure 6

Use of terms regarding CDR-projects
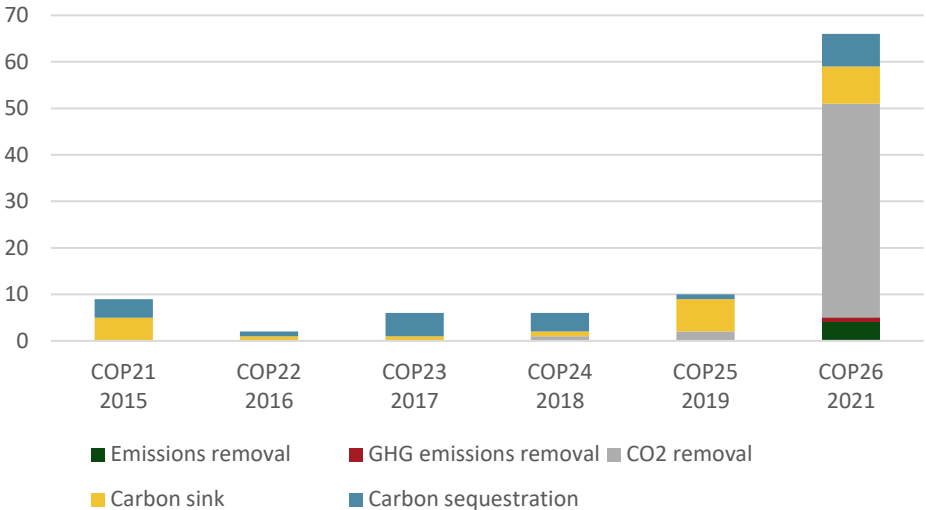
As could already be observed in Figure 5 and now again in Figure 6, the usage of CDR related terms experiences an immense increase in COP26. Especially the term CO_2 removal is mentioned often compared to the previous years, where it is barely discussed. The models for 1.5 °C as calculated by the IPCC include significant portions of CDR to reduce the emission stock in the atmosphere, but this is barely discussed in COP negotiations before 2021. The increased usage of the terms in this category can also be connected to the increase in net-zero pledges.

Figure 7

Use of terms regarding forests
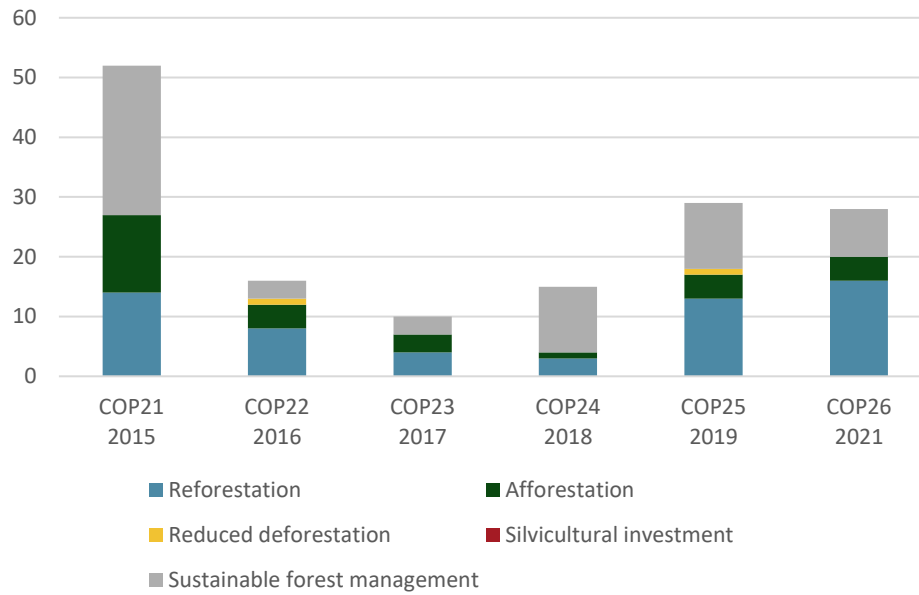
In Figure 7, it can be seen that the most frequently used terms are reforestation, SFM, afforestation and reduced deforestation, respectively. There seems to be a slight shift in focus from SFM towards reforestation. This is due to the fact that forest-related CDR-projects are mostly focused on reforestation as this method has the highest mitigation potential, followed by SFM (Fargione et al., 2018).

Figure 8

Use of terms related to the Global South
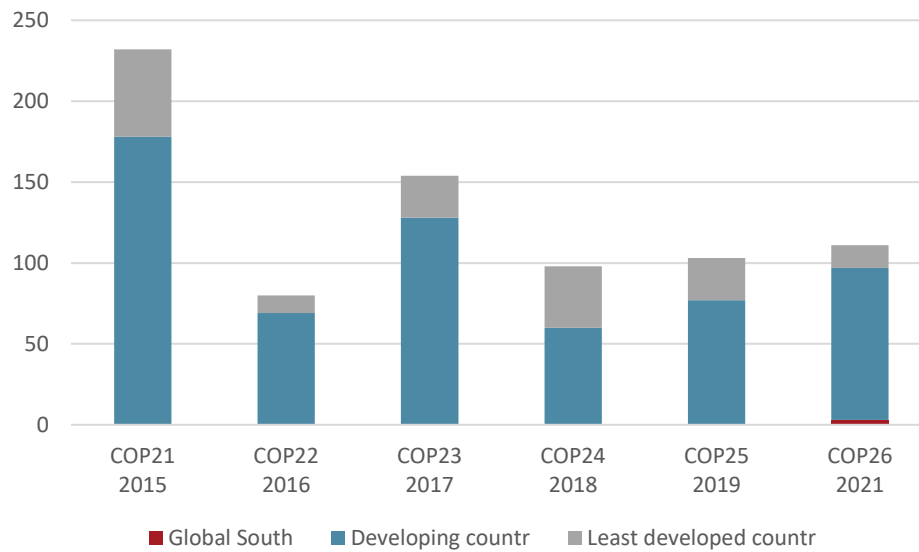
It can be observed in Figure 8 that the terms developing countries and LDCs are most frequently used, which is to be expected since these are the terms that are agreed upon by the UNFCCC. Some mentions of Global South can be seen in Climate Action documents, but only very few compared to other terms and the mentions are generally not connected to forests or CDR.

Figure 9

Use of terms that indicate lower risk of Carbon Colonialism

The absence of the terms that are defined under this category related to the concept of carbon colonialism (Figure 9) indicate a higher level or risk of carbon colonialism, as the consideration of these concepts contribute to a more just, inc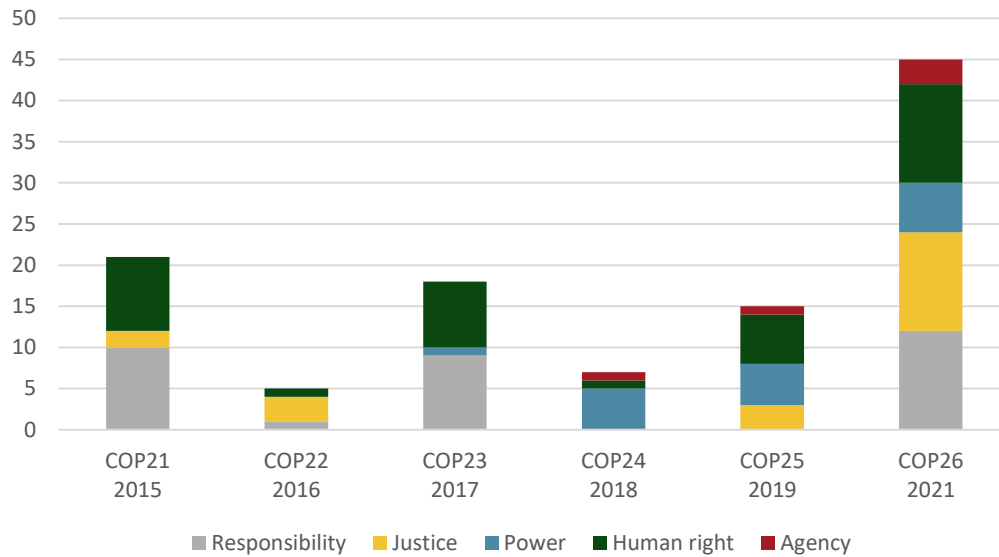lusive, and equitable approach to climate action. Two categories, namely appropriation of resources and land grabbing, were left out of Figure 9 because no mentions were found in the data sample. This was expected, as these terms have heavier political connotations. Their absence indicates that large scale reforestation projects in tropical areas that are increasingly pledged in 2021 are not critically reflected upon with this lens.

The category responsibility refers to the mentions that discuss responsibility for historic emissions or the responsibility of actors that conduct activities that are harmful to the environment. The most recurring reference is to the common but differentiated responsibilities, which was imbedded in the Paris Agreement to refer to the different levels of obligations to act related to the national circumstances of a country. At the COP26, Global North countries were repeatedly called upon to take up their responsibility to make their promise of $100 billion/year to developing countries a reality, as this pledge was not realized before the promised deadline.

45

Some references are made at COP21, COP22 and COP25 to justice, but it was discussed most at COP26. References are mostly seen in Climate Action documents, which are generally more critical than UNFCCC documents. Mentions in the category of power are present in COP24, COP25 and COP26 documents. Most mentions of power are general statements on the power of certain institutions on an international level, such as the UNFCCC. There is only one document that criticises the historical North-South power relations, namely in the *COP26 Resilience Hub Synthesis Report.* Agency is mentioned in COP24, COP25 and COP26. The occurrences of these terms are in referral to marginalised groups in society, such as women and Indigenous people, but no references are made to agency of countries or groupings in international negotiations nor forest-related CDR. References to human rights are more or less consistent over time and mostly refer to the need of countries to consider human rights in their NDCs and climate action.

5.2 Qualitative results

The qualitative results section is divided into a discussion on CDR-projects and then dives into the participation and representation of the Global South at the COP. Afterwards, it is assessed to what extend carbon colonialism can be observed in the discourse and lastly, it is concluded whether processes of Othering take place within the discourse.

5.2.1 CDR-projects

There are few discussions on CDR specifically in the period of 2015 to 2018. At the COP25 in 2019, the first mention was made for the need of CDR to reduce carbon stocks in the atmosphere and the need to achieve net-negative emissions, and that forest-related CDR is the most cost-effective mitigation action (UNEP, 2019). It is recognised in NewClimate Institute & Data-Driven EnviroLab (2020) that: "Achieving a 1.5°C warming scenario with no temperature overshoot will require significant carbon dioxide removal in addition to emission reductions" (p. 52). Over the years, increased attention is allocated to the role of the private sector and private sector funding in climate action in general, but also in CDR. The practical

implementation of CDR and the road to the goals set by countries and companies are barely discussed, with exception of a few projects that are funded through the UNFCCC.

Consideration of effects CDR

There are a lot of mentions of the potential positive effects of CDR, often referred to as co-benefits. The benefits that are discussed the most are poverty reduction, protection of biodiversity, increased climate resilience, and cost-effectiveness. Potential negative effects are not discussed at all in 2015 to 2018, and only make an appearance in 2019 at the COP25, but still to a lesser extent than the positive effects. UNEP (2019) are the first to mention that CDR-projects can damage the global economy, undermine food security, and might even negatively impact biodiversity if done incorrectly. At COP26, it is discussed in NewClimate Institute & Data-Driven EnviroLab (2020) that without the appropriate safeguards in place, offsetting can create conflicts with the domestic ambition of host countries. This is because when a country sets lower domestic ambitions, there is more potential to sell offsets. The document of Fay et al. (2021) is the only one in the whole sample that discusses the negative effects of a specific CDR-project, which are mostly about the harm done to local communities and the lack of prior informed consent. These mostly social and community related issues are in line with the lack of consideration of these dimensions of potential negative effects in the discussions on these projects in general.

CDR in Global South and development paradigm

Throughout the years, several CDR-projects that are financed through UNFCCC mechanisms are discussed of which almost all take place in the Global South, with the exceptions being two projects in Eastern Europe and Western Asia. This is also in line with the following statement made in UNFCCC (2017): "Close to 80% of the amount allocated to adaptation projects and programmes will be implemented in the LDCs, SIDS, and African States." (p. 1). It is also mentioned that other projects that fall under the adaptation funding mostly take place in Eastern Europe or middle-income countries in the Global South (UNFCCC, 2017).

47

Throughout the COP, there is a strong focus on development as the model for progress, which can be seen in quotes such as "the smooth transition of countries graduating from least developed country status" (UNFCCC, 2020b, p. 16) and "non-OECD members have the potential to accelerate improvements even as they grow, industrialise." (UNEP, 2019, p. 15). Different views on sustainability and human-nature relationships are not discussed in the data sample, even though there is increasing attention to the incorporation of Indigenous and local knowledges in general debates on climate action. This indicates that this knowledge can only be incorporated to the extent that it fits the development paradigms on which climate action as initiated under the UNFCCC is based.

5.2.2 Participation and representation of Global South

The institutions that are involved in the COP are generally committed to inclusive participation in their staff, boards, and meetings. However, no definition of what full and inclusive participation in a practical sense is stated and no insight is given on the level of participation of countries during the COP, such as presence of representatives, information on possibilities to interject or speaking time. In NewClimate Institute et al. (2019), the following is stated: "actors based in developing countries still represent only 23% of instances of participation." (p. 22). This indicates that the participation and inclusion policies are currently ineffective. This is also reiterated in NewClimate Institute et al. (2021), where it is discussed that significant geographic imbalances are persistent and that most participants, lead partners, and funders are from the Global North. They indicate that a possible explanation is the lack of available resources and capacities for climate action in developing countries. Over the years, more instances of South-South cooperation and financing arise. At the COP26 it is mentioned that due to the online setting of many meetings because of COVID19, opportunities arose for increasing the inclusiveness of meetings, but that it was also more challenging to reach groups that do not have access to the appropriate technologies and resources.

There are specific mentions of consideration of the Global South in most texts in the data sample, especially in combination with discussions on financing for climate action. An interesting wording that is used is the notion of "leaving no country behind" (UNFCCC, 2015b) in relation to developing countries. This notion manifests itself in support for capacity building, technology, funding, the recognition of adaptation efforts of developing countries and that that the peaking of emissions will take longer for developing countries to achieve other SDGs (UNFCCC, 2015b). This idea that developing countries have some more free room for the peaking of emissions is also discussed in the Lima Call for Action, where it is written that: "Also reaffirming that all developing countries need access to the resources required to achieve sustainable social and economic development and that, in order for developing countries to progress towards that goal, their energy consumption will need to grow" (UNFCCC, 2015a, p. 6). The Lima Call for Action was negotiated and decided upon at COP20 in 2014 as a prelude to COP21 negotiations.

However, the SIDS and LDCs are most likely not in agreement with this, as they repeatedly position themselves as leaders in emissions reductions and state the goal to lead by example. This is discussed in:

> More than 40 least developed countries and small island developing states are among those at the forefront of action to reduce GHG emissions by indicating they will submit more ambitious NDCs. These nations, each accounting for less than 0.1 percent GHG emissions, are facing disruption to water and food supplies and rising sea levels, among others. Their objective is to lead by example and demonstrate that ambition can come even from the poor and most vulnerable. (UNFCCC & UNDP, 2019, p. 15).

This gives rise to questions on whom has influence on these statements in the Lima Call for Action, especially as this is often framed as a justice related solution to allow for development in these countries, but a portion of these countries do not want these allowances but instead aim for ambitious reductions.

It can therefore be questioned whether this really is a solution that properly takes environmental justice into account.

Secondly, in relation to UNFCCC activities, it is often discussed in the data sample that developing countries do not have sufficient country ownership over the activities initiated through the UNFCCC, and that this should be improved and embedded in climate action. However, what country ownership exactly entails is not explained, only that many developing countries lack it. Secondly, an interesting quote from the Africa Green Finance Coalition (AGFC) states: "As an African-led, African-run institution, the AGFC would be a powerful signal that the continent is not willing to be just the victim of climate change but that it is determined to take its destiny in its own hands" (Napier, 2021). This indicates that perceptions of developing countries as not having ownership or as merely victims without agency are still persistent in the climate change discourse.

Indigenous people representation

The consideration of Indigenous people in climate action and what their knowledge can contribute to climate policies has been increasing in the last years (Larson et al., 2022). This can also be observed in the data sample, where Indigenous people are mentioned throughout the years and the formalisation of their participation through the setup of the LCIPP. However, the LCIPP has been criticised for persisting problems with representation and influence of marginalised groups, tokenism, the lack of recognition of the effects of unequal power relations and colonialism, and the risk of perpetuating colonial patterns of exploitation and dispossession (Belfer et al., 2019; Larson et al., 2022; Shawoo & Thornton, 2019).

Even though references to Indigenous people are often made throughout the sample, when looking at the documents that describe actual adaptation and mitigation projects, there is only one project that specifically mentions Indigenous people (UNFCCC, 2021b). So, on the one hand there is increased consideration through the LCIPP, but on the other hand potential effects, positive and especially negative, of measures and projects on Indigenous and local people are not discussed. This raises questions whether

the inclusion and consideration of these groups are effective, or that the inclusion of these considerations in international negotiations and documents are used as window dressing to make it look like they are included in climate action when in fact they are not.

5.2.3 Carbon colonialism
Offsets buying

The idea of reducing emissions by setting up projects in developing countries has been introduced in the Kyoto Protocol under the CDM, which results in offsets that can be bought to contribute to emissions reductions in the buying country. The idea of buying reductions to achieve NDCs was embedded in the draft for the Paris Agreement (UNFCCC President, 2015), but did not make it into the final version of the Agreement (UNFCCC, 2016). However, CDM is still an active mechanism that is used in this manner, as can be seen in UN Climate Change Secretariat (2015): "These CERs can be traded and sold and used by industrialised countries to meet a part of their emission reduction targets under the Kyoto Protocol." (p. 53). NewClimate Institute & Data-Driven EnviroLab (2020) criticised the offset system because it reduces the ambition of the reduction goals for the buying country, as the purchasing of carbon rights allows for continued emissions. They also discuss that offsets limit the ambition in selling countries, because if they set lower NDC goals they are able to sell more carbon rights that would otherwise be used domestically. Furthermore, when instances of CDM and offsets are mentioned, the levels of consumption and the resulting emissions are not discussed, indicating that the offsets allow for continued overconsumption instead of focusing on reductions. NewClimate Institute & Data-Driven EnviroLab (2020) sees this as burden shifting, as can be seen in the text: "if a specific actor deems direct reductions too complex and expensive to pursue as their primary net-zero target implementation strategy, who else should take on this burden to achieve global decarbonisation?" (p. 3). NewClimate Institute & Data-Driven EnviroLab (2020) end with stating that offsetting cannot be considered an appropriate alternative to emissions reductions as the market is currently organised and that reductions should remain the main focus of actors to achieve the Paris goals.

Even though critical points are raised in Climate Action documents, no such considerations can be found in UNFCCC documents. It is however interesting that the Secretariat of the COP24 in 2018 used afforestation projects to compensate for the conference emissions, where they specifically state that these projects take place in the host country. This suggests a certain level of awareness that afforestation projects are better conducted domestically due to the potential issues with investing in such projects abroad. This indicates that the UNFCCC Secretariat does consider these critical points to some extent, even though the documents, which are the result of a political negotiation process, do not.

Forest goals and land grabs

Over the years, increasingly ambitious goals have been set regarding forest restoration and protection and these efforts have accumulated in the announcement of the *Glasgow Leader's Declaration on Forests and Land Use*, which states that the participating countries will strengthen their efforts to preserve forests and put policies in place that enable sustainable land use and forestry (COP, 2021). CDR-projects are often funded by Global North countries, generally take place in Global South countries, and Global North actors buy almost all generated offsets (Fay et al., 2021; NewClimate Institute et al., 2021). These points are more often recognised and criticised in Climate Action documents from the COP26. However, it is generally not considered in the data sample where the forest projects are to take place, by whom they are executed, and whether the local context is taken into consideration. In combination with the lack of attention to potential negative effects of forest-related CDR and the overemphasis on the positive effects, these pledges are at risk to produce injustice and even historical colonial power structures as land and resources in the Global South are used for the benefit and continued overconsumption of the Global North.

Climate justice and power dynamics

Generally, Climate Action documents are more justice focused than UNFCCC documents, with terms being used such as equity, leaving no one behind, historical contributions to emissions, fairness, inclusion, and

consideration of disadvantaged and vulnerable group throughout different documents. Most UNFCCC do not discuss justice specifically, but some references are made to developing countries that are disproportionately affected by climate change and vulnerable communities (UNFCCC, 2019a), every country doing its fair share (UNFCCC, 2019a), bringing all nations into a common cause based on historic, current, and future responsibilities (UNFCCC, 2020a), and considering respective obligations on human rights (UNFCCC, 2019b). However, these topics are far less frequently discussed within the UNFCCC when compared to Climate Action documents.

COP26 sparks a strong increase in terms of justice and power being used, with 83% of the mentions occurring in Climate Action documents (Figure 9). This can be explained by the rise of youth as actors of change in the climate debate and activism in general, as well as the formalised and improved participation of Indigenous people through the LCIPP. It is however currently dubious whether the discussions on climate justice led to actual impacts and changes in the existing order and whether it is inclusive enough (Wilkens & Datchoua-Tirvaudey, 2022), especially as these discussions mainly take place in Climate Action documents and not yet in UNFCCC discussions.

In the Paris Agreement, the main sentence that is related to climate justice and that is guiding throughout all UNFCCC documents is: "the principle of equity and common but differentiated responsibilities and respective capabilities, in the light of different national circumstances" (UNFCCC, 2016, p. 21). AOSIS and the LDCs advocated for a legally binding agreement in the period leading up to COP21 and that the developed countries had to take responsibility for their historical emissions and demonstrate leadership in climate action (Pauw et al., 2014). However, the result was a Paris Agreement that had no legally binding aspects nor did it have the notions of climate justice and equity at its core. Later, it is stated in the Agreement that: "Noting the importance of ensuring the integrity of all ecosystems, including oceans, and the protection of biodiversity, recognised by some cultures as Mother Earth, and noting the importance for some of the concept of "climate justice", when taking action to

address climate change"(UNFCCC, 2016, p. 21). This clearly makes a distinction that some Parties find these concepts important, but that the UNFCCC itself does not use or adhere to these terms. Kenfack (2022) criticises this for the implications that climate justice is not a general matter to be considered in climate action, reducing climate justice to concerning only a category of people whose voice can be considered or ignored when engaging in the climate action discourse. This indicates that the Parties that find these concepts important are heard in the negotiations, but do not have sufficient bargaining power to have these concept integrated in a meaningful manner that concerns all Parties.

This lack of bargaining power can also be observed in the *Report of the Standing Committee on Finance Addendum* (UNFCCC, 2021c), where AOSIS submits two statements on the compromises they have made for the Paris Agreement in 2015. Firstly,

Recognizing that agreeing to the Paris Agreement's goal of holding the increase in the global average temperature to well below 2 °C and pursuing efforts to limit the increase to 1.5 °C above pre-industrial levels was a compromise made by developing countries, particularly SIDS. (p. 17)

and secondly,

Recognizing that SIDS implicitly agreed to experience loss and damage at a certain temperature scenario (i.e., 1.5 °C or well below 2 °C) on the condition that adequate and predictable support would be received to adapt to these adverse effects as well as support loss and damage response efforts to these effects. (p. 18).

No references were made to these compromises in 2015 documents, indicating that their statements were not included in the final documents discussed at the COP21. That AOSIS expresses their discontentment at the COP26 in 2021 can be connected with the fact that developed countries have not lived up to their promise of pledged $100 billion/year and that most NDCs are insufficient to reach the 1.5-2 °C goal.

There is only one document that points out the effect of historical North-South power relations on current day power dynamics, namely in the *COP26 Resilience Hub Synthesis Report* (Resilience Hub, 2021). The first reference is: "Integrating these [resources] successfully and equitably requires building new partnerships, mediating power dynamics, and strengthening South-South and South-North linkages." (p. 10). Later it is stated that: "Historical North-South power relations need to be replaced with equitable South-South and South-North partnerships where knowledge exchange and co-creation are given equal priority" (p. 16). As these are the only references, it can be concluded that in the data sample, historical North-South power dynamics are not considered, even though literature indicates that these dynamics still influence international negotiations greatly (Wilkens & Datchoua-Tirvaudey, 2022). This especially holds true for CDR-projects, where no specific connection is made between justice and CDR, which increases the risk of reproducing these historic inequalities.

Global North responsibilities, transfer of responsibilities

The responsibility of the Global North to combat their emissions is embedded in the concept of common but differentiated responsibilities in the Paris Agreement. This entails that Global North countries have the responsibility to act swiftly to reduce their own emissions and support countries that do not have the necessary funding to do so and that will experience the negative effects of climate change. This is reiterated in most UNFCCC documents in some way or form. However, there is no legally binding obligation to do so, and this is reflected in the terms that are generally used to encourage Global North countries to take their responsibility, such as *should, shall, need, urges, encourages* and *invites* to take certain action. AOSIS is one of the coalitions that is a strong advocate of developed countries taking their responsibility for current and historic emissions, which can also be seen in the draft document that AOSIS has submitted first at COP16, but was considered again at COP21 (AOSIS, 2010), where they state that: "an assessed contribution from developed country Parties, based on [{GDP} {the polluter pays principle} {current emission levels} {historical responsibility}, amounting to {{0.5 to1}{0.8}{2} per cent of gross

national product} {0.5 to 1 per cent of GDP}]4;" (p. 17). However, this call for considering topics such as the polluter pays principle and historic responsibility are not taken up in the final Paris Agreement. This once again illustrates that even though marginalised actors have the room and agency to speak out, they lack the political power to bring their points through the negotiation process. This can also be observed in UNFCCC (2018), where the African Group expresses their grave concern that the issue of vulnerability of Africa and the recognition of the special needs and special circumstance of Africa, which they raised at COP21, COP22, and COP23, was still not addressed at COP24.

There is a lot of text allocated to the financing mechanisms for climate action in developing countries in the COP documents. The most often recurring pledge is the following: "In 2009, developed nations pledged to mobilise $100 billion in climate finance each year for developing countries by 2020, from both public and private sources." (UNFCCC & UNDP, 2019, p. 24). This pledge made by the developed countries is repeated often and in different documents as well as throughout several documents. Due to the repetition of the same pledges, especially as the wording is often different to refer to the same pledge, it looks like more pledges are made than there are in reality. In the end, the pledge is not met, despite repeated efforts to encourage developed countries to do so in the UNFCCC documents, and the focus in the UNFCCC documents shifts increasingly to private sector funding.

The marketisation and financialization of climate action is a process that has become more influential throughout climate negotiations and have increased from 2015 onwards due to the long and arduous process to come to an agreement between states at COP25 (Newell & Taylor, 2020). This market paradigm sees climate change as a technical and regulatory issue that can be solved through making existing systems more sustainable, in this case through the expansion of markets into the realm of climate action and environmental services (Dehm, 2018). This market focus has been criticised, in connection with offset trading and forest CDR, for the discrepancy between harming activities and mitigation activities, as well as encouraging privatization and commodification of natural resources, the unsettling of property

rights, and that it epitomises the global historical and capitalist exploitation that has caused climate change in the first place (Dehm, 2018; Ehrenstein, 2018).

States have been accused of *active inaction* around the period of the Paris Agreement, where a lot of efforts are put into international negotiations and conferences, but the issues they are aiming to address have become increasingly worse (Ciplet et al., 2015). During this period of inaction, market-approaches to managing the climate crisis have been set up, such as carbon trading mechanisms, but they have proved ineffective to this day (Ciplet et al., 2015). The goal of this market approach is to motivate the private sector to act in a sustainable manner through market incentives and the role of the state is minimised, which fits in with the neoliberalism that originated and is instated in most Global North states (Ciplet et al., 2015; Potter et al., 2012). In this way, the increased focus on the private sector and the marketisation of climate action in the data sample in the period 2015-2021 can be seen as a continuation of *active inaction* as a way to divert attention from state inaction by focusing on the private sector and ineffective market mechanisms as well as further extending these neoliberal systems globally.

Increased action necessary and net-zero pledges

COP26 was the first reflection moment for the implementation of the Paris Agreement, and several reports indicate that the NDCs are not in line with 1.5 °C, UNEP (2019) even going as far as calling them "blatantly inadequate" (p. 27). UNEP (2019) and NewClimate Institute et al. (2021) both state that even though more net-zero pledges are made, there is limited evidence that these pledges are translated in action on the ground and have a positive impact on achieving the Paris goal. In the second round of NDC definitions, most countries fall short in their commitments and action as well (UNFCCC, 2021d). A trend can be identified where LDCs, SIDS and developing countries make more ambitious pledges to lead by example (UNFCCC & UNDP, 2019), but Global North pledges are still lacking in both far-reaching goals and action on the ground (Quintana et al., 2020).

As ambitious emission reductions are lacking, the reliance on CDR increases. This is first discussed in UNEP (2019):

> Further delaying the reductions needed to meet the goals would imply future emission reductions and removal of CO_2 from the atmosphere at such a magnitude that it would result in a serious deviation from current available pathways. This, together with necessary adaptation actions, risks seriously damaging the global economy and undermining food security and biodiversity. (p. 20).

The perceived urgency for far-reaching action increases in COP25 and COP26, to the point that the UNFCCC also acknowledges the need for increased action but does not refer to the role of the Global North or CDR herein (UNFCCC, 2020a). However, even though more zero-pledges are made by countries, companies, and local authorities in the period of 2019 to 2021, the goals they set are most often vague and placed within the future without defining concrete measures for the coming years to achieve these goals. Quintana et al. (2020) states that the goals set by developed states especially are not in line with net-zero, especially when considering historical responsibility. The overall findings in the data sample indicates a transfer of responsibility of the current as well as historic emissions from the Global North to the Global South and the future, where CDR in the Global South and the buying of offsets are used as a stay of execution.

Consumption

It is widely recognised that current consumption patterns in the Global North are not compatible with sustainable pathways for the future, but this is only considered more in depth at COP25 and COP26. Before 2019, it was barely discussed in COP negotiations, and there is only one mention in the addendum of the Paris Agreement that developed countries should take the lead in recognizing the need for sustainable lifestyles and consumption to combat climate change (UNFCCC, 2016). In UNEP (2019), it is discussed how lifestyles and consumer culture needs be changed:

By necessity, this will see profound change in how energy, food and other material-intensive services are demanded and provided by governments, businesses and markets. These systems of provision are entwined with the preferences, actions and demands of people as consumers, citizens, and communities. Deep-rooted shifts in values, norms, consumer culture and world views are inescapably part of the great sustainability transformation. (p. 10)

Later in this report, it is stated that consumption-based emissions need to be considered as opposed to production-based emissions. This is because most production happens in developing countries whereas these products are consumed in developed countries, creating a skewed representation of who really makes use of the product that are polluting the atmosphere. Interestingly, the Climate Action document are much more critical towards extravagant consumption, lifestyles, and meat consumption than the UNFCCC, where it is not mentioned at all in COP25 and only has one vague mention regarding behavioural change in COP26. This indicates that the perceived urgency for these changes is lost in the political process.

5.2.4 Processes of Othering
In this final part, the following sub-question is answered based on the findings of the qualitative analysis: 'Can processes of Othering be identified within the discourse on CDR-projects?'. Othering was defined as the process wherein an entity is considered to be different or less than the ones that hold power and is mainly aimed at reproducing and maintaining power structures in a discourse (Agyepong, 2019) . The Global South is often placed separately throughout the documents in the data sample and is considered as its own category very often, especially when compared to the instances where the Global North is considered specifically, which are very few. However, the documents generally refrain from statements that could indicate that they consider the Global South as less than the Global North. Nonetheless, the Global South is consistently placed as a separate entity and discussed in such a manner. Combining this with the fact that the Global South is still often represented as helpless, not having ownership, and lack the bargaining power to take their participation beyond just having a place at the table and actually being

able to influence decision making processes, it can be concluded that processes of Othering take place in

this discourse.

6. PCDA and normative action

The main points of the results are summarised in this chapter and linked to debates in postcolonialism. Based on this analysis, suggestions for normative action and recommendation for policy changes are given.

6.1 PCDA and broader debates in postcolonialism

Generally, in the data sample, historical North-South power dynamics are not considered directly nor indirectly, even though these dynamics still influence the international economic system and political power distribution. For CDR-projects this also holds, because almost all UNFCCC funded projects take place in the Global South and there is no consideration for justice related issues. In combination with the lack of attention to potential negative effects of forest-related CDR and the overemphasis on the positive effects, the forest pledges made by Global North countries are at risk of reproducing injustices and historical colonial-like power structures as land and resources in the Global South are used for the benefit and continued overconsumption of the Global North (Adelman, 2017; Huggan & Tiffin, 2008).

The use of resources from the Global South to allow for overconsumption in the Global North is a phenomenon that can be observed throughout the colonial as well as the neo-colonial periods (Nkrumah, 1965). Because almost all CDR-projects are implemented in the Global South, these dynamics can still be identified in current-day climate action. Nkrumah (1965) discusses that in neo-colonialism, foreign capital is not invested in local economies, but is used to extract resources, in this case carbon credits, and export them to be used in the Global North. This reproduces the exclusion from resources and profit experienced by the local people, who thus barely benefit from the extraction of resources (Adelman, 2017; Huggan & Tiffin, 2008). Nkrumah (1965) states that the idea of development was based on countries having economic agency and full integration in the free market, but that formerly colonised states entered an international economic and political system that did not allow for agency and transposed European concepts and practices to the Global South (Young, 2001). The lack of consideration of local communities

and conditions resulted in a failed implementation of the capitalist market system and continued exploitation of formerly colonised countries (Nkrumah, 1965) and based on the findings of this study can still be observed to this day.

Overall, the data sample indicates a transfer of responsibility of current and historic emissions where CDR in the Global South is used as a stay of execution. The increased focus on the marketisation of climate action in the data sample can be seen as a way to divert attention from state inaction by focusing on the private sector and ineffective market mechanisms instead of addressing the root issues related with the commodification of nature (Gunderson et al., 2020).

The Global South is still portrayed as not having ownerships or as victims without agency in the discourse and even though there is consideration and room for Global South actors to raise awareness for their issues in the negotiations, it is not adequately discussed nor meaningfully included in final documents. Furthermore, there are many references to the incorporation of Indigenous and local knowledge in climate action, but different views on sustainability and human-nature relationships are not included in documents nor negotiations. This indicates that this knowledge can only be incorporated to the extent that it fits the development paradigms on which climate action as initiated under the UNFCCC is based, which is in line with the critique by de Sousa Santos (2018) discussed in the theory chapter. This raises questions whether the inclusion of these groups is effective, or that it is used as a form of window dressing to be able to say that they are included in climate action, but in reality, does not have any meaningful impact.

The issues of representation of the Global South can be linked to the representation of the Orient in Said (1978). In this book, it is discussed that the Orient can only be represented through the lens of the Occident, which manifests itself within this discourse as the development paradigm. Because the Orient can only be viewed through this lens, there is no room left for self-determination or alternative worldviews other than the dominant view of the Occident, or the Global North. This can be retraced to

the meagre representation of Indigenous and local knowledges, which are stated to be important, but not incorporated into projects or documents in a meaningful manner, as well as the brief mention of the importance of the concepts of Mother Earth and climate justice for some Parties, making it easily ignorable.

Nowadays, there seems to be a more widespread realisation in the Global North that capitalism is producing social and environmental destruction to the extent that it no longer creates the conditions for a good life, which undermines one of the main pillars of the development paradigm (McEwan, 2019). The idea of that humankind as a whole has caused climate change is being disposed under the postcolonial lens under the argument that it erases "the racialized history of extractive colonialism that has given rise to this form of globalism" (McEwan, 2019, p. 377). This human as species thinking is a topic much discussed in contemporary debates on postcolonial theory, and herein Chakrabarty (2012) argues for the need to view humans simultaneously as a geophysical force, a political agent, a bearer of rights, and having the agency to decide one's own actions. In this view, humans are both subject to the forces of nature, as well as being a force themselves when considering humans collectively, and open to the possibility of individual experience. At the same time, the differing vulnerabilities to climate change of different people and regions should be considered (Malm & Hornborg, 2014). It is therefore of importance to engage with different forms of knowledge outside the categories of western thought (Krishnaswamy & Hawley, 2018). Persistent neo-colonial inequalities point at the continued importance of engaging with societal critique using a postcolonial lens, with discussions on the development paradigm, reasserting the value of alternative experiences knowledge systems, and who and what constitutes the Other on the forefront (McEwan, 2019).

6.2 Normative action

Most CDR-projects are still in their planning phase and this offers the opportunity to improve the plans before the implementation stage. To prevent colonial power structures and injustices from being

reproduced during the implementation of CDR-projects, this paper argues that climate justice should be considered more thoroughly in the CDR discourse.

6.2.1 CDR-projects

First, the core concepts of climate justice should be included in the formulation and execution of plans in a consistent and meaningful manner to ensure the ethical implementation of CDR-projects. Funding should only be allocated to projects that meet climate justice requirements and more cohesive reporting and grievances system should be set up (Newell & Taylor, 2020). Because the Paris Agreement only states that climate justice is of importance 'for some', it is easily discarded or ignored in practice (Kenfack, 2022). In the formulation of policies there should be room for diverse notions of climate justice based on the interpretation of the people that are affected by the projects, as different places, contexts, and people find different aspects relevant for their situation (Wilkens & Datchoua-Tirvaudey, 2022).

Secondly, safeguarding systems should be put into place to ensure that land grabbing is not possible, that CDR-projects benefit local communities and fit with local conditions, on a social, ecological, as well as economic level. Instances have been known where local communities lose their land and livelihood through the dispossession processes related to forest-related CDR, or where the ecosystem has been severely degraded, and these should be prevented in the future (Adelman, 2017; Bachram, 2004). The benefits of offsetting projects are often unfairly distributed amongst local community members, with few elite actors experiencing most of the benefits whereas the burdens are mostly carried by the marginalised people within the community (Ervine, 2012). The uneven distribution of benefits and burdens increases the gap between the rich and the poor, both locally and internationally (Nkrumah, 1965). Therefore, CDR-projects should be focused on counteracting the uneven distribution and ensure that all people in the community benefit, and especially those that are impacted the most.

Thirdly, the focus should remain on emissions reduction and CDR should only be used after all reduction possibilities are fully utilised. This prevents that removal is used to allow for continued or additional consumption and to delay action by appropriating resources from another area, while wasting

64

time and resources that could be better used to combat the root of the problem (Bachram, 2004; Ervine, 2012).

Lastly, the participation in the CDR process of Indigenous and local people should be improved and alternative and local forms of knowledge should be included in the setting up of projects. By including local and Indigenous communities, their position and ownership of the land is improved as well as allowing for a more just and even distribution of the benefits and burdens of the CDR-projects and the carbon market. Currently, most benefits are funnelled to the Global North or the local elite, but some instances are known where the local communities benefit from CDR-projects (Carton et al., 2020). Indigenous and human rights groups have called for mechanisms that ensure no harm is caused to local communities, as well as embedding human rights and land rights in the rules for carbon markets and implementing and independent grievance programmes (Newell & Taylor, 2020). The knowledge that is deemed valuable and trustworthy is academic knowledge as produced by the Western standard, but local knowledge can contribute greatly to understanding the local context and ecosystems. I suggest that more space should be created for alternative knowledges and worldviews at the COP and in UNFCCC documents. The UNFCCC has repeatedly been criticised for regarding academic knowledge based on the Western standard as the only relevant form of knowledge and that climate action is based on the development paradigm and capitalist worldview. There is a need for knowledge co-production and mutually beneficial research to link the two sources of knowledge and create knowledge that is both credible and salient (Wilkens & Datchoua-Tirvaudey, 2022).

6.2.2 Marketisation of climate action

An increasing marketisation of climate action can be observed in both the data sample as well as the literature, but this process is not without its shortcomings. Firstly, private sector contributions and the marketisation of climate action should be used as additional action and not as a replacement for state action. As the monetary pledges that were made by the Global North have not been achieved, the increased attention to the private sector can be seen as a way to cover up this inaction. The Global South

65

has repeatedly called for sufficient, timely, and trustworthy funding at COP negotiations, but the Global

North has failed to deliver on their promises. Countries with the most historic responsibility for climate

change should deliver on their current pledges, reassess whether they are doing their fair share and align

climate funding with climate justice concepts. If the foundation on which climate financing is based is not

corrected, the change it can make is only incremental and extra private sector funding will only reproduce

current power dynamics and inequalities.

The current approach to the carbon market is in line with that of the CDM and REDD+, but both

previous attempts have proved to be ineffective (Kenfack, 2022; Newell & Taylor, 2020). Carton et al.

(2020) have critiqued the market approach for depending on providing flexibility for polluters, relying on

corporate goodwill, and the institutionalisation of cost-minimisation, which they consider "are an unlikely

recipe for achieving the "rapid and far-reaching transitions"" (p. 11). The carbon market is based on the

assumption that when all costs are embedded in the price of the product, the market will eventually

account for the environmental impact of that product. However, there are many dimensions and issues

at play in forest-related CDR that also interact, and it is hard to include all dimensions sufficiently in the

price of a product to make it fair and just. Furthermore, markets are created within a context and are not

value-free (Dehm, 2016). As these markets are regulated and institutionalised by political forces that are

constituted by current dominant social forces, it is unlikely that they account for the values and needs for

marginalised groups that have little influence on these political processes (Dehm, 2016).

Thirdly, the idea of a carbon market that will fix the problem of externalities surpasses the need

for reduction in emissions and consumption and still upholds the capitalist system that has caused climate

change in the first place. The implementation of CDR-projects in the Global South is used to allow for

continued destructive consumption of the Global North and pushes the responsibility to deal with its

effects to the Global South (Bachram, 2004; Carton et al., 2020; Ervine, 2012). This is where the concept

of carbon colonialism comes to the fore, as this transfer of responsibility and appropriation of resources

fortifies historical unequal relations of powers between the Global North and the Global South, locking

the Global South in a neo-colonial pattern (Ervine, 2012). I argue that it is important to recognise that the

capitalist system that is based on ever increasing economic growth and consumption is at the root of this

problem and that this problem can therefore not be fixed with this same mindset. In the green market

approach, it is believed that sustainable economic growth can be decoupled from nature by changes in

production processes, and that it is feasible to compensate for destruction and exploitation of natural

systems by protecting or creating other natural systems in other parts of the world (Dehm, 2016). Dehm

(2016) concludes that:

> Under an unjust and colonialist logic, the 'green' economy subjugates nature and autonomous peoples
>
> by imposing restrictions on the use of and control over their territories in order to fill the pockets of a
>
> few, even when communities possess the deeds to their land. (p. 136).

6.2.3 Representation COP

To improve the meaningful representation of the Global South as well as local and Indigenous people,

some changes should be made. Firstly, the bargaining power of Global South actors should be improved

in order to go beyond just being able to make statements to actually having the agency to implement

them in eventual agreements and documents. One way of improving negotiation power is by setting up

coalitions (Betzold et al., 2012), but based on the amount of Global South coalitions groups there are

currently present and the impact they are making, this does not appear to be sufficient. Within the PCDA,

there is a consensus that the historical context is of great importance when looking at a discourse and

should be considered when stating normative action based on the analysis (Sanz Sabido, 2019). At the

COP, there is no consideration for the historical context of the UNFCCC itself, nor of the role of historic

economic and political power dynamics on the current climate negotiations. Acknowledging these

dynamics would be a first step towards creating a more even playing field for Global South actors.

Furthermore, Wamsler et al. (2020) discuss, based on workshops, surveys, interviews, and social media

activity at the COP25, that there is a perceived need for a shift in mindset in the UNFCCC where the focus

67

should be on value-based actions, and that it should support new ways of communication and collaboration, meaningful interaction, link different knowledge systems, create safe spaces, as well as the feeling of free expression and agency for change through experience, practice, and self-reflection.

The LCIPP is a multi-stakeholder platform that is aimed at creation a space for discussion for local communities and Indigenous people, as well as representing them in COP negotiations. However, it is known that it is not easy to foster equity in these kinds of platforms (Larson et al., 2022). Larson et al. (2022) argue that how participants perceive their participations in a platform is crucial to incorporate the values of equality, empowerment, and justice seriously. When taking these aspects into account in a strategic manner, platforms can foster collective action or counter power of marginalised actors, enabling them to hold more powerful actors accountable (Larson et al., 2022). Tokenism is also an issue that is encountered in the LCIPP, and Belfer et al. (2019) suggests three actions to counteract tokenism. First, they recommend cross-cultural education of non-Indigenous participants. It is also suggested to expand the formal and informal time for Indigenous and local peoples to directly engage in the climate debates, which in turn is only possible with reliable access to funding to be able to participate in all meetings, having access to all negotiation spaces, as well as translation support. Lastly, an equitable distribution of regional representation of delegates should be ensured.

Finally, an increase of the involvement of youth and activists can be observed in the discourse, and this should be kept up and stimulated in the future. Thew et al. (2021) discuss that youth participation in the UNFCCC can improve democratic legitimacy of climate change governance. They show that youth participation in its current state contributes to the input legitimacy, meaning the participation of a diverse range of stakeholders, but that inadequate support and capacity building for youth limits participation with negative impacts on justice and throughput legitimacy, referring to the democratic quality and transparency, deliberation, and accountability aspects. To improve this, Thew et al. (2021) argue for the need for improved provision of information in accessible language for younger participants, improved

access to support to build capacity, as well as active balancing of power by orchestrators such as the

Secretariat and COP Presidencies.

7. Conclusions

Forest-related CDR is included in the IPCC models to achieve 1.5 ºC temperature rise and an immense increase of these projects is planned in most countries' NDCs in the near future, mostly located in the Global South. Carbon markets are being set up and operationalized to allow for carbon offsetting on a larger scale. However, carbon offsetting and forest-related CDR-projects have been criticised for the appropriation of the atmosphere and land to allow for the continued overconsumption in the Global North, as well as causing human rights violations and ecological damage. The term carbon colonialism was introduced to describe the reproduction of power structures that allow for the exploitation of the Global South that takes place around CDR and carbon markets. The aim of this research was to gain insight into the COP negotiation processes on forest-related CDR-projects to uncover whether elements of carbon colonialism are present and to offer critique and normative action on the current situation.

The idea of carbon sinks was already introduced in international climate negotiations in 1992, but only took form with the introduction of the CDM and REDD+. These two initiatives were both focused on setting up climate action taking place in the Global South with funding from the Global North to reduce emissions and create carbon credits. In the last few years, CDR has seen another surge in relevance and mentions in the data sample as many companies and countries have released net-zero pledges. Different actors are active within this field, with the most prominent categories being the private sector, civil society and NGOs, and country groupings.

One of the main findings of this study is that the projected forest-related CDR as pledged by Global North countries risk the reproduction of injustice and historical colonial-like power structures, as almost all projects take place in the Global South and due to an overemphasis on the potential positive effects of these projects and a relative ignorance of potential negative effects, as well as the lack of consideration of justice aspects in these projects. This allows for the continued overconsumption in the Global North at the expense of the areas in the Global South where these projects are to take place. Secondly, the

increasing focus on the private sector and the marketisation of climate action is a way to divert attention from state inaction and is likely to prove ineffective when based on the previous limited success of both CDM and REDD+ carbon markets. Lastly, even though the Global South are present and have the agency to make contributions to the discussions at the COP, they still lack the bargaining power to have their statements have a significant impact on final documents and decisions.

The results of this study are used to answer the research question of this research, which was: 'In what ways are colonial power dynamics present and reproduced in climate negotiations on forest-related carbon dioxide removal projects in the period 2015-2021 and how has this influenced the implementation and effects of these projects?'. It can be concluded that colonial power dynamics are still present and reproduced in the discourse on forest-related CDR, as almost all CDR-projects discussed in the data sample are characterised by the appropriation of resources in the Global South by the Global North to enable the continuation of overconsumption and economic growth. This has influenced the implementation of these projects by highlighting and marketing the potential positive effects of CDR-projects, while downplaying the potential negative effects and justice-related issues, which literature on previous CDR-projects has proven to be substantial.

However, as many pledges have just recently been made in the last two years and most are still in the planning-stage, it is not too late to improve them and account for these issues to be able to execute them as fairly and just as possible. Most importantly, the notions of climate justice should be included in the project design, and this should be done in cooperation with the local communities in the areas where the projects will be implemented. Safeguarding systems should be put in place to prevent human right violations and the equitable sharing of benefits and burdens. CDR should be regarded as a last-resort option for emissions that cannot be abated, but the focus should primarily be on the reduction of emissions at the source and combatting overconsumption and promoting more sustainable ways of life and production. The inclusion of the private sector and the increased marketisation of climate action

should be in addition to state action and not as a substitute. The bargaining power of the Global South, as

well as that of the LCIPP, youth and activists, should be improved and a new mindset should be promoted

at the COP that focuses on linking different knowledge systems, the creation of safe spaces, and new ways

of communication and collaboration.

8. Discussion

In this last chapter, the findings of this study are linked to the relevance as stated in the introduction. The reflection is given on the theory and the findings, as well as the theoretical implications are discussed. Afterwards, the limitations of the research and suggestions for future research are given.

Carbon offsetting has been criticised in the literature since the implementation of the carbon market mechanisms under the Kyoto Protocol, with arguments including not combatting the root problem of climate change, allowing for continued high consumption rates, social injustices and human rights violations, the unequal distribution of benefits and burdens, and the reproduction of colonial power dynamics through the appropriation of land and resources of in the Global South for the benefit of the Global North, also known under the term carbon colonialism (Bachram, 2004; Ervine, 2012). However, these concerns and issues were not researched for carbon trading after the Paris Agreement and more specifically with regards to forest-related CDR-projects, as has been done in this research. This study has found that most potential negative effects of forest-related CDR-projects and carbon offsetting in general still hold for the new mechanisms introduced under the Paris Agreement and the plans for making net-zero pledges a reality. Elements of carbon colonialism can be identified in the discourse in forest-related CDR and several policy recommendations have been given to combat this.

The theory of postcolonialism has been introduced and developed mostly in the second half of the 21st century but is still used as an analytic lens to this day. Merging postcolonial theory and CDA allows for the contextualization of broader social processes from a theoretical perspective (Sanz Sabido, 2019). In the broader debates on postcolonial theory, the main theoretical focus has been on the relevance and implications of the development paradigm that is prevalent in sustainability discourses, the role of humans in relation to each other and to nature, and the importance of alternative and local knowledge systems and world views. This study has contributed to the debates on postcolonialism by analysing international climate change discourses with a specific focus on CDR and its potential effects and engaging

with a normative critique on current approaches to CDR using a postcolonial lens. The issues discussed in this research fit well with the grander lines of thoughts and the topical foci of postcolonial theory in connection to sustainability and governance sciences.

8.1 Limitations and future research

This study also knows some limitations and weaker points, as does all research. Firstly, with regards of the use of theory, PCDA is a research framework that is relatively new and theoretically substantiated mostly by Sanz Sabido (2019) and has only been used in a handful of studies. This has been accounted for in this study by cross-referencing it with both literature on postcolonial theory as well as discourse analysis, and critical discourse analysis. However, this research approach can be improved more and fleshed out by more discussion on its theoretical foundations as well as the use in more diverse kinds of research.

Furthermore, postcolonial structures play out differently on a local level and local conditions are of great importance. Young (2001) points towards a critique on discourse analysis that states that "that discourse forms a homogeneous totality that overrides the particularity of historical and geographical difference" (p. 391). As this research mainly has an international lens to determine whether issues of carbon colonialism are present, the local level has not been discussed much. This research could be supplemented by connecting it to research on forest-related CDR-projects on a local level to investigate whether these issues are also present in the same way, or maybe that it is experienced differently amongst different communities. The importance of the connection between global and local processes is also described by McEwan (2019):

Development research in global contexts involves shifting the unit of analysis from local, regional, and national cultures to relations and processes across cultures. Grounding analyses in specific, local development praxis is necessary, but understanding the local in relation to larger, cross-national processes is also important. (p. 413).

The validity of this research was ensured through the use of source and methods triangulation, but it should be noted that only text-based sources were included in the sample. This is because the UNFCCC website and Platforms mainly offer text-based sources on the COP negotiations. The critique of generating statements and claims from the example of a few texts is a persistent and valid commentary on discourse analysis in general (Young, 2001). McEwan (2019) discusses that it is of importance to focus on just text, imagery, and representation, but also on the material issues of power, inequality, and poverty by combining the text-based material with symbolic material to encourage building coalitions. Furthermore, the UNFCCC does not give any information on what exactly is said at COP meetings and presentations by actors, only which countries and groupings make a speech at what meeting. Having access to the content of these speeches and discussions themselves could help uncover further information on the bargaining power of actors and the framings that are used in the discourse. Future research could focus on gaining access to these speeches to further dive into the bargaining power of country groupings at the COP.

Finally, it should be acknowledged that this research is done by one white female researcher from the Global North, and even though steps have been taken to limit researchers' bias, it is never completely possible to write and do research without any influence of your conditions. These reliability related issues were dealt with by writing extensive notes on the research process and reflecting on these critically and acknowledging bias and explicitly dealing with it. Ferguson (1998) discusses that many Global North scholars write from a position in power that they aspire to change, and that this sort of knowledge production has the risk to valorise status quo inequalities. She therefore argues for the need for self-reflexivity, the recognition of one's social identity, and critical devaluation of moral superiority in "order to bridge identities across difference" (McEwan, 2019, p. 412). This could be improved in the future by having a more diverse group working on and reviewing these kinds of studies in the future to incorporate more diverse perspectives.

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Appendix A: Data Sample

General inclusion criteria:
- Admission of observers
- Announcements and statements
- Declarations
- Draft reports, conclusions, and decisions
    - When more than one draft of the same document was available, only the most recently revised draft is included
- Final agenda
- Finance documents (only with reference to forests or CDR)
- Joint statements
- Policy papers
- Pre-session documents
- Report addendums
- Reports
- Speeches and presentations
- Subsidiary body of implementation (only with reference to forests or CDR)
- Summaries
- Summary for policy makers

General exclusion criteria
- Administrative, financial, and institutional matters
- Agenda drafts
- Annual report of technology executive committee
- Capacity building
- Dates and venues
- Finances without references to forests or CDR
- Green Climate Fund
- Loss and damage
- Report on credentials
- Reviews and revision of terms
- Scope of next period review
- Subsidiary body of implementation without references to forests or CDR
- Workplans KCI
- Non-text sources (video, audio)

Appendix B: Inclusion and exclusion criteria for terms in qualitative analysis

Table 4

Inclusion and exclusion criteria for terms in qualitative analysis

Category	Terms	Included when	Excluded when
CDR	Emission removal GHG emission removal Carbon removal Carbon dioxide removal CO_2 removal Carbon sink Carbon sequestration	All mentions in main body of text	In references, footnotes, description of tables or figures, abbreviation lists, table of contents
Forest related CDR	Reforestation Afforestation Reduced deforestation Silvicultural investment Sustainable forest management	All mentions in main body of text	In references, footnotes, description of tables or figures, abbreviation lists, table of contents
Global South	Global South Developing countr*	If terms from the category CDR and forest-related CDR, adaptation, mitigation, low emission pathways/ development, article 4.1 of the Paris Agreement, REDD+, CDM, or abbreviations including any of these terms are mentioned the same sentence as the terms in this category	In references, footnotes, description of tables or figures, abbreviation lists, table of contents
	Least developed count* Third World		When the aforementioned terms are not used in the same sentence or the term is part of a name (e.g., Least Developed Countries Fund)
Carbon colonialism	Appropriation	All mentions related to climate action in general	In references, footnotes, description of tables or figures, abbreviation lists, table of contents
			When term is specifically related to another topic than (forest-related) CDR
	Land grab	All mentions related to climate action in general	In references, footnotes, description of tables or figures, abbreviation lists, table of contents
			When term is specifically related to another topic than (forest-related) CDR

	Responsibility	When used as responsibility for (historic) emissions, effects of climate change or CDR-projects	In references, footnotes, description of tables or figures, abbreviation lists, table of contents
	Justice	When referring to climate justice, environmental justice, or social justice	In references, footnotes, description of tables or figures, abbreviation lists, table of contents
			When referring to the justice system, e.g., Court of Justice
	Power	When referring to power on local, (inter)national level, empowerment, minorities	In references, footnotes, description of tables or figures, abbreviation lists, table of contents
			Names (e.g., Action for Climate Empowerment), energy related
	Human right*	All mentions related to climate action in general	In references, footnotes, description of tables or figures, abbreviation lists, table of contents
			When term is specifically related to another topic than (forest-related) CDR
	Agency	When used in accordance with the definition given in the theory section	In references, footnotes, description of tables or figures, abbreviation lists, table of contents

Appendix C: Other categorizations for countries in data sample

Table 5

Mentions of other categorization for countries in data sample

AILAC	32
AOSIS	64
Argentina, Brazil, and Uruguay	2
Asia-Pacific States	1
BASIC group	13
Caribbean Community and Common Market	1
Climate Vulnerable Forum	1
Coalition for Rainforest Nations	1
EIG	28
EU	53
G20	69
G7	2
G77 and China	30
LDCs	27
Like-minded developing countries	19
The African Group	37
The Arab Group	19
the Bolivarian Alliance for the Peoples of Our America – Peoples' Trade Treaty	17
The Caribbean Community	1
The Central American Integration System	3
The Coalition for Rainforests	18
The independent association for Latin America and the Caribbean	10
The Umbrella group	26
V20 (Vulnerable 20)	5

Note. All groupings that are marked green (<20 mentions) are included in the paper.

Appendix D: Mentions of actor groups in sample text

Table 6

Mentions of actor groups in text

Actors	Count
Art	10
Civil society and NGOs	382
Communities	376
Countries/governments or persons related to countries	662
Individuals, consumers, and citizens	110
Intergovernmental or international organizations	212
Local authorities	691
Media	9
Policy makers	48
Private sectors, investors, banks	1410
Scientific community	207
Youth	199