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The Green Transition and Economic Development in the Global South

The Case of the EU-Zambia Partnership on Sustainable Raw Materials Value Chains and Copper Extraction

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Abstract

The green transition has led to a growing demand for critical raw materials from the Global South for renewable energy production. However, debates have emerged discussing whether the green transition reproduces unequal economic relations and environmental harm in resource-rich countries in the Global South. In this context, this thesis examines whether the mechanisms in the EU-Zambia Partnership on Sustainable Raw Materials Value Chains support Zambia's copper-based economic development or whether these mechanisms risk reproducing patterns of colonialism. The thesis conducts a qualitative case study policy analysis of the Zambian government and EU policy documents, applying the theories of Global Production Networks, green extractivism, and green colonialism. It analyses the mechanisms in the EU-Zambia partnership in relation to Zambia's national economic development ambitions, including integration into global markets and value chains, improved transport and logistics, environmental sustainability, institutional capacity, local participation and ownership, and value addition. Using Global Production Networks, the thesis analyses whether the EU-Zambia partnership supports value creation, value enhancement, value capture, and strategic coupling in Zambia's mineral sector, thereby contributing to Zambia's economic development. The thesis also applies green colonialism and extractivism to analyze whether the EU-Zambia partnership risks reproducing patterns of colonialism. This thesis finds that the EU-Zambia partnership might support Zambia's economic development through mechanisms concerning value addition, environmental management, resource efficiency, the improvement of the railway sector, institutional capacity, and local participation. However, EU's value addition mechanisms are broad, and local ownership is not addressed, which could risk reproducing colonial patterns.

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List of Abbreviations

ASEAN Association of Southeast Asian Nations

CO_2 Carbon Dioxide

CRM Critical Raw Material

CRMs Critical Raw Materials

CSO Civil Society Organization

CSR Corporate Social Responsibility

DRC Democratic Republic of Congo

EDC Ecological Destruction Conflict

ESG Environmental, Social and Governance

ETM Energy Transition Mineral

EU European Union

EV Electric Vehicle

GND Green New Deal

GPN Global Production Network

GPNs Global Production Networks

ICT Information and Communication Technology

ICEV Internal Combustion Engine Vehicle

IMF International Monetary Fund

IML Imperial Mode of Living

JET Just Energy Transition

NGO Non-Governmental Organization

OECD Organization for Economic Co-operation and Development

REDD+ Reducing Emissions from Deforestation and Forest Degradation Plus

RSSP Railway Sector Support Programme

SME Small Medium Enterprises

UN United Nations

USD United States Dollar

WTO World Trade Organization

ZEMA Zambia Environmental Management Agency

ZRL Zambia Railways Limited

1. Introduction

1.1 The Global Green Transition and Critical Raw Materials

The global systemic shift towards an economy characterized by net-zero emissions and green development is referred to as the green transition (OECD, 2025; Granvik et al., 2025, p.1). In this context, net-zero emissions refer to reducing carbon outputs to a minimal level that can be captured and retained in the long term by the environment and other carbon dioxide (CO2) elimination approaches, leading to zero CO2 emissions in the atmosphere (United Nations, n.d.). Green development is the promotion of economic progress while guaranteeing the long-term availability of natural resources and the environmental functions necessary for human welfare (United Nations Department of Economic and Social Affairs, 2011).

Central to the green transition is the advancement of energy generation and transport industries, which are the biggest CO2 emitters (Granvik et al., 2025, p.1). This is because most CO2 emissions result from fossil fuel combustion for electricity production or transport and machinery fuel (International Energy Agency, n.d.). This advancement necessitates substantial quantities of natural resources due to green transition technologies being heavily reliant on critical raw materials (CRMs) in comparison to conventional technologies (Granvik et al., 2025, p.1). CRMs are raw materials that are economically significant for Europe but also particularly susceptible to supply interruptions (European Commission, n.d.-a). For instance, in comparison to internal combustion engine vehicles (ICEVs), electric vehicles (EVs) need six times more CRMs. In addition, CRMs are necessary components in EV batteries, electric motor magnets, cables, and wind energy (Granvik et al., 2025, p.1).

1.2 The European Green Deal and the Critical Raw Materials Act

The European Green Deal was introduced in 2019 by President von der Leyen and is Europe's development strategy to achieve carbon neutrality by 2050, foster economic growth through clean technology, develop a sustainable industrial mobility sector, and reduce environmental harm (European Commission, n.d.-b) (European Commission, n.d.-c). As well as promoting renewable and low-carbon energy, thereby reducing fossil fuel use (Podobińska-Staniec et al., 2025, p.1). Furthermore, the European Green Deal includes the reduction of CO2 outputs by a

minimum of 50 percent by 2030 (European Commission, n.d.-c). As well as reflecting the EU's commitment under the Paris Agreement to restrict global warming levels to 1.5 degrees Celsius relative to pre-industrial temperatures (European Council & Council of the European Union, n.d.). The EU claims that the European Green Deal is necessary for Europe, as Europe's future and economy rely on the well-being of the environment. As a result of human practices, global warming is rising, which is affecting weather trends. Severe weather conditions are occurring more often and are more severe, having destructive impacts on human welfare and the economy. In addition, the current economic and expenditure dynamics do not align with the capacity of the environment, thereby perpetuating environmental harm (European Council & Council of the European Union, n.d.).

One of the objectives of the European Green Deal is green industrial competitiveness. The Critical Raw Materials Act (CRM Act) was introduced to support this objective (European Commission, n.d.-c). This was introduced by President Von Der Leyen in 2022 to enhance the performance of the internal market by creating a framework that guarantees the EU's availability to reliable, robust, and sustainable provision of CRMs. This involves enhancing value chain productivity and circularity (European Parliament & Council of the European Union, 2024, p.17). Consequently, the CRM Act outlines a set of strategic and critical raw materials. CRMs refer to a list of raw materials that are viewed as critical because of their economic significance and vulnerability to supply interruptions. This vulnerability often results from the accumulation of supplies in a limited number of countries outside the EU. Furthermore, CRMs have an important role in the green transition for renewable energy production (European Parliament & Council of the European Union, 2024, p.1). Additionally, strategic raw materials are raw materials that are strategically significant for the operational ability of the internal markets. This is due to their support for the green transition, as these minerals they are utilized for strategic technologies. However, there is a mismatch between the worldwide supply and demand of these materials, and it proves challenging to expand the production of these minerals because of lengthy timelines for projects raising supply capability (European Parliament & Council of the European Union, 2024, p.2).

1.3 Copper as a Strategic and Critical Raw Material

Copper is identified in the Critical Raw Materials Act as a Strategic and Critical Raw Material (European Parliament & Council of the European Union, 2024, pp.55-56). Copper is a reddish, flexible metal and is a necessary trace element for a lot of living beings (European Commission,

2020, p.100). Copper is the most utilized heavy non-iron metal due to its high capability to conduct heat and electricity, as well as its flexibility and ability to withstand corrosion (European Commission, 2020, p.101). Due to these characteristics, copper is crucial for the energy shift, as it is required by technologies for wind parks, solar systems, and energy retention. Furthermore, copper has the capacity to conduct electricity and is highly unreactive, making it the most cost-efficient material for retaining and transferring renewable energy (Podobińska-Staniec et al., 2025, p.2). Concerning this, the EU uses copper for energy-saving electrical circuits, wiring for transferring electricity from power stations to power outlets, windings for electric motors, and electronic connectors. As well as mechanical components, vehicles, and heat transfer devices. Furthermore, there is a growth in the use of copper with the creation of modern hybrid vehicles, as these use an electric motor to sustain the combustion engine (European Commission, 2020, p.109).

1.4 The Role of Copper in Zambia's Economy

Zambia is one of the countries from which the EU imports copper (Trading Economics, 2026). Zambia is an inland country situated in Southern Africa and is positioned as the second biggest producer of copper in Africa and the ninth in the world, constituting approximately 4 percent of global copper production, generating around 800,000 tonnes yearly. Consequently, copper mining and copper extraction are the backbone of Zambia's economy. The copper sector contributes to over 44 percent of the earnings of the Zambian government and is primarily located in the Copperbelt and Northwestern provinces. Furthermore, copper accounts for 15 percent of Zambia's GPN and more than 70 percent of Zambia's exports. This highlights copper's position as Zambia's main source of foreign exchange revenues (United Nations Zambia, 2015, p.13) (World Bank, 2025, p.4). The significance of copper for Zambia's economy is further illustrated by the following trade data from 2025. In the final quarter of 2025, export revenue amounted to 3.9 billion USD, depicting a growth of 25.4 percent from the same period in 2024. This growth was primarily a result of increase in copper exports by 25.7 percent to 2.7 billion USD, due to a growth in production and elevated prices (Bank of Zambia, 2026, p.1). Moreover, concerning EU copper imports from Zambia, this amounted to 169.09 million USD in 2025 (Trading Economics, 2026). Furthermore, due to the green transition and a growth in the need for CRMs, the demand for copper is projected to continue to be high. Considering the importance of copper for Zambia's economy, this creates big economic development prospects for Zambia (World Bank, 2025, p.4).

1.5 The EU-Zambia Partnership on Sustainable Raw Material Value Chains

On the 26th of October 2023, the EU, under the representation of the European Commission, and the Republic of Zambia signed a partnership on Sustainable Raw Materials Value Chains. The partnership is grounded on ensuring the sustainable provision of CRMs, which the EU describes as necessary for the green transition. As strategic and critical raw materials, such as copper, foster the decarbonization of energy generation, digital infrastructure, and transportation, thereby contributing to the green and digital economic transitions (Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs, 2023, p.1).

In this partnership, both the EU and Zambia are dedicated to green growth, domestic value addition, and supporting the expansion of their respective countries' raw materials and zero-emission technologies value chains (Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs, 2023, p.1). Concerning the benefits for the EU and Zambia, the partnership claims that ensuring accessibility to resources is a strategic security pursuit for the EU's goal to attain its green energy and circular economy goals, which are laid out in the European Green Deal. Furthermore, regarding Zambia, the partnership assets that enhancing the sustainability of the extractive sector and creating processing, purification, reclamation and reuse capabilities can contribute to green, low-carbon and participatory economic development, local resource use and enhancement, strengthening the connectivity of the mining sector to other parts of the economy, and facilitate positive change and economic diversification (Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs, 2023, p.2).

Furthermore, the partnership states that Zambia can leverage from its strategic and critical raw materials to draw in sustainable financing for the diversification of the mineral sector and a growth in mineral recovery operations and processing. In addition, if the partnership is strictly enforced, the partnership claims that this will have advantages for the population in terms of the enhancement of employment, skills, technology, and economic diversification. Hence, improving the welfare of the population in Zambia and decreasing poverty levels (Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs, 2023, p.2)

1.6 Research Question

Despite the EU claims that the EU-Zambia Partnership on Sustainable Raw Materials Value Chains will contribute to Zambia's economic development, there are both academic literature and civil society sources that contradict this claim. These sources question whether the EU's imports of raw materials from the Global South for the green transition risks reproducing unequal economic relations between the EU and resource-rich countries in the Global South.

For instance, a report by the European Environmental Bureau and Friends of the Earth Europe argues that the EU trade policy is structured around high amounts of imports of low-value and unrefined raw materials and extensive exports of processed products. This is supported by increased tariffs on processed commodities and reduced tariffs on raw materials, encouraging processing in the EU. As a result, raw material processing in Global South countries is limited and unfair labor differences between the EU and the Global South are perpetuated (Bolger et al., 2021, p.33). Furthermore, the report projects that the Global North draws raw materials from the Global South adding up to 1.8 trillion euro annually, while also perpetuating environmental harm in the Global South through mining operations. These factors contribute to natural resource exhaustion, limiting the ability for future generations in the Global South to advantage from these natural resources (Bolger et al., 2021, p.16). Similarly, Boafo et al., (2025) provide an academic critique of the EU's strategic partnerships for acquiring critical raw materials from Africa. This critique claims that these partnerships place Africa in low roles in the global value chains. Thereby reinforcing colonialist resource appropriation, where Africa provides raw materials and labor for Europe's progress and economic development (Boafo et al., 2025, p.8). Concerning these debates, this thesis aims to examine whether the EU-Zambia partnership contributes to Zambia's economic development. Which leads to the following research question:

How do the mechanisms in the EU-Zambia Partnership on Sustainable Raw Materials Value Chains support Zambia's copper-based economic development, and to what extent do they risk replicating colonial patterns?

2. Literature Review

Copper is an important mineral for the green transition, due to its properties being critical to produce technologies for the energy transition. In the context of the energy transition, all technologies utilize copper, whether it concerns photovoltaics, wind parks, energy retention, or electric mobility (Gonzalez and Macia, 2026, p.7) (Podobińska-Staniec et al., 2025, p.2). Despite its importance, only a few studies focus specifically on copper. Gonzalez and Macia (2026) combine energy justice (EJ), political ecology, decolonial critiques, and green extractivism to examine copper extraction in Chile and Peru. The study finds that critical mineral supply chains perpetuate sacrifice zones. Another scholar focusing on copper is Tiefenbach (2023) applying a critical post-development framework and social movement theory to examine resistance discourses in social movements against copper mining in Peru. The study finds that the green transition frisks intensifying the colonial legacy of resource exploitation that is harmful to the environment and society and that benefits the Global North, while weakening opportunities for sovereign development trajectories in the Global South.

2.1 Multi-Country Studies of the Global South

A growing strand of literature critically examines how the green transition perpetuates colonialism through the extraction of critical raw materials (CRMs) from the Global South. Much of this literature adopts a broad geographical focus on the Global South, drawing on evidence from multiple countries, and a broad material focus, engaging with several raw material sectors,. Analyzing multiple countries across different continents and various materials, rather than concentrating on a specific material and national or continental contexts.

Within this scholarship, Useche and Poggi (2026) apply the concept of green extractivism to analyse nineteen metals needed for Europe's decarbonization. These metals include copper, zinc, lead, nickel, iron, tin, platinum, iridium, neodymium, dysprosium, praseodymium, chromium, manganese, molybdenum, vanadium, bismuth, germanium, tellurium, and silver. Their findings highlight that mining facilities are highly concentrated geographically within the Global South, especially Central Asia and Africa. Furthermore, there is supply scarcity, with 10 out of 19 metals analysed proving insufficient to meet the demand of the Just Energy Transition (JET), persistent asymmetric dynamics between the Global North and Global South, and the geographical concentration of critical deposits in vulnerable areas. The study claims that these factors may perpetuate neo-colonial extractive dynamics.

Similarly, Boretti (2025) focuses on the Global South, critiquing the EU "green deal" and "Just transition" discourses through a combination of decolonial theory, political ecology, energy geopolitics, and just transition scholarship. By analyzing case studies focusing on cobalt in the Democratic Republic of Congo (DRC), lithium in South America, rare earth metals in Malaysia, and lithium in Serbia. The study shows how EU policies conceal ongoing neocolonial patterns and overlook environmental and social consequences in the Global South.

Comparably, Zografos (2022) focuses on the Global South, drawing on examples of the Lithium Triangle (Argentina, Chile, and Bolivia), cobalt in the Democratic Republic of Congo (DRC), nickel in Indonesia and the Philippines, and the biggest solar power plant in Morocco. Applying the concepts of colonialism, decolonization, and the concept of "green sacrifice zones" to highlight how the Green New Deal's (GND) claims of justice and climate salvation conceal their entanglement in modern colonial dynamics rooted in preconceptions of racial and social inequalities. Consequently, Global South populations and ecosystems may become "Green Sacrifice Zones".

Contreras (2023) extends this critique, maintaining a focus on the Global South, employing energy colonialism to analyze the impact of large-scale renewable energy projects in the Global South and in Global North peripheries. Conducting case studies on Mexico, Moroccan-occupied areas in the Western Sahara, Norway's Sami territory, and Spain's rural territories. The study finds that unequal colonial relation grows with the Global North's increased consumption and its corporate energy transition, and extractivism and land dispossession in the Global South and Global North peripheries worsens.

Finally, Pan (2025) employs ecocritical theory to examine carbon colonialism, the Global North's allocation of emission reductions and environmental costs onto the Global South, through climate tools and policies. The paper finds that carbon colonialism integrates capitalist ideas within the environmental sphere, thus heavily impacting the environmental autonomy, development rights, and environmental well-being of the Global South.

Collectively, this literature demonstrates that the green transition risks perpetuating colonialism. However, the studies examine multiple countries in the Global South and a wide range of materials, limiting insights on specific regional and material contexts.

2.2 Studies on Latin America

Within studies on the Global South, there is a strong regional focus on Latin America, particularly concerning lithium extraction. This regional focus highlights Latin America's significant role in supplying raw materials for the green transition.

Dorn (2022) highlights the presence of copper, lithium, nickel, manganese, zinc, tin, graphite, silver, tellurium, selenium, and molybdenum in Latin America and draws on multiple empirical examples of lithium, green hydrogen, and soybean cultivation in Latin America. Applying green colonialism, Dorn (2022) finds that there are various characteristics of colonialism in the current climate adaptation and mitigation policies, such as institutional bias between rich and poor nations, using climate change policies as an accumulation method to reinforce prevailing power dynamics, climate discourses that validate socio-ecologically destructive structures of exploitation.

Similarly, Walter et al. (2025) also mainly focus on Latin America, using green extractivism and the decarbonization consensus to examine twenty-five cases of big mining issues in the extraction of copper, graphite, and lithium in nine countries in America. The Latin American countries include Mexico, Argentina, Panama, Chile, Peru, Bolivia, and Ecuador, as well as the United States and Canada. The paper found that metal and mineral demand for decarbonization is intensifying ecological, social, and cultural issues and resistance, in the Global South and as in developed nations. These issues include territories becoming sacrifice zones, criminalization and violence against local protestors, unrest in Canada and the United States, Global competition for critical materials altering extraction frontiers, provoking resistance, and creating friction in the dynamics of globalization and deglobalization.

Furthermore, Heikkinen (2024) draws on "the political ecology of green extractivism and vulnerability to disentangle the multi-scalar power dynamics in the global low-carbon transition and green extractivism, and how these influence climate-associated vulnerabilities. Examining the green extractivism of Zinc and its climate-associated vulnerabilities in the Cunas watershed in Peru is needed for low-carbon technology. The study has found that growing extractivism resulting from the low-carbon shift may perpetuate water-associated vulnerabilities.

While Sanchez et al. (2022) use dependency theory to conduct a case study on lithium in Chile, copper in Peru, and silver in Mexico, demonstrating that the green of extractives is enabled but also opposed by various groups. Supporting actors include central governments, companies, and elites framing extractivism as "progress" and "sustainable development". The

media emphasizes this discourse, which is believed by an increasing middle class, but contested by critical social groups. Furthermore, the study emphasized that "sustainable" mining activities reinforce eco-territorial disputes. In addition, the dominant strategies addressing climate change perpetuate both green extractivism and a green imperial mode of living (IML). Hence, leading to the exploitation of the environment, territories, and people.

Like Sanchez et al. (2022), Jerez (2021) also focuses on lithium in South America, combining a decolonial and water justice approach with Latin American political ecology to examine the connections and interactions between lithium extractivism, green electromobility, and inequities associated with water affecting the Atacameño indigenous populations in the Salar de Atacama basin (Atacama Salt Flats). The study finds that there is a type of green extractivism in the connections and interactions between global and local dynamics of lithium mining in the Salar de Atacama. This is further deepening the historical North-South asymmetries and particularly impacts the indigenous Andean lands and the Global South's water ecosystems.

Similarly, Munoz (2023) examines lithium mining in South America, applying green extractivism to the case of lithium mining in the indigenous Atacameño-Likanantay peoples in Chile in the Salar de Atacama. This study examines national political and legal developments concerning lithium since the mid-twentieth century, emphasizing a prolonged extractivist relationship between the government and lithium firms in the Salar de Atacama.

Lastly, grounded in critical theories of resource governance, scholarship on narratives and imaginaries of resource extraction, and Michel Foucault's discourse theory, Voskoboynik and Andreucci (2021) focus on the Lithium triangle in Latin America (Bolivia, Chile, and Argentina), examining the discursive methods used by institutional actors wanting to facilitate and enable acceptable lithium mining in the lithium triangle. The study claims that such methods perpetuate prosperity and modernisation narratives connected to mineral and oil wealth, while simultaneously linking mining to high-tech sectors, green employment, and environmentally friendly extraction, aiming to mask the social and environmental impacts of lithium production. This instantiates green extractivism, where severe resource exploitation is portrayed as aligned with climate change and needed for its mitigation.

Although this literature provides valuable insights into how extractivism and colonialism impact on Latin America due to the green transition, its focus on Latin America overlooks African contexts.

2.3 Studies on Africa

Compared to Latin America, Africa remains understudied in the literature on colonialism and extractivism and CRMs for the green transition. Boafo et al. (2024), draws on the concept of critical minerals to conduct a case study of lithium mining in Africa, examining the implications of the struggle for Africa's minerals by the EU, US, and China to achieve decarbonization and clean energy goals. Boafo et al. (2024) argue that Africa's role in critical mineral supply chains does not go further than extraction, limiting Africa's gains from their mineral resources. Furthermore, the narrative that critical minerals in Africa are in urgent demand merely benefits the financial and geostrategic objectives of Western nations and China. Moreover, the competition for Africa's critical minerals, especially lithium, is already perpetuating prevailing socio-ecological issues in Africa's mining sector.

Similarly, Boafo et al. (2025) critically analyze the EU's policies on electricity and the sourcing of critical raw materials from Africa, focusing on how these policies perpetuate unequal trade relations between the EU and Africa and reinforce Africa as a supplier of inexpensive raw materials to the global economy (Boafo et al., 2025, p.2). Examining Zambia, which is rich in copper, cobalt, nickel, and manganese, and the Democratic Republic of Congo (DRC), which is rich in copper, cobalt, coltan, lithium, nickel, and rare earth elements. The study concludes that the EU's energy transition approach may perpetuate colonial appropriation when engaging with Africa's resource industries.

Adding to this, Nyamwanza and Bhatasara (2025) draw on the concept of extractivism and climate justice to examine the case of lithium mining in Zimbabwe. The study finds a continuation of colonial extraction practices resulting from the growth of the global demand for minerals to reduce climate change. Furthermore, local communities directly affected by mineral extraction are not significantly benefiting. There are concerns regarding poor safety protocols, unsafe work environments, unjust relocation measures, environmental harm, and minimal wages for employees.

Likewise, Reboredo (2025) draws on various viewpoints from critical political economy, analyzing the Lobito Corridor, including Angola, Zambia, and the DRC. The study finds that the Lobito Corridor has been heavily impacted by African actors, advancing their objectives. However, the Lobito Corridor is also grounded on the mass export of raw materials, which perpetuates resource dependency. Correspondingly, it has been heavily documented that such strategies have significant environmental, social, and political effects that undermine development objectives.

Although the previous literature provides important insights into how the green transition can reproduce colonialist patterns, several gaps remain concerning the geographical, material, and theoretical scope of the literature. To begin with, the literature is geographically skewed. Much of the literature focuses broadly on the Global South and on Latin America, especially in countries rich in lithium, such as Chile, Bolivia, and Argentina. In contrast, insights on Africa are limited. Furthermore, there is a material imbalance in the literature. There is an imbalanced material focus on lithium, despite copper also being essential for the green transition. Lastly, the literature is dominated by critical approaches, including colonialism, energy colonialism, green colonialism, green extractivism, decolonization, political ecology, ecocritical theory, critical political economy, dependency theory, decolonial, and water justice approaches. While these perspectives offer useful insights, they focus on critique. To address these limitations, this thesis combines critical perspectives, namely climate colonialism and green extractivism, with Global Production Networks (GPN), providing a nuanced analysis. Furthermore, this thesis will focus on copper extraction in African contexts to address this gap.

3. Methodological Framework

3.1 Single Case Study

This thesis employs a single case study approach to analyze the EU-Zambia Partnership on Sustainable Raw Materials Value Chains, focusing specifically on Zambia's copper exports to the EU in the context of the green transition. A single study allows for detailed insights into a specific occurrence, referred to as a case, which is understood and analyzed as part of a broader trend (Seha & Muller, 2016, p.422). Thereby, a single case study facilitates an in-depth examination of the EU-Zambia partnership as a case through which to explain the link between the Global North's increasing demand for raw materials for the green transition and economic development in the Global South.

3.2 Case Selection

Zambia was chosen as a case for this thesis because as it is one of the main copper producing countries in the Global South, and copper plays a key role in the global green transition for sustainable technologies (Podobińska-Staniec et al., 2025, p.2). In addition, the EU´s increasing need for copper and other raw materials for the green transition makes Zambia a relevant case for analyzing the impacts of the EU's green transition for raw material-exporting countries in the Global South.

Consequently, copper was selected because it is economically important to Zambia and strategically important to the EU (United Nations Zambia, 2015, p,13) (European Parliament & Council of the European Union, 2024, pp.55-56). This makes it useful for analyzing whether the growing demand for raw materials linked to the green transition can foster economic development in the Global South or risk replicating colonialist patterns.

Furthermore, the EU-Zambia Partnership on Sustainable Raw Materials Value Chains was chosen because it provides a specific example of an EU raw materials partnership with a resource-exporting country in the Global South. Therefore, the case is useful for examining whether the mechanisms in this partnership support Zambia's development goals or risk reinforcing colonialist patterns.

3.3 Data Collection

This thesis uses a qualitative approach because it analyses non-numeric data from policy documents (Lim, 2015, p. 222). This approach is suitable for understanding the mechanisms in

the EU-Zambia partnership on Sustainable Raw Materials Value Chains and Zambia's national economic development ambitions. Thereby, helping to assess whether the EU-Zambia partnership contains mechanisms that promote economic development or replicate patterns of colonialism in Zambia.

Considering this, the qualitative sources used for the policy analysis are primary sources. These are original sources created by people providing a first-hand account of the data that they are explaining. The primary sources used in this thesis include official documents, which are documents that are publicized by a government, institution, or firm. These documents can give us in-depth information about a specific institution (Lamont, 2015, p. 80). The official primary documents included in this thesis are official policy documents from the Zambian government and the EU.

The Zambian policy documents include the Eighth National Development Plan 2022-2026, the National Industrial Policy, the National Mineral Resources Development Policy 2022, the National Green Growth Strategy 2024-2030, and the National Critical Minerals Strategy 2024-2028. These documents are used for detailed information about the economic development ambitions of the Zambian government concerning the copper sector.

The EU policy documents include the EU-Zambia Memorandum of Understanding on Sustainable Raw Materials Value Chains, the European Critical Raw Materials Act, A New Industrial Strategy for Europe, the Railway Sector Support Programme, and the Action Document for Improved Accountability, Access to Justice and Equality along the Critical Raw Materials Value Chain. The mechanisms in these official EU documents are examined to highlight whether these may contribute to Zambia's economic development or risk reinforcing colonialist patterns.

3.4 Justification of Data

These policy documents were selected based on their connection to the research question, as they provide information about Zambia's economic development ambitions regarding copper mining and export to the Global North, as well as the EU's mechanisms concerning the import of copper and other critical raw materials from the Global South. Thereby, these policy documents help compare Zambia's economic development objectives with the mechanisms in the EU-Zambia Partnership on Sustainable Raw Materials Value Chains. This enables the assessment of whether the partnership fosters Zambia's economic development or risks perpetuating colonial patterns.

3.5 Search Criteria

The primary policy documents used in this thesis were found through internet-based research, referring to the use of the internet to find information on a research topic (Lamont, pp. 87-88). The policy documents were found using Zambian government websites and EU websites, such as Eurostat and the European Union Open Data Portal. Zambian government websites were used to find information about Zambia's economic development objectives in relation to copper mining and export. While EU sources were used to find data on critical raw materials and the EU-Zambia Partnership.

Search terms included: "Zambia copper exports", "EU Zambia Copper", "EU Zambia Critical Raw Materials", "EU copper imports Zambia", "EU Zambia MOU", "EU Zambia partnership", "Zambia mineral development strategy", and "Zambia mineral development policy". In addition, documents were selected based on whether they provided information on Zambia's copper exports, the EU's demand for copper, Zambia's role as a global copper supplier, value addition in Zambia's mineral sector, challenges associated with mineral extraction, Zambia's national development goals, EU policies on critical raw materials, EU policies on copper, and the EU-Zambia Partnership on Sustainable Raw Materials. These documents provided data to analyze whether the mechanisms in the EU-Zambia Partnership support Zambia's economic development ambitions or risk reproducing colonial patterns.

3.6 Analytical Approach

As mentioned above, this thesis conducts a qualitative policy analysis on the EU-Zambia Partnership on Sustainable Raw Materials Value Chains, with a particular focus on copper. This analysis focuses on comparing Zambia's economic development ambitions with the EU mechanisms presented in the partnership. The analysis is conducted using Global Production Networks (GPN), green colonialism, and green extractivism. GPN is used to examine whether the EU-Zambia partnership supports Zambia's economic development ambitions through value creation, enhancement, capture, and institutional power. Furthermore, green colonialism and extractivism are used to examine whether the partnership replicates colonialist patterns through environmental harm and unequal exchange. Thereby, these frameworks facilitate the assessment of whether the EU-Zambia partnership contributes to the economic development of Zambia or risks replicating patterns of colonialism.

3.7 Limitations

This thesis has various limitations. To begin with, the EU-Zambia partnership is quite recent and ongoing, making it difficult to analyze the effects of the partnership. Therefore, this thesis will analyze the mechanisms within the partnership instead of long-term impacts. In addition, case studies are criticized for not being generalizable, as they focus on one or a small number of cases (Seha & Muller, 2016, p.422). Furthermore, researchers often do not have access to all archives of a particular state or organization, as these are usually restricted. Even when there is full access to a document, the documents might not give full insight into the information recorded in an institution's memory, and various details of social interaction may not be evident to the researcher (Lamont, 2015, p. 881). This is particularly an issue within International Relations, where students are seeking information concerning foreign policy and international politics from states or organizations that want to hide most of their everyday activities and decision-making procedures, due to competitive external actors who may use the information for an advantage (Lamont, 2015, p. 81). Since this thesis mainly analyzes state and organizational documents, these limitations pose a challenge. There were documents that were inaccessible, such as the EU's roadmap related to its relationship with Zambia. Furthermore, there may have been details in the documents analyzed that were not present.

3.8 Research Ethics and Validity

Research Ethics and Validity have also been considered. With internet-based research, there are sources that are not reliable, as webpages and the information within these webpages can be created by anyone, as the people on the internet do not have to go through control or peer review (Lamont, 2015, p.88). Therefore, the data used in this thesis is either official data from government and organizational pages or academic peer reviewed literature. Furthermore, regarding research ethics, the full URL will be provided, including the date that it was accessed, as well as references and in text references.

4. Theoretical Framework

4.1 Global Production Networks

A production networks refers to a system of interlinked activities and exchanges enabling the manufacturing, delivery, and usage of a particular good or service (Hunt, 2025, p.2). Furthermore, in a production network, actors from various regions and nations, with their respective economies, collaborate and contest to gain a higher amount of value through economic activities from spatially distributed financial activity (Bridge & Faigen, 2023, p.2). A production network is influenced by internal aspects, such as innovation mechanisms or firm practices to attain a relative advantage, as well as external aspects, including states aiming to gain geopolitical power through production capabilities (Hunt, 2025, p.2).

Global Production Networks (GPN) focus on these production networks, thereby examining the geographical separation of manufacturing and service operations and its connection to asymmetrical and regional growth (Bridge & Faigen, 2023, p.2). GPN focuses on a specific production network by centering on structural and relational dynamics that function across various levels and structure network arrangements, thereby facilitating an in-depth examination of the relationships that organize production networks (Hunt, 2025, p.2). Originally introduced by Henderson et al. (2002), the GPN approach highlights networks between firms, within firms, and beyond firms partaking in any financial activity, as well as their organizational and geographical structure (MacKinnon, 2012, p.303) (Coe & Yeung, 2015, p.14). Consequently, GPN seeks to examine international networks of activities of companies and non-company actors, where goods and services are created, delivered, and used. The purpose of GPN analysis is to show the developmental effects on territories which are linked through these networks (Coe & Yeung, 2015, p.14).

Furthermore, GPN has a multi-actor and multi-special focus, highlighting the dynamic relationship between multiple actors, groups of actors, and geographical scales. This includes non-financial actors, provincial and state organizations, non-governmental organizations (NGOs), indigenous peoples, civil society organizations (CSOs), and worker groups, and considers the wider political economic conditions (Dorn and Huber, 2020, p.184).

There is a growth in the use of GPN to examine the developing extractive sectors in relation to energy transitions (Hunt, 2025, p.2). Due to extractive activities being highly globalized, GPN is fitting to examine global effects on the local scale, as well as to outline asymmetrical development trajectories. In this regard, the global in GPN assists with identifying a GPN within the transnational arena that is constructed and organized by transboundary belief

systems, institutions, and elites. The asymmetrical authority over production stages, sites of extraction, and interconnections between economic and non-economic agents in the network inevitably creates disparities (Dorn and Huber, 2020, p.184). Grounded in the three main concepts of value, power, and embeddedness, GPN provides a framework for interpreting the multifaceted local-global social, economic, and institutional interactions and interrelations between involved economic and non-economic agents (Dorn and Huber, 2020, p.184). The three key concepts of value, power, and embeddedness will be discussed below.

4.1.1 Value in Global Production Networks

The first concept within GPN is value, which concerns the financial return or rent gained through the manufacturing of products for sale (MacKinnon, 2012, p.229). This can be done through value creation, value enhancement, and value capture (Henderson et al., 2002, pp. 448-449). The concept of value enables the distinction between the initial generation of value through the creation of various types of rent, its improvement via processes of value enhancement, and value capture (Dorn and Huber, 2020, p.184).

To begin with, there is the initial value creation of firms in a GPN. Value can thus be understood as the excess rent generated in cross-border production networks through the labor process (Hess, 2018, p.3). This drawing attention to employment, competencies, labor conditions, manufacturing technology, and productiveness at different levels of the network, with significant implications for socioeconomic development (Henderson et al., 2002, p. 448; Hess, 2018, p.3).

Furthermore, there is a focus on the different sources where firms can generate rent (Henderson et al., 2002, p. 448). These include technological rents, which are accomplished through access to sophisticated product and production technologies (Hess, 2018, p.3). Brand Rents: referring to achieving brand recognition in big markets, through a robust market position and buyer preferences (Henderson et al., 2002, p. 448; Hess, 2018, p.3). Organizational rents: attained through the improvement of administration and institutional capabilities (Hess, 2018, p.3; Henderson et al., 2002, p. 448). Relational rents: achieved through production ties with other firms, strategic partnerships, or connections with small and medium-sized enterprises clusters (Henderson et al., 2002, p. 448). Trade Policy Rents: In sectors where there are strict global trade restrictions and rules, advantaged access might create trade policy rents (Hess, 2018, p.3).

Moreover, value can also be enhanced. Value enhancement refers to enhancing

economic profit by incorporating either material or immaterial inputs into a pre-existing product or service (Hall et al., 2024, p.2). Moreover, value can also be enhanced in the following ways. The type and amount of technology transmission within and beyond a production network. The level of engagement between firms, suppliers, and subcontractors within the network to enhance the standard and technological advancement of their products. Increased demand for capacity in specific labor processes over time. Whether local firms begin to generate their own organizational, relational, and brand rents. In all these instances, national institutional actors, such as government institutions, workers' unions, and employer associations, may be crucial for value enhancement (Henderson et al., 2002, p. 448).

There are also various opportunities for value capture. Value capture refers to the capability of specific agents and territories to maintain an economic profit (Hall et al., 2024, p.2). To begin with, value can be created an enhancement in specific locations, but this differs from being captured to advantage those locations. The first value capture issue concerns government policy since property rights and ownership laws, and capital return are important. The second issue concerns firm ownership, since the proportions of foreign owned, domestically owned, or shared equity firms are important. The third issue is regarding corporate governance in specific national contexts, since the level to which corporate governance is based on stakeholder principles, instead of shareholder domination, can have significant impacts on whether value created in a specific place stays there and is used to advantage the country (Henderson et al., 2002, p. 449).

4.1.2 Power in Global Production Networks

Power dynamics shape the way in which value is generated, improved, and captured within GPNs (Eastaway & Miquel 2026, p.2). The second key concept within GPN is power (Henderson et al., 2002, p. 450). Power concerns an agents' capability to exert and gain control over a specific strategic output according to its own self-interest. Resource gathering and control are needed, but not enough for power exertion (Loyola, 2024, p.3). This power is crucial for value enhancement and capture, and hence for the potential for prosperity and development (MacKinnon, 2012, p.229; Henderson et al., 2002, p. 450).

GPN focuses on power that is exercised by agents, one of these is referred to as institutional power (Loyola, 2024, p.3). Institutional power functions through policy and regulatory structures (Eastaway & Miquel 2026, p.2). This type of power can be exerted by the following actors: the national and local state, international and inter-state agencies such as the

European Union or other less established agencies such as ASEAN or NAFTA, the Bretton Woods institutions such as the International Monetary Fund, World Bank, and the World Trade Organizations, UN agencies, and the international credit rating agencies. (Henderson et al., 2002, pp. 450-451). These influence firm activities and instead of constituting an external setting in which firms operate, these nonfirm agents are viewed as essential components of GPNs (Hess, 2018, p.3).

The capability to exert power and affect the investment and additional decisions of firms within GPNs is unequal. National States are viewed as the most influential to private firms when it comes to industrialization and development. The power of inter-state agencies is significant, especially in the case of the EU. States exert power enabling and regulating economic activity, exerting buyer power acting as large-scale buyers (public sector buying), and producer power (through state-owned companies) (Hess, 2018, p.3). The Brenton Woods institutions have significant power; however, this is exercised indirectly, and the effects on firms, workers, and societies are viewed through the economic and social policies that national governments must enforce. UN agencies have less power than the others as it has an ethical and guiding impact on firms. Credit rating agencies have potentially significant power, directly for lead companies and indirectly for national governments providing credit risk assessments (Henderson et al., 2002, pp. 450-451).

4.1.3 Strategic Coupling and Regional Development

Value creation, enhancement and capture can contribute to strategic coupling (Nilsen, 2019, p.817). Strategic coupling is the process through which a regional economy is advantaged from the developing GPN dynamics in various international industries; its regional assets must be incorporated into GPNs through the process of strategic coupling. Strategic coupling is the deliberate linking of actors in regional economies and GPNs for common advantages. These actors can be state institutions, workers' organizations, and business associations. Regional assets are reflected through local industrial companies and technological institutions that work together with key international firms and their counterparts and suppliers in various GPNs (Yeung, 2015, pp.5-6). Before moving further, it is crucial to clarify that strategic coupling was initially developed to explain regional development; it has also been applied to analyze country-level development. For instance, Yeung (2016) uses strategic coupling for analyzing national-global linkages (Yeung, 2016, p.73). In essence, regional assets are integrated into new production networks by being connected with the strategic necessity of central companies in the GPN, leading to regional development through investments from abroad, knowledge

exchange, and prospects for cooperation between local industries and central companies in GPNs (Hunt, 2025, p.2).

Considering this, strategic coupling highlights the link between locally embedded assets, such as resources, infrastructure, local firm networks, and the value capture tactics of dominating companies, emphasizing the intermediary function of states and institutions. Strategic coupling might be advantageous for industrialization and capacity building, but might also include structural types of coupling defined by external dependencies, lock-in into low-value roles, and types of production that are unsustainable for the environment (Hunt et al., p.3). Peripheral regions might experience asymmetric relationships with dominant companies and might remain reliant on externally driven activities without internal development strategies. This is referred to as structural coupling, where GPN relationships are formed based on relationships where lead firms dominate, while regions, which are either sites for foreign-owned production or natural resource extraction, have subordinate and temporary functions across GPNs (Fu & Lim, 2021, p.31).

4.2 Green Colonialism

4.2.1 Colonialism, Coloniality, and Climate Coloniality

Colonialism refers to an unequal relationship grounded in spatial displacement and violence. It is one of several types of uneven relationships encompassing individuals and collective actors. While displacement creates a separation between two different spaces, the metropole and colony, violence facilitates appropriation and dispossession. It is violence that renders colonialism as a structurally asymmetric relationship and constructs the identities of the colonizer and the colonized. In contrast, displacement without violence. produces different relations and subjectivities, such as host and guest. Hence, displacement and violence are two key elements that sustain colonialism as an unequal relationship (Veracini, 2022, p.1).

Although colonial practice dates to ancient times, colonialism is typically linked to the European domination of territories in Africa, Asia, Australia, and America, and other lands overseas from the 15th to the 20th centuries (Levine, 2014, p. 3). While colonialism largely ended by the end of the 20th century, former colonial states continue to have an impact on the developing countries (Levine, 2014, p. 6).

Coloniality refers to the persistence of unequal power relations and racial domination created under the colonial period, which continue to affect postcolonial societies (Sultana, 2022, p.4). It functions as part of the global system of capitalist power, grounded on the

enforcement of racial and ethnic categorization of the global population as the foundation of that system of power, functioning across all domains of daily life and at the social level (Quijano, 2024, p.96).

Climate coloniality builds on this concept by showing how continuities of imperial violence causes environmental harm and contributes to the growth in climate-exacerbated catastrophes. These effects are endured by marginalized communities globally, disproportionally rendering them vulnerable and expendable (Sultana, 2024, p.3). These dynamics are shaped by neocolonialism, asymmetric consumption, military dominance, and Eurocentric dominance. Furthermore, climate coloniality is conveyed through racism and othering through colonial and capitalist extractivism and marketization, violent displacement and harm, environmental deterioration, sacrifice zones, unequal exposure to climate hazards, and more (Sultana, 2024, p.4). Climate coloniality disproportionally places racialized societies at risk and treats them as expendable (Sultana, 2022, p.4-5).

In the context of asymmetries between the Global South and Global North, historically rooted differences place former colonial and imperial countries in a favorable position over colonized, post-colonial, and seized territories. Considering this, colonial perspectives of extractivism persist through neocolonial and development initiatives. The asymmetric ecological exchange between countries in the Global North and Global South, continuing extractive capitalism, and imperial systems of international trade and power, create policies and ideologies that contribute to sustaining climate coloniality (Sultana, 2024, p.4). This unequal ecological exchange is referred to by scholars as a continuous colonial resource transfer from the Global South to the Global North, perpetuating the overdevelopment of the Global North at the expense of the Global South. These dynamics reproduce harmful and dispossessive colonial patterns (Sultana, 2024, p.4).

Considering this, climate coloniality is reinforced by REDD+ initiatives, global land and water appropriation, neoliberal conservation initiatives, mineral extraction, growth-driven deforestation, fossil fuel-related conflicts, and new agricultural green revolutions. These initiatives advantage a few while depriving bigger amounts of historically poor populations, usually located abroad. Moreover, these initiatives are described using various names, including green colonialism, but usually with similar effects of domination, dispossession, degradation, and poverty (Sultana, 2022, pp.4-5).

4.2.1 Green Colonialism

Green colonialism refers to an extensive range of inequities related to the global energy transition and the battle against climate change (Dejonghe & Graaf, 2025, p.3). In this context, structural relationships and dependencies between the Global South and Global North are used in the name of fighting climate change. While the idea of a green economy is increasingly utilized in the battle against climate change, its inconsistencies are often disregarded. The Global North can only keep its quality of life through the exploitation of materials, territory, or workforce in the Global South. At the same time, numerous green technologies are increasingly reliant on exhausting natural resources (Claar, p.264).

Green colonialism has been previously applied to a variety of contexts, including the effect that wind farms have on indigenous populations in Norway, the creation of conservation zones in Palestine, the establishment of renewable energy initiatives in contested zones and forest preservation, lithium mining, and green hydrogen initiatives in Latin America (Dejonghe & Graaf, 2025, p.3).

Sustainable energy projects, including wind parks and hydroelectric power plants, are usually carried out without adequate consultation or authorization. As a result, they perpetuate land dispossession, cultural degradation, and socio-economic disturbances, thereby reproducing exploitative dynamics (Mao, 2025, pp. 1-2). In this sense, global energy approaches focus on resource extraction and infrastructure enhancement over the rights and well-being of indigenous populations. Furthermore, green colonialism involves the marketization of natural resources while displacing their socio-environmental consequences to marginalized populations, perpetuating socio-economic asymmetries and environmental deterioration. Consequently, economic development and energy security are advanced at the detriment of marginalized populations (Mao, 2025, p.2).

Despite being presented as sustainable, energy projects green colonialism can have severe have long-term socio-environmental risks. Green colonialism often has serious consequences for indigenous populations and contribute to the historical marginalization of indigenous populations. In addition to land dispossession, green colonialism also entails resource dispossession. For instance, the extraction of resources for renewable technologies, has led to new exploitation patterns, especially in the Global South and the Artic. These mining activities usually cause severe environmental harm, including water pollution and ecological damage, increasing the marginalization of indigenous populations (Mao, 2025, p.2).

These practices compromise the viability of sustainability goals by perpetuating a

colonialist strategy to environmental governance, in which energy security is used as an excuse for exploitative approaches. Under this approach, the consequences of energy projects are shifted into populations at risk, who bear the socio-environmental consequences (Mao, 2025, p.2).

In this context, Maristella Svampa and Breno Bringel introduce the concept of the 'Decarbonization Consensus'. This is the degradation, worsening asymmetries, natural resource exploitation, and nature commodification perpetuated by the shift in energy systems from being centered on fossil fuels to decreased carbon emissions, centered on renewable energies, which has surfaced over recent years. Its motif is to combat global warming and the climate crisis by encouraging an energy transition guided by digitalization and electrifying consumption. Nevertheless, instead of preserving the planet, it fosters the mentioned issues (Lang et al., p.3, 2024).

In recent years, all the main global powers (the EU, the US, and China) have committed to diminishing carbon emissions and transition their economies towards low-carbon and decarbonized modes of production, while also aiming at new prospects of green economic development. However, this Decarbonization Consensus is characterized by green colonialism. It drives both neo-colonial environmental activities and imaginaries. Under a new twist on the discourse of sustainability, a new phase of ecological dispossession of the Global South is occurring, impacting the lives of millions of human and non-human beings, further threatening biodiversity and degrading strategic ecosystems (Lang et al., p.4, 2024).

Green colonialism occurs in a minimum of four distinct dimensions of the relationship between the Global North and Global South, which are altering and developing in the circumstances of the Decarbonization Consensus (Lang et al., p.5, 2024).

- Firstly, the idea of limitless raw materials in 'resource security' policies adds an additional 'green' dimension to the prevailing extractivist pressures.
- Secondly, imposing specific conservation models in territories in the Global South through carbon offset schemes, which simultaneously delays necessary structural transformations in polluting production operations located in the Global North.
- Thirdly, using the Global South as a disposal site for hazardous and electronic waste created by sources of renewable energy.
- Fourth, reinforcing unequal exchange, where wealthy countries and dominant companies use their powerful position in the global economy to decrease the costs of resources and workforce in the Global South. Consequently, Global South countries

must export a lot more resources than the Global North, in other to pay for Global North imports (Hickel et al., 2022, p.2)

4.2.2 Green Extractivism

The current phase of green colonialism is referred to as green extractivism (Lang et al., p.7, 2024). Extractivism refers to a socioeconomic system based on the appropriation of livelihoods and resources, as well as asymmetrical relations with the Earth, which are based on objectifying the environment (Dunlap, 2024, p.440). In this system, the growth of technological and industrial production, as well as economic growth, is framed as progress, despite the consequences that it has for society, culture, knowledge, the environment, and the climate (Dunlap et al., 2024, p.440).

Green extractivism is a type of extractivism that problematizes the green-technological energy transitions' capitalist extraction and appropriation of raw materials, workers, and natural resources, particularly in the Global South (Bruna, 2022, p.3; Dietz, 2024, p.31). According to green extractivism, raw material extraction is aligned with the Sustainable Development Goals and is portrayed as not merely aligned with sustainable development, but as a necessity for it and for a low-carbon future (Voskoboynik and Andreucci, 2021, p.; Dietz, 2024, p.31). However, the structural conditions and effects of the green-technological energy transition intensify global inequalities of labor and the environment, along with transnational relations of disparity and exploitation (Dietz, 2024, p.31).

Green Extractivism further highlights that in those territories exploited for environmental modernization, raw material extraction, and appropriation for environmental modernization is linked with the growing power and impact of governments in the West, international organizations, transnational corporations, and economic actors shaping territorial spaces, politics, and the workforce (Dietz, 2024, p.31).

There are two concepts that green extractivism always involves. These are Ecological Destruction Conflicts (EDCs) and green grabbing. EDCs refer to social disputes over the asymmetric distribution of environmental costs and benefits and allowing the elimination of relations and different ways of living, knowing, and engaging with the world (Dunlap, 2024, pp.444-445). Furthermore, green grabbing refers to the grabbing of territory, nature, and livelihoods, through appropriation, seizing, enclosing, and making these legible. However, "minerals, sun, water, biodiversity and forests" are absorbed into capitalist systems and other types of political control (Dunlap et al., 2024, p.446). Green grabbing fosters the effective commercialization and extraction of people, non-human beings such as plant and animal life,

and beyond human entities such as rivers and mountains to enable capitalist ideas, expansion, and nature. Green extractivism refers to a process of green grabbing (Dunlap et al., 2024, p.446).

Furthermore, there are four main characteristics of green extractivism:

- Green Extractivism employs socio-environmental, weather, and climate issues to create new or perpetuate pre-existing profit-making activities or green markets. This is conceptualized as disaster green extractivism, where ecological disasters are used to intensify extractivism through environmental tourism, data facilities, marine mining, green hydrogen, climate-smart agriculture, and climate engineering to mineral extraction for low-carbon technology production. These ecological disasters enable increased accessibility to oil, natural gas, rare earth elements, lithium, and additional resources needed for low-carbon infrastructures and the green transition (Dunlap et al., 2024, p.447).
- Green extractivism includes validating and justifying extraction through the deployment of discourses surrounding environmental sustainability, carbon neutrality, and mitigating climate change. These discourses involve depending on lower-carbon or renewable energy mechanisms, which facilitate the protection of biodiversity, foster improved energy efficiency, develop electric vehicles, utilize digital systems, and deploy carbon offsetting or recovery mechanisms (Dunlap et al., 2024, pp.447-448).
- Green projects indirectly or indirectly extract from the environment and are usually facilitated by money or equipment and infrastructure created from conventional hydrocarbon extractive industries. Furthermore, most green extractivist projects are run by states and companies that partake in conventional extractivism. Therefore, most of the money invested in green activities comes from conventional extractivism, while the earnings from green extractivism are redirected in conventional extractive projects (Dunlap et al., 2024, pp.448-449).
- Green extractivism is grounded in incorrect assumptions about resource and existence renewability. There is the assumption that there are limitless and renewable forests, agriculture, wind, and water flows. However, this assumption leads to the exploitation of these resource contributes to environmental and climatic deterioration. Furthermore, there is a failure to recognize the ongoing environmental deterioration processes and transformations. Renewability includes deterioration, harm, and exhaustion (Dunlap et al., 2024, pp.449).

5. Analysis

5.1 Zambia's National Economic Development Agenda

This section examines Zambia's national economic development objectives in relation to copper mining and exports. Zambia's national economic development agenda identifies barriers to economic development in the mining sector and mechanisms to address these barriers. Therefore, understanding this agenda is important for analyzing whether the EU-Zambia partnership on sustainable raw material value chains is likely to support Zambia's economic development ambitions. Concerning economic development, Zambia's policies highlight its aim to leverage copper for job creation, enhanced life quality, poverty and inequality reduction, economic diversification, and industrialization, domestic beneficiation, and value addition.

However, Zambia faces structural barriers restricting the mineral sector's input to Zambia's economic development. In the mining sector, these barriers include environmental and health risks, limited institutional capacity, restricted value addition, and low local participation and ownership. These barriers limit Zambia's ability to benefit economically from its mineral resources. To address these barriers and achieve its national economic development goals, Zambia identifies mechanisms such as environmental management measures and resource efficiency, enhancing the oversight of mining activities and compliance in mining, strengthening local ownership and participation in the mineral value chain, and promoting value addition in the mineral value chain.

Zambia's economic development ambitions will be interpreted through a GPN lens to clarify how Zambia aims to foster economic development through its integration into GPNs. GPN is useful as it highlights the developmental impacts on territories involved in global networks of firm and extra-firm institutions creating, delivering, and consuming goods and services (Coe & Yeung, 2015, p.14). Within the theory of GPN, factors that promote economic development, including value, power, and strategic coupling, will be used in this part of the analysis to access Zambia's economic development ambitions.

Furthermore, structural coupling within GPN, as well as green colonialism and green extractivism, are relevant to analyze the risks associated with Zambia's integration into global mineral value chains if the mechanisms suggested by the Zambian government are not applied to the EU-Zambia partnership. Structural coupling refers to types of integration marked by external dependence, peripheral regions remaining locked into low-value roles, and environmentally unsustainable production. Similarly, green colonialism and green extractivism

focus on how the global energy transition might perpetuate asymmetric North-South relations through resource exhaustion, environmental harm, and unequal exchange.

5.1.1 Integration into Global Markets and Value Chains

From a GPN perspective, some of Zambia's economic development ambitions reflect an aim to achieve strategic coupling. Strategic Coupling refers to the linking of actors, such as states, in GPNs (Yeung, 2015, pp.5-6) (Yeung, 2016, p.73). Here a countries asset, such as resources, are integrated into GPNs, which can have advantages for a regional economy through direct investments from abroad, knowledge transfer, and possibilities for collaboration between domestic sectors and lead firms in GPNs (Hunt, 2025, p.2).

Concerning this, Zambia has an export-focused development plan, aiming for long-lasting economic growth through exports (Ministry of Finance and National Planning, 2022, p.23-24). To increase the production of energy transition minerals (ETM), the Zambian governments aims to increase copper production by three times by 2031, from 800,000 kilotons yearly in 2021 to 3 million tons yearly by 2031 (World Bank, 2025, p.10). This includes an aim to increase the export of raw materials like copper for increased global competitiveness, a stable exchange rate, and current account sustainability (Ministry of Finance and National Planning, 2022, p.24). Furthermore, Zambia intents to establish an economy that is diversified and industrialized, by promoting traditional and non-traditional minerals, including copper, through local beneficiation and value addition for Zambia to integrate into regional and global markets and value chains. To achieve this, Zambia aims to foster local value addition and local participation in the mining value chain. As well as promote domestic and foreign direct investment in battery, electric motor vehicles and renewable energy production (Ministry of Finance and National Planning, 2022, p.35).

This reflects Zambia's ambition of strategic coupling, as Zambia wants to integrate copper into global markets and value chains for long-lasting economic growth, as well as a diversified and industrialized economy. Hence, the question is whether the mechanisms in the EU-Zambia partnership promote copper export, local beneficiation, value-addition, and local participation, thereby contributing to Zambia's national economic development ambitions.

5.1.2 Transport and Logistics

One of the ways in which Zambia wants to facilitate strategic coupling is through enhancing transport and logistics to help connect Zambia's mining sector to international markets. Zambia

views transport and logistics as important to Zambia's economic development because they ease trade across borders. Thereby, enhancing transport and logistics helps position Zambia as a regional transport and logistics hub. Consequently, Zambia aims to maintain, improve, modernize, and integrate road, railway, aviation, and maritime infrastructure. As well as transferring 30 percent of bulk freight from roads to railway through the strengthening of railway infrastructure (Ministry of Finance and National Planning, 2022, p.37).

In GPN terms, this facilitates strategic coupling through the integration of the mining sector in international markets, which will contribute to Zambia's economic development. Therefore, when assessing the EU-Zambia partnership in relation to Zambia's national economic development ambitions, it is important to consider whether the partnership includes mechanisms that strengthen road, railway, aviation, and maritime infrastructure to assist with integration of the mining sectors in global markets.

5.1.3 Environmental Sustainability

Integration into GPNs doesn't always perpetuate economic development. While strategic coupling might perpetuate economic development, it might also be hampered by production types that are environmentally unsustainable (Hunt et al., p.3). If Zambia is faced with environmentally damaging production, while foreign firms gain most of the economic benefits from Zambia's copper sector, this may reproduce structural coupling instead of economic development. Hence, structural coupling refers to situations where peripheral regions have unequal relations with foreign firms (Fu & Lim, 2021, p.31). Concerning this, Zambia highlights that to promote economic development, there needs to be sustainable development methods. This includes the sustainable use of natural resources, which are fundamental for wealth generation and enhancing resistance to the impacts of climate change (Ministry of Finance and National Planning, 2022, p.29).

In Zambia, mining activities have caused serious environmental and health risks (CBU). For instance, in the Copperbelt region, copper and cobalt levels in soil and water greatly transcend adequate levels, creating severe risks to local populations (Ministry of Finance and National Planning, 2022, p.78). Consequently, Zambia presents the following solutions. The mining sectors should include environmental management practices that safeguard the environment from pollution and deterioration. These are practices that address the impacts of climate change by balancing the environment and mining operations, thereby fostering sustainable development in Zambia. These mechanisms involve extraction methods that use

resources efficiently, processing technologies, less polluting production technologies, sustainable waste disposal technologies, and approaches in mining activities that can substantially foster the decarbonization of the mining sector (Ministry of Green Economy and Environment, 2024, p.15).

Furthermore, Zambia presents a need to improve resource efficiency in the mining sector, led by the private sector. This will increase the energy-efficiency of the mining sector and contribute to green growth by guaranteeing responsible consumption and production. This includes hindering, reutilizing, and recycling waste, thereby reducing the extraction of natural resources used in production operations and supporting the establishment of a circular economy. Mechanisms include transparency and accountable tools in mining value chains, improving geological mapping and the exploration of minerals for effective and sustainable market exploitation of mineral resources in Zambia, improving ICT applications and remote sensing technologies, and fostering joint ventures between foreign and local actors to improve the capacity in the mining sector (Ministry of Green Economy and Environment, 2024, pp.44-45).

From a GPN perspective, Zambia's objective of using environmental management practices, and resource efficiency in the mining sector to foster Zambia's economic development can be viewed as an intent to reduce the risk of structural coupling by reducing the possibility that integration of the mineral sector into GPNs will primarily lead to environmental harm rather than economic development. This also relates to green colonialism and green extractivism, as the demand for copper for green technologies may perpetuate asymmetric relations where Zambia faces natural resource exhaustion and environmental harm, while economic development and energy security are advanced in the Global North. Hence, Zambia's focus on environmental management practices and resource efficiency can be viewed as supporting national economic development, rather than reinforcing green colonialism and green extractivism. Thereby, it is important to examine whether the EU-Zambia partnership includes resource-efficient extraction methods, processing technologies, sustainable waste technologies and approaches, production technologies with reduced pollution, a circular economy, and transparency and accountable methods to increase the environmental sustainability of mining, and foster Zambia's economic development.

5.1.4 Institutional Capacity

To foster Zambia's economic development, Zambia also aims to strengthen institutional capacity in the mining sector to contribute to its economy. Through a GPN lens, this reflects an intent to develop Zambia's institutional power. Power refers to an actor's capability to control a particular strategic result (Loyola, 2024, p.3). Power contributes to value enhancement and capture, fostering development and prosperity. In short, value enhancement refers to improving the opportunity for economic profit through adding inputs into an existing product or service, while value capture refers to the ability to retain an economic profit (Hall et al., 2024, p.2). Considering this, institutional power is exercised by various actors, including states, which can exercise power influencing firm activities by enabling and regulating economic activity (Henderson et al., 2002, pp. 450-451) (Hess, 2018, p.3).

Zambia has adequate policies and regulations for protecting safety, health, and the environment in the mining sector. These include the Mines and Minerals Development Act No. 11 of 2015, which provides safeguards for safety, health, and environmental protection in mining activities and forbids exploration, mining, or mineral processing without permits and environmental impact assessment. As well as the National Mineral Resources Development Policy of 2022, which acknowledges that sound environmental activities are needed and fosters climate strength and adaptation tools in the mining sector. However, the central issue is the ineffective implementation of these policies. This is due to the deficient oversight by the ministry liable for mines and minerals development and by the institutions accountable for environmental governance, including the Zambia Environmental Management Agency (ZEMA) (Ministry of Green Economy and Environment, p. 2024).

Although Zambia has granted various large-scale mining rights, only a limited number of permits are operational, meaning that many permit holders are not actively engaged in exploration activities. This happens because of the Ministry of Mines and Minerals Development's deficient enforcement tools, allowing license holders to have permits without contributing to the discovery of more mineral resources. Furthermore, many large-scale mining permits are inactive. These issues have had a negative impact on the development of the mining sector and its input to Zambia's economy. In addition, deficient compliance mechanisms have permitted some large-scale mining permit holders to partake in third party commitments without permission from the Ministry, leading to ineffective transparency and responsibility in the overseeing and transformation of minerals among actors in the industry (Ministry of Mines and Minerals Development, 2022, p.5). To deal with these institutional barriers, Zambia aims

to improve the oversight of activities and adherence in mining. This intends to be done through enhancing institutional capability and enforcement measures, improving information and communication technology (ICT) systems and remote sensing technologies to oversee exploration and mining activities, strengthening interagency cooperation tools, and advance oversight and assessment frameworks (Ministry of Mines and Minerals Development, 2022, p.10).

In GPN terms, the Ministry of Mines and Minerals Development appears to have limited institutional power, as deficient enforcement mechanisms restrict its ability to influence firm activities in the mining sector, which restricts Zambia's ability to enhance value and capture. This is apparent in permit holders that are not undertaking exploration operations, inactive mining permits, and third-party agreements without permission to the ministry, which is detrimental to the development of Zambia's mining sector and its contribution to Zambia's economy. Hence, Zambia's aim to enhance the monitoring of activities and adherence in mining can be viewed as an intent to strengthen the institutional power of the Ministry of Mines and Minerals Development. Stronger institutional power could address the aforementioned challenges by improving the state's ability to influence firm activities in the mining sector, contributing to Zambia's economic development. Consequently, the EU-Zambia partnership must also be examined in relation to whether it includes mechanisms that enhance the capacity of the Ministry of Mines and Minerals Development through improving institutional capability and enforcement tools, ICT systems, and remote sensing technologies for exploration and mining operation monitoring, interagency cooperation measures, and overseight and evaluation frameworks.

5.1.5 Local Participation and Ownership

Zambia also seeks to enhance local participation and ownership in the mining sector to benefit the local economy. Concerning GPN theory, this can be understood as an aim to address Zambia's structural coupling. This is because Zambia aims to promote local ownership and participation in the mineral value chain rather than primarily being a supplier of raw materials and a mining sector primarily dominated by foreign-owned production and natural resource extraction. Consequently, this can be understood as Zambia aiming to promote value capture. Value capture is the ability of actors and territories to retain economic profits (Hall et al., 2024, p.2). These economic profits can, for instance, be retained through firm ownership and corporate governance based on stakeholder principles (Henderson et al., 2002, p. 449).

Zambia faces issues associated with value capture. Zambia reveals that although there are large quantities of mineral resources in Zambia, mining entities such as large-scale mines have mostly been owned by foreign mining companies. As of 2024, only four companies in Zambia, namely "ZAMEFA, Neelkanth, Uniflex, and Doaba", were producing higher value products (Cervantes Barron et al., 2024, p. 2). This is due to limited access to finance for investment in mining activities and new mining technologies. As a result, the local population has not been able to wholly partake and receive maximum advantages from the mineral sector. Furthermore, there has been a restricted partnership between foreign investors and the local population concerning mine company ownership in Zambia. Participation in the mining value chain has been very constrained by limited finance, lack of skills, insufficient modern technology, limited regulations on ownership, and inefficient policy and legislative frameworks to foster favored goods and services sourcing by local mining firms (Ministry of Mines and Minerals Development, 2022, p.5). Consequently, local communities in mining areas have not sufficiently gained from the employment and business prospects linked to mining activities. Furthermore, CSR in Zambia is shaped by the goals of mining firms, resulting in deficient stakeholder cooperation and local participation in the creation of CSR projects. This has led to limited transparency and benefits to local populations (Ministry of Mines and Minerals Development, 2022, p. 6).

To deal with these challenges, Zambia seeks to foster local ownership and participation in the mineral value chain. This is done through creating cooperation frameworks to shape partnerships between local and foreign investors in the mineral value chain; fostering acquisition of finance, skills, and advanced technologies to guarantee domestic participation in the mineral value chain; establishing marketing strategies for mineral resources, developing measures to foster domestic materials, goods, firms, suppliers and service companies in the mining value chain; and improve capacity building and training for domestic engagement in the mineral value chain. In addition, Zambia intends to enhance CSR in the mining industry. This will involve enabling the enhancement of cooperative CSR initiatives; advancing methods promoting greater participation and inclusion in the mining industry for community necessities; assisting with the creation of domestic environmental management strategies in mining areas; and fostering measures for integration and sustainable development that involve local mining communities (Ministry of Mines and Minerals Development, 2022, pp.5-6).

Through a GPN lens, Zambia's challenges with a domination of foreign-owned mining companies and CSR based on shareholder goals illustrate a value capture issue, which limits Zambia's ability to maintain economic profits from the mining sector. This is evident in limited

domestic participation and benefits from the mineral sector, restricted local gains from jobs and business opportunities associated with mining activities, and restricted transparency and advantages to domestic communities in CSR projects. These challenges can also be linked to structural coupling, as Zambia is locked into low value roles in the mining sector, which can lead to a situation where Zambia is dependent on foreign countries for higher-value activities, thereby limiting Zambia's economic development.

Consequently, Zambia aims to address these limitations by promoting local ownership and participation in the mineral value chain and improving CSR in the mining industry. Through a GPN lens, this can be viewed as an attempt to improve Zambia's value capture. Increased domestic firm ownership and CSR based on stakeholder principles could strengthen Zambia's capacity to retain economic profits from the mining sector, thereby supporting Zambia's economic development. These challenges can also be linked to green colonialism and unequal exchange, where Global South countries have asymmetric economic gains from trade with the Global North (Hickel et al., 2022, p.2). In this case, Zambia's restricted domestic ownership could risk that the mineral sector would support the EU's green transition ambitions, while Zambia captures a limited amount of the generated capital.

Hence, the EU-Zambia partnership's contribution to Zambia's economic development also depends on whether it has mechanisms that promote local ownership and participation in the mineral value chain and improve CSR in the mining industry. From a GPN lens, these mechanisms could support strategic coupling by strengthening Zambia's value capture prospects from GPN integration. This is crucial as Zambia risks remaining positioned mainly as a raw material supplier, while foreign companies gain most of the economic benefits. These mechanisms include cooperation frameworks between local and foreign investors; access to finance, skills, and advanced technologies for domestic participation; marketing strategies for mineral resources; fostering domestic materials, goods, firms, suppliers and service companies; capacity-building and training; cooperative CSR initiatives; methods promoting greater participation and inclusion in the mining industry; domestic environmental management strategies in mining areas; and measures for integration and sustainable development involving local mining communities. Through the inclusion of these mechanisms in the EU-Zambia partnership, the EU would contribute to Zambia's economic development by supporting value capture and reducing the risk of colonial patterns.

5.1.6 Value Addition

Zambia also seeks to foster economic development through local value addition in the mineral resource value chain. In GPN terms, this may be viewed as an aim to foster strategic coupling and counter structural coupling. As mentioned, strategic coupling refers to when an economy benefits from being involved in GPNs (Yeung, 2015, pp.5-6). However, if peripherical countries have unequal relations with dominant countries characterized by externally run activities, this is structural coupling (Fu & Lim, 2021, p.31). In this case, structural coupling can be economically detrimental, as peripheral countries are restricted to low-value activities.

Concerning this, in Zambia there is absence of a complete overview of the critical mineral value chain, from upstream activities such as exploration and reserves, through middle activities such as mining production and processing, to value addition such as developing EV battery plants, and finally life-end of industry such as environmental effects and clean-up (Ministry of Mines and Minerals Development, 2024, p.5). Most minerals produced in Zambia are transferred to external markets in raw state, while only a small share undergoes minimal value addition. This is due to restricted capacity for mineral value addition and the lack of strict regulations to make sure that minerals are processed prior to export. Despite this, these minerals have substantial potential for increased value addition, which can support additional economic activities in Zambia. Processing minerals for value addition within Zambia would have advantages like employment generation and a growth of earnings to the Zambian government (Ministry of Mines and Minerals Development, 2024, p.6). Hence, Zambia aims to foster value addition in the mineral resource value chain. This intends to be done through the following approaches: establishing frameworks that foster minerals value-addition, enable capacity-building for domestic involvement in mineral value addition, support acquisition of advanced value addition technologies, and create stakeholder cooperation approaches (Ministry of Mines and Minerals Development, 2024, pp.9-10).

From a GPN perspective, Zambia appears to be experiencing potential structural coupling, as Zambia primarily exports raw materials in a raw state, while most of the value addition activities take place externally. This also relates to green colonialism, as the green energy transition may perpetuate unequal exchange where Zambia remains a raw material exporter while higher-value activities are in the EU. In this case, Zambia would be required to to export larger quantities of resources to pay for imports from the Global North. This is evident in Zambia's limited capacity for mineral value addition and the absence of strict rules to ensure local mineral processing, which restricts the development of additional economic activities in

Zambia. To deal with this, Zambia intends to support local value addition, which can be interpreted as fostering strategic coupling, as Zambia's economy would benefit from being involved in GPN's through value addition. Therefore, when assessing the EU-Zambia partnership it must be considered whether the partnership has mechanisms that foster local value addition through frameworks that support minerals value-addition, capacity-building for involvement in mineral value addition, advanced value addition technologies, and stakeholder collaboration measures. Thereby, contributing to Zambia's economic development trajectory.

5.1.7 Sub-Conclusion

In general, Zambia aims to integrate copper into international markets and value chains for its economic development. From a GPN perspective, Zambia seeks to attain strategic coupling by strengthening transport and logistics, environmentally sustainable mining practices, the institutional capacity of the Ministry of Mines and Minerals Development, local participation and ownership in the mining sector, and mineral value addition. However, if the EU-Zambia partnership does not include mechanisms that support these ambitions, it may risk reproducing structural coupling, green colonialism, and green extractivism. In this case, Zambia could face environmental harm, restricted value enhancement and capture in the mining sector, and limited value addition, while the EU gains most of the economic benefits from Zambia's copper.

5.2 The EU-Zambia Partnership Framework

Building on the previous section, this section focuses on the EU-Zambia partnership on sustainable raw material value chains and its mechanisms, to examine whether the partnership aligns with Zambia's national development ambitions or risks reinforcing extractive relations. To begin with, this section examines the EU's framing of copper as a necessity for the green transition. Followed by an analysis of the mechanisms in the EU-Zambia partnership and whether these support Zambia's national economic development objectives, including integration into global markets, transport and logistics enhancement, environmental sustainability, improved institutional capacity, local participation and ownership, and value addition.

This section applies GPN to examine whether the EU-Zambia partnership includes

mechanisms that may contribute to Zambia's economic development through the GPN concepts of value creation, enhancement, and capture, institutional power, and strategic coupling. Furthermore, the section applies green colonialism and green extractivism to examine whether the partnership risks replicating patterns of colonialism.

5.2.1 The EU Policy Framing of Zambian Copper

Across EU policy documents on raw materials and its partnership with Zambia, copper is framed as a critical raw material necessary for the green transition. In the European Critical Raw Materials Act, copper is identified as both a strategic and critical raw material (European Parliament & Council of the European Union, 2024, pp. 55, 57). The Act further links such materials to the success of the green transition due to their importance for renewable energy production and strategic technologies (European Parliament & Council of the European Union, 2024, pp. 1, 6). Similarly, the EU-Zambia MOU portrays the sustainable provision of critical raw materials (CMRs), including copper, as essential for the green transition and as facilitating carbon reduction, interconnection, and mobility of energy production, while fostering green and economic change (Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs, 2023, p.1). The portrayal of copper as a prerequisite for the green transition can be problematized through green extractivism, since raw material extraction is being legitimized through sustainability, carbon neutrality, and battling climate change narratives. Copper extraction is framed as necessary for the green transition, while potentially reproducing unequal environmental and labor burdens in Zambia, as well as exploitation and inequality dynamics.

The EU-Zambia MOU not only justifies extraction through the green transition. It also claims to foster and fund circular economy value chains for CRM recycling, repurposing, and remanufacturing change. As well as skills building, capacity, and capabilities needed to create sustainable raw materials value chains, including adopting the highest degree of sustainability concerning methods of extraction and transformation, as well as the circular economy. In addition, the EU claims that it will collaborate with Zambia on innovation and examination across the raw materials value chain, including recycling technologies (Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs, 2023, pp.2-3).

However, this justification of extraction as something that can be made sustainable through recovery mechanisms can reproduce green extractivism, as these alleged green projects still extract from ecosystems and usually depend on traditional hydrocarbon extractive

projects (Dunlap et al., 2024, pp.447-448).. Furthermore, according to green extractivism, the assumption that CRMs are renewable can lead to resource exploitation contributing to environmental deterioration, damage, and exhaustion, aligning with the green extractivist characteristic of untrue assumptions regarding the renewability of resources (Dunlap et al., 2024, pp.449).. This also reflects what green colonialism describes as the assumption of limitless raw materials in resource security policies, which further frames prevailing extractivist pressures as sustainable. This aligns with the broader green colonialist critique that sustainability discourse within the context of extractivism can cause ecological dispossession in the Global South, threatening biodiversity, and harming ecosystems (Lang et al., p.5, 2024)..

Furthermore, in the EU-Zambia MOU, an EU document referred to as the European Industrial Strategy is mentioned, this strategy aims to strengthen the EU's autonomy by fostering diversified and unrestricted access to international raw material markets (Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs, 2023, p.2). The European Industrial Strategy states that a stable provision of clean and cost-effective energy and raw materials is necessary to increase the EU's competitiveness as its greenness and circularity increases (European Commission, 2020, p.3). In addition, this strategy frames critical raw materials as essential for markets, such as electric mobility, digital technologies, batteries, renewable energy, medication, aeronautics, and defense (European Commission, 2020, p.14). From a green colonialist perspective, this can be perceived as the marketization of Zambia's natural resources (Mao, 2025, p.2). This risks socio-economic asymmetries if Zambia is mainly positioned as a raw material supplier, while the EU participates in higher level production. As well as environmental deterioration due to harmful mining practices for the green transition.

5.2.2 Strategic Coupling in the EU-Zambia Partnership

As identified in the previous section, Zambia aims to integrate copper into global markets to foster economic development. However, Zambia highlights the importance of local value addition and the environmental sustainability of mining practices for Zambia's ability to benefit from this integration (Ministry of Mines and Minerals Development, 2024, pp.9-10) (Ministry of Green Economy and Environment, 2024, p.15). Therefore, it is important to examine whether the EU-Zambia partnership includes mechanisms that support local value addition and environmental sustainability for Zambia to benefit from the partnership.

5.2.3 Value Addition

Concerning value addition, Zambia aims to promote local mineral processing through mechanisms that support value addition, local capacity-building, modern value-addition technologies, and stakeholder collaboration measures. This reflects Zambia's goal of not only exporting raw minerals, but also increasing mineral processing activities in Zambia which could contribute to job creation and government earnings, thereby contributing to Zambia's economic development (Ministry of Mines and Minerals Development, 2024, pp.9-10)..

The EU-Zambia partnership partly supports this goal. The partnership states that the EU is committed to foster local value addition in Zambia and will collaborate with Zambia along the whole minerals value chain to promote Zambia's industrialization (Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs, 2023, pp.1-2). In addition, the EU intends to strengthen the value, stability, and sustainability of raw materials value chains both upstream and downstream in Zambia (Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs, 2023, pp.3-4). From a GPN perspective, these mechanisms could support Zambia's strategic coupling by helping Zambia benefit from integration into GPNs through local value addition, rather than remaining restricted to mineral extraction.

However, these mechanisms in the EU-Zambia partnership are broad and do not specify how local value addition will take place in Zambia. In the policy documents of the Zambian government identifies specific mechanisms, such as capacity-building, value-addition technologies, and stakeholder collaboration. These mechanisms were identified to address Zambia's restricted value addition capacity and inadequate regulations to ensure mineral processing before export. Concerning this, while the EU-Zambia partnership mentions value addition and industrialization, it does not include specific mechanisms to address the barriers to local value addition that Zambia faces. Therefore, the EU-Zambia partnership might risk reinforcing structural coupling in Zambia. If higher-value activities take place in the EU, while Zambia is mainly positioned as an exporter of copper in its raw state. To support strategic coupling, the partnership needs specific mechanisms that address the barriers that Zambia faces to local value addition. Furthermore, this dynamic of lower-value activities in the Global South and higher-value activities in the Global North might perpetuate green extractivism. Particularly, the idea of unequal exchange within green extractivism, where Zambia's economic gains from mineral exports would be minimal, while the EU's economy gains more

from these activities. Consequently, Zambia would have to export larger amounts of low-value resources to pay for higher-value imports from the Global North (Hickel et al., 2022, p.2).

5.2.4 Environmental Management and Resource Efficiency

Furthermore, Zambia focuses on environmental management practices and resource efficiency in the mining sector to foster its economic development. This includes mechanisms such as a circular economy, lower pollution processing and production technologies, sustainable waste technologies and approaches, resource-efficient extraction, and transparency and trackability mechanisms in mining (Ministry of Green Economy and Environment, 2024, p.15).

The EU-Zambia partnership supports these objectives through various mechanisms. The partnership includes investment in Zambian circular economy value chains for CRM recycling, reuse, and remanufacturing, involving technology transmission between the EU and Zambia. It also aims to facilitate advanced technologies for manufacturing, purification, and reuse, as well as sustainable extraction and processing methods. In addition, the partnership intends to align with global environmental, social, and governance (ESG) standards, with a focus on transparency and trackability. It also seeks to develop skills, capacity, and competences for sustainable extraction and processing (Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs, 2023, pp.3-4).

Considering this, the EU-Zambia partnership includes the mechanisms that the Zambian government recognizes as significant for reducing environmental harm from mining and resource exhaustion. From a GPN perspective, this might reduce the risk of structural coupling, where integration into GPNs mainly causes environmental harm for the periphery rather than economic development. In addition, the partnership might also reduce the risk of green colonialism and green extractivism, where resource-rich countries experience environmental degradation and mineral exhaustion, while the economic development and energy security of the Global North is enhanced. Hence, the partnerships inclusion of environmental management and resource efficiency mechanisms can support the economic development of Zambia, rather than perpetuating colonial patterns.

Moreover, through these environmental management and resource efficiency mechanisms, the EU-Zambia partnership may contribute to Zambia's strategic coupling by supporting value creation and value enhancement. Concerning value creation, the partnership includes mechanisms that may generate technological rents for Zambia. Technological rents are gained through obtaining modern product and production technologies (Hess, 2018, p.3). Furthermore,

value enhancement can be retained through technology transfer (Hall et al., 2024, p.2). These may be generated through the partnership's focus on technology exchange and cooperation for CRM circularity. From a GPN perspective, one of the ways to gain value or financial return through production is access to advanced technologies, which can create and enhance value for Zambia. However, the benefit for Zambia's economic development depends on whether Zambia can retain this economic profit. In addition, the partnership could generate organizational rents for Zambia. These are rents created through the enhancement of managerial and institutional capabilities (Hess, 2018, p.3; Henderson et al., 2002, p. 448). These rents could be generated through the partnership's focus on improving skills, capacity, competencies, and ESG standards. This can create value for Zambia, but it depends on whether Zambia is able to retain these economic profits.

5.2.5 Transport and Logistics in the EU-Zambia Partnership

One of the ways in which Zambia wants to connect its mining sector to international markers is through improving transport and logistics. Concerning this, Zambia particularly focuses on enhancing railway infrastructure (Ministry of Finance and National Planning, 2022, p.37). It can be argued that the EU supports this ambition through the Railway Sector Support Programme (RSSP), which is relevant to the EU-Zambia partnership on Sustainable Raw Materials Value Chains. Although the program is not directly extractive, it is linked to Zambia's goal to raise the yearly copper production to 3 million tonnes by 2031, which creates a need for effective transport solutions (European Commission, 2025-a, p.4).

In the programme document, the EU claims that Zambia's current road network cannot sustainably support the expected freight volumes, and that rail transport is most adequate for relocating mass commodities such as minerals across considerable distances because it is cost-effective and has a reduced environmental impact(European Commission, 2025-a, p.4). The RSSP is therefore framed as supporting the shared goals of the EU, and Zambia presented in the MOU by supporting a secure, sustainable, and robust supply chain for minerals like copper for the green transition by creating effective, low-emission rail logistics systems, like enhancing the railway network, allowing Zambia to consistently export CRMs to Europe. Consequently, the RSSP aims to strengthen infrastructure, skills exchange, environmental and social governance, and value addition in Zambia (European Commission, 2025-a, p.4).

From a GPN perspective, the RSSP could be viewed as facilitating strategic coupling with EU raw material value chains by strengthening the infrastructure, skills, environment, and social governance that facilitate the export of CRMs, such as copper, to Europe. By improving

the Zambia Railways Limited (ZRL), a company that runs passenger and freight trains, with track repair, lowering logistics expenses, and increasing private sector investment. The program also supports the Government of the Republic of Zambia (GRZ) with sectoral reform implementation, such as the vertical division of infrastructure and activities to foster unrestricted access to the national rail network, realizing the Open Access Regime, permitting authorized private train companies to use public infrastructure (European Commission, 2025-a, pp.6-10). As well as establishing financial and governance mechanisms, including a dedicated account for track restoration, a Special Purpose Vehicle (SPV) responsible for track repair, a governance mechanism including the private sector to monitor the sequencing of the works contracts, and technical assistance to the SPV team to oversee the implementation of the project and to strengthen the capacity within the ZRL (European Commission, 2025-a, pp. 7-8).

This enhancement in rail infrastructure and the regulatory and policy framework of the railway industry also reflects strategic coupling as it may have mutual advantages for both the EU and Zambia. For Zambia, this will improve the operability and effectiveness of the ZRL railway line, as well as the regulatory and business environment, increasing the competitiveness of freight movement by rail and fostering a change from road transport. The EU anticipates that this will cause a growth in revenues for the ZRL, as well as more customers' operational effectiveness and service reliability. As well as improving railway competitiveness, attracting more business, and contributing to inclusive economic development. Zambia's economic growth will also be fostered through more effective trade routes and regional connectivity. For the EU, this contributes to more secure access to CRMs like copper (European Commission, 2025-a, p. 3-4).

Considering this, the RSSP may also foster value creation and value enhancement. The RSSP contributes to value creation by generating economic activity by fostering organizational rents through the optimization of the capabilities of the ZRL and the GRZ. In addition, relational rents are also fostered, as strengthening the ZRL will increase private sector investment, attract more customers, and generate more business. The RSSP may also enable value capture. The RSSP states that local suppliers will be employed, as the program aims to give track restoration contacts to companies in the private sector for ballasts and sleepers for lower costs. The use of local supplies may allow the of the economic profit of the program to be maintained in Zambia Commission, 2025-a, p. 6). However, this value capture is indirect as it takes place in the infrastructure that supports the CRM value chain. In addition, the rails will most likely be imported, transferring the value elsewhere.

The RSSP directly aligns with Zambia's goal of enhancing transport and logistics, including railway infrastructure, to position itself as a regional transport and logistics hub. By transferring 30 percent of bulk freight from roads to railways by strengthening the railway infrastructure. In addition, this may support the goal of connecting rural areas, thereby fostering development and increasing local participation in the economy. As well as connecting Zambia's mining sector to international markets.

At the same time, the RSSP can be problematized through green extractivism and green colonialism. The RSSP is framed as not having as not risking environmental harm and assisting with reducing the impacts of climate change through the shift from road to rail (European Commission, 2025-a,9). The program claims that this could diminish CO2 emissions by approximately 60 to 70 percent per tonne-kilometre. However, from a green extractivist perspective, this railroad system, which is framed as mitigating climate change, facilitates the export of copper and other CRMs for the green transition. In addition, the RSSP mentions the stakeholders involved in the project. This includes metal trading companies that participate in conventional extractivism by buying metals such as copper from the mines and transporting these to the ports through train or road transport or both.

5.2.6 Institutional Capacity in the EU Zambia Partnership

The Zambian government also aims to strengthen the institutional capacity of the Ministry of Mines and Minerals development so that the state can affect firm actions in the mining sector. This is done through enhancing institutional capability and enforcement tools, ICT systems, remote sensing technologies for exploration and mining operation monitoring, interagency cooperation, and oversight and evaluation frameworks. This is with the goal of fostering active mining and reducing mining agreements without permission from the Ministry, thereby contributing to Zambia's economy (Ministry of Mines and Minerals Development, 2022, p.5).

Through a GPN lens, the EU Zambia partnership contributes to these ambitions through creating organizational rents, which are achieved through management and institutional capacity improvement. This is done through global ESG standards, strengthening due diligence and supply chain tracking, and combating illicit raw material trade to attain sustainable and ethical raw material production and acquisition. As well as developing skills, capacity, and capabilities for sustainable raw material value chains (Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs, 2023, p. 3). These measures may contribute to value creation in Zambia by improving managerial and organizational capacities and hence

generating organizational rents. This also aligns with Zambia's economic development ambitions, since Zambia is constrained by limited institutional capacity leading to illicit mining activities. There is also an absence of a complete overview of critical mineral value chain. Furthermore, local participation in mining value chain has been very limited due to limited finance, lack of skills, insufficient modern technology, limited regulations on ownership, and inefficient policy and legislative frameworks to foster favored goods and services sourcing by local mining firms.

5.2.7 Local Participation and Ownership in the EU-Zambia Partnership

Lastly, Zambia struggles with foreign ownership and low local participation in the mining sector. Zambia aims to address this through cooperation mechanisms between local and foreign investors, finance, skills, and advanced technologies, marketing strategies for mineral resources; domestic materials, goods, firms, suppliers and service companies; capacity-building and training; cooperative CSR initiatives; methods promoting greater participation and inclusion in the mining industry; domestic environmental management; and integration and sustainable development involving mining communities(Ministry of Mines and Minerals Development, 2022, pp.5-6). The EU partly supports this through the Improved Accountability, Access to Justice and Equality along the Critical Raw Materials Value Chain initiative.

Concerning this, the EU-Zambia CRM partnership, this action aims to meet the goal of heightened dedication to meet ESG standards, as well as Pillar 5 of the CRM Roadmap which aims to improve sector governance and human rights compliance. The goal of this action is to foster accountability, access to legal support, and equity for local populations and Zambia's mining areas, to foster inclusive and sustainable growth and to perpetuate sustainable investment (European Commission, 2025-b, pp.4). The action claims that the growth in investment in Zambia's CRM value chains will perpetuate prospection and exploitation of new geographical zones, therefore it is necessary that communities have the expertise, frameworks, and assistance to guarantee that their priorities and rights are honored (European Commission, 2025-b, p.3).

This action perpetuates value creation, particularly organizational rents, as it improves organizational capacity. More in depth, the action will collaborate with local civil society organizations to create and enhance mechanisms of accountability to help communities oversee operations in the CRM value chain and ensure that actors are held responsible. The action will

also give legal support assistance to local populations, notably women, youth, and persons with disabilities to draw attention to social, environmental, and economic and assist and represent individuals facing legal difficulties. In addition, the action aims to enhance communities and civil society organisations capacity to advocate for the priorities and rights of local communities within rules, frameworks, and laws that impact the CRM value chain (European Commission, 2025-b, pp.3).

Together, these mechanisms may also perpetuate value enhancement by generating technological, organizational, and relational rents, material and immaterial inputs are being added into Zambia's sustainable raw materials value chains. Furthermore, Zambia's value can also be enhanced through technology transfers and linkages with firms, suppliers, and subcontractors to improve standards and technological development of products.

These actions are taken due to various consequences that communities in Zambia face because of mining. This includes land grabbing and displacements, environmental harm, and health effects, and social issues. These consequences of mining are key features of green colonialism and green extractivism, however, the EU aims to target these issues through the previously mentioned mechanisms. This also aligns with Zambia's aim of fostering local participation and ensuring that the local population benefit from mining. However, this does not necessarily ensure value capture for Zambia, as it does not change the ownership structure of mining or ensure that bigger number of economic benefits stay in Zambia (European Commission, 2025-b, p.6).

6. Conclusion

This thesis analyzed whether the mechanisms in the EU-Zambia partnership on Sustainable Raw Materials Value Chains support Zambia's copper-based development or whether they risk reproducing colonial patterns. To analyze this, the study conducted a qualitative case study analysis of Zambian government documents and EU policy documents. These policy documents were analyzed through Global Production Networks (GPN), green colonialism and green extractivism.

Through this analysis, the thesis found that the EU-Zambia partnership both contains mechanisms that could support Zambia's economic development ambitions, but that these mechanisms may also replicate patterns of colonialism. In one regard, the EU-Zambia partnership includes mechanisms that contribute to Zambia's economic development by promoting strategic coupling, value creation and enhancement, and institutional power. These mechanisms include value addition, environmental management, and resource efficiency, the improvement of the railway sector, institutional capacity, and local participation.

However, the partnership might also perpetuate structural coupling and unequal exchange. Its commitments to value addition remain broad and do not address Zambia's barriers to value addition. In addition, the partnership doesn't address local ownership. Therefore, there is a risk that Zambia remains as a supplier of raw copper, while higher value activities take place in the EU. This could perpetuate structural coupling, green colonialism, and extractivism, instead of economic development.

In addition, the EU-Zambia partnership can also be criticized using green colonialism and green extractivism. The partnership frames copper as a commodity necessary for the green transition, justifies copper extraction, and frames copper as renewable, which can perpetuate colonialist and extractivist patterns of unequal environmental and labor burdens, Zambia's exploitation, and inequality relationships, environmental harm, and resource exhaustion. Thereby, the EU-Zambia partnership needs more concrete mechanisms to ensure that it supports Zambia's economic development.

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