

**CHALLENGES AND OPPORTUNITIES FOR
COAL COMMUNITIES IN A JUST TRANSITION:
TOWARDS A TRANSITION UNDERPINNED BY
ENVIRONMENTAL JUSTICE**

by

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Abstract

To respond to the global crisis caused by climate change, South Africa is embarking on a Just Transition towards a low-carbon and climate-resilient economy. The transition is premised on a decarbonisation process undertaken through a Just Energy Transition (JET). At the core of this study lies the following question: what are the opportunities and challenges for coal communities in a Just Transition? Given the complex context within which the Just Transition is unfolding, the study argues that a Just Transition is only possible (and can only be truly just) if it ensures wide-reaching societal welfare for communities in the coalfields.

The study deployed an interdisciplinary theoretical framework, consisting of Dependency Theory, Socio-technical Transition Theory with a specific focus on the Multi-level Perspective (MLP), Political Ecology and environmental justice. The study also deployed qualitative research methodologies to solicit data to respond to the research question. This included the use of participatory observation to gather data at the national level through different dialogues, stakeholder engagements and other relevant platforms, as well as semi-structured interviews to gather data at the level of coal communities.

The findings point to an unfolding Just Transition characterised by non-linearity and the presence of multiple actors with vested capitalist and political interests, unfolding in a complex political and socio-economic context. The opportunities documented include the promise of an alternative economic path that seeks to reset and correct the current economic context; prospects for environmental justice premised on distributive, procedural and restorative justice; and a shift towards a post-coal landscape with opportunities for the empowerment of affected and dependent communities. The study has also documented challenges such as navigating a contested transition; a disruption of the current economy, which may translate into job losses and lost livelihoods; the displacement of families through a new migrant labour system; capacity issues at the local government level; and inconsistencies at the national level, which make it difficult to determine the Just Transition Trajectory.

The study makes a significant contribution through its use of a multi-disciplinary theoretical framework to study the Just Transition; a comprehensive and decolonial environmental justice framework that merges the radical environmental justice framework with decolonial epistemologies, political ecology, social justice, and cognitive justice, as a suitable framework for achieving a truly just transition; and its engaged scholarship-informed methodology in which coal communities became co-creators of knowledge.

Keywords: Just Transition; Just Energy Transition; Climate change; Low-carbon economy; Climate-resilient economy; Coal communities; Environmental justice; Alternative economy; Energy model; Coal phase-out; Power dynamics.

Setsopolwa

Go arabela mathata a lefase ka bophara ao a bakwago ke phetogo ya tlelaemete, Afrika Borwa e phethagatša lesolo la Phetogelo ye e Lokilego ya gore go be le ekonomi yeo e tšweletšago khapone ya fase le yeo e kgotlelelago tlelaemete. Phetogelo ye e theilwe go tshepedišo ya phedišo ya khapone yeo e dirwago ka go diriša Phetogelo ye e Lokilego go Enetši (JET). Se bohlokwa ka mo dinyakišišong tše ke potšišo ye e latelago: naa ke dibaka le ditlhohlo dife tše di hwetšwago ka ditšhabeng tše go rafšago malahla ka go tšona ka go Phetogelo ye e Lokilego? Ka lebaka la seemo seo sehlakahlakanego seo ka go sona Phetogelo ye e Lokilego e phethagalago, dinyakišišo di bolela gore Phetogelo ye e Lokilego e kgonagala fela (ebile e ka fa fela ye e lokilego ka nnete) ge e le gore e netefatša gore go ba le seemo sa tlhokomelo ya tša bobotlana ditšhabeng ka bophara go ditšhaba tše go rafšago malahla go tšona.

Dinyakišišo di dirišitše motheo wa teori wa mekgwa ye mentši, wo o nago le Teori ya Kgatelelo ya Bahloki, Phetogelo ya Sethekniki sa Setšhaba go nepišitšwe kudu Seemo sa Magato a Mantši (MLP), Ekholotši ya Sepolotiki le toka go tikologo. Dinyakišišo di dirišitše gape mekgwa ya dinyakišišo tša boleng go hwetša tshedimošo gore di kgone go fetola potšišo ya dinyakišišo. Se se akareditše go šomišwa ga temogo ya go kgatha tema go kgoboketša tshedimošo maamong a bosetšhaba ka go šomiša dipoledišano tše di fapafapanego, go rerišana le batšeakarolo le dibokeng tša maleba, gammogo le dipotšišo tše di nyakago dipoledišano go kgoboketša tshedimošo maamong a ditšhaba tše go rafšago malahla gona.

Dikutollo di šupa go Phetogelo ye e Lokilego yeo e tšwelelago yeo e bonwago ka go hlakahlakana le go ba gona ga batšeakarolo ba bantši bao ba nago le dikgahlego tša bokapitale le tša dipolotiki, tše di tšwelelago ka seemo seo se hlakahlakanego sa dipolotiki le sa ekonomi ya setšhaba. Dibaka tše di ngwadilwego di akaretša tshepišo ya gore go tla ba le tsela ye nngwe ya ekonomi yeo e nyakago go beakanya leswa le go phošolla seemo sa bjale sa ekonomi; e lego dikgonagalo tša toka go tikologo yeo e theilwego go toka ya kabelano, ya tshepedišo le ya pušetšosekeng; le go fetogela go seemo sa ka

morago ga go rafa malahla fao go nago le dibaka tša maatlafatšo a ditšhaba tšeo di amegilego le tšeo di sego tša ikema. Dinyakišišo di ngwadile gape ditlhohlo tša go swana le go nyaka phetogelo ye e phenkgišanelwago; tšhitišo ya ekonomi ya bjale, yeo e ka feletšago ka tahlegelo ya mešomo le go lahlegelwa ke go iphediša; go timetša ga malapa ka tshepedišo ye mpsa ya go huduga ga bašomi; mathata a bokgoni maamong a pušo ya selegae; le go se swane ga tshepedišo maamong a bosetšhaba, fao go dirago gore go be boima go tseba Seemo sa Phetogelo ye e Lokilego.

Dinyakišišo tše di tsenya letsogo kudu ka go šomiša ga tšona ga motheo wa teori wa mekgwa ye mentši go nyakišiša Phetogelo ye e Lokilego; motheo wa toka go tikologo wa kakaretšo le wa go fediša bokoloniale wo o kopanyago motheo wa toka go tikologo wo o tseneletšego le dikgopolo tša phedišo ya bokoloniale, ekholotši ya sepolotiki, toka ya setšhaba, le toka go dikgopolo, bjalo ka motheo wa maleba wa gore go fihlelelwe phetogelo ye e lokilego ya mmakgonthe; le mekgwa ya tšona yeo e theilwego go dikgopolo ya go rerišanwa yeo go yona ditšhaba di fetogilego bahlami ba tsebo.

Mantšu a bohlokwa: Phetogelo ye e Lokilego; Phetogelo ye e Lokilego go Enetši; Phetogo ya tlelaemete; ekonomi ye e tšweletšago khapone ya fase; Ekonomi ye e kgotlelelago tlelaemete; Ditšhaba tšeo go rafšago malahla go tšona; Toka go tikologo; Ekonomi ya boikgethelo; Mokgwa wa enetši; Go fediša tšhomišo ya malahla; Maemo a taolo.

Okucashuniwe

Ukuze sibhekane nenkinga yomhlaba wonke edalwa ukuguquguquka kwesimo sezulu, iNingizimu Afrika iqalise (uhlelo lokubhekana bukhona nesimo) i-Just Transition maqondana nokwakheka komnotho ngokunciphisa ukungcola komoya nokumelana nesimo sezulu. Lokhu kusekelwe uhlelo lokuqeda ukungcola komoya ngokusebenzisa Uhlelo Lokubhekana Namandla Kagesi (JET). Umnyombo walolu cwaningo unalo mbuzo olandelayo: ngakube Uhlelo Lokubhekana Bukhoma Nesimo lunamaphi amathuba kanye nezinsalelo emphakathini enezindawo zamalahle? Uma kubhekwa umongo oqukethwe yizimo okwenzeka ngazo Uhlelo Lokubhekana Bukhoma Nesimo, ucwaningo luveza ukuthi lolu hlelo lungenzeka kuphela (futhi lungaba nobulungiswa ngempela) uma lungaqinisekisa ukubhekelela inhlalakahle yomphakathi onezindawo zamalahle.

Ucwaningo lusebenzise uhlaka lwetiyori yemikhakha eyahlukene, oluhlanganisa Itiyori Yokuncika Kwamazwe Ahluphekayo Kwabusayo, Itiyori Yoguquko Kwezobuchwepheshe Nenhlobo egxile eNdloleni Yokuqonda Uguquko Ngokwahlukahluka (MLP), Ipolitiki Yezomnotho Nenhlobo kanye nobulungiswa bezemvelo. Lolu cwaningo luphinde lwasebenzisa izindlela zokucwaninga iqophelo ukuqoqa idatha ukuze kuphenduleke umbuzo wocwaningo. Lokhu kuhlanganisa ukusetshenziswa kwemibono yababambiqhaza ukuze kuqoqwe idatha ezingeni likazwelonke ngokusebenzisa izinkulumongxoxo ezahlukene, ukuxoxisana nababambiqhaza nezinye izinkundla ezifanele, kanye nenhlolovo evulelekile ukuze kuqoqwe idatha ezingeni lemiphakathi enezindawo zamalahle.

Imiphumela incoma Uhlelo Lokubhekana Bukhoma Nesimo olungakhethi kanye nokubandakanya labo abanolwazi olunzulu nentshisekelo yezepolitiki, okukhanyiseleka ezingeni lezepolitiki nezenhlalo-mnotho. Ukuvuleleka kwamathuba abhalwe phansi kuhlanganisa isithembiso sendlela yezomnotho ehlukile eyenzelwe ukulungisa kabusha isimo somnotho njengamanje; ukuba nethemba lokwenza ubulungiswa kwezemvelo, ukulandela inqubo kanye noku-buyisela isimo kwebesiyikho; ngokunjalo nokushintshela esimweni esidaleka ngemuva kokuthathwa kwamalahle kuhambisane namathuba okuphucula leyo

miphakathi ethintekayo. Lolu cwaningo luphinde lwabhala izinselelo mayelana nokuphikisana ngoguquko; ukuphazamiseka komnotho njengamanje, okungaholela ekulahlekeni kwemisebenzi nokulahlekelwa yimpilo; ukufudulwa kwemindeni ngohlelo olusha lwendlela yokusebenza; izindaba ezithinta amakhono ezingeni lahulumeni wendawo; kanye nokungahambisani ezingeni likazwelonke, okwenza kube nzima ukunquma ngoHlelo Lokubhekana Bukhoma Nesimo.

Lolu cwaningo lunegalelo elikhulu ngokusebenzisa kwalo uhlaka lwetiyori yemikhakha eyahlukahlukene ukuze kucwaningwe ngoHlelo Lokubhekana Bukhoma Nesimo; uhlaka lobulungiswa obuphelele bezemvelo kuhlenganisa nohlaka lokuqeda ubukoloni, ipolitiki yomnotho nenhlalo, ubulungiswa bezenhlalakahle, kanye nobulungiswa besimomqondo, njengezinhlaka ezifanele ekuzuzeni uguquko olunobulungiswa; kanjalo nendlela yokubandakanya imifundaze edala ukuthi imiphakathi esendaweni enamalahle iqhamuke nolwazi okuyilo.

Amagama amqoka: Uhlelo Lokubhekana Bukhoma Nesimo; Uhlelo Lokubhekana Namandla Kagesi; Ukuguquka kwesimo sezulu; Umnotho ngokunciphisa ukungcola komoya; Umnotho okwazi ukumelana nesimo sezulu; Imiphakathi enezindawo zamalahle; Ubulungiswa bezemvelo; Umnotho ohlukile; Uhlelo lwamandla kagesi; Ukuqedwa kwamalahle; Ukuguquka kwamandla okubusa.

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LIST OF ACRONYMS AND ABBREVIATIONS

CBO	Community-based organisation
CIF	Climate Investment Finance
CSIS	Centre for Strategies and International Studies
DFFE	Department of Forestry, Fisheries and the Environment
DMRE	Department of Mineral Resources and Energy
IRP	Integrated Resources Plan
JET	Just Energy Transition
JET IP	Just Energy Transition Investment Plan
JT Framework	Just Transition Framework
MLP	Multi-Level Perspective
NDP	National Development Plan
NGO	Non-governmental organisation
PCC	Presidential Climate Commission
RSA	Republic of South Africa
TIPS	Trade and Industry Policies and Strategies
UN	United Nations
UNFCCC	United Nations Framework Convention on Climate Change

CHAPTER 1: INTRODUCTION

1.1 Introduction and background to the research problem

At the core of this study lies a question: what are the opportunities and challenges for coal communities in a Just Transition? This question is asked in the context of the proposed Just Transition from a high-carbon and extractive economy towards a low-carbon or decarbonised and climate-resilient economy in South Africa as part of a global response to climate change. The question calls for an exploration of the potential impact of a Just Transition on the well-being of communities in the Mpumalanga coalfields. These communities have contended with the injustices of coal mining over the years, but have had to build their lives and livelihoods around the coal mining economy. Therefore, they find themselves at the centre of the shift from the current energy model and economy, which are based on fossil fuels (coal in particular), towards an alternative economy and energy model.

The global crisis caused by climate change has triggered many debates and conversations around unsustainable modes of production and consumption that threaten the existence of humanity and the planet itself. Global society has begun to grapple with this challenge by searching for alternative means of production and consumption to move towards a low-carbon and climate-resilient economy. A Just Transition is presented as a means (that entails processes, principles and practices) towards achieving a low-carbon and climate-resilient economy. The Climate Justice Alliance (2022:1) describes the Just Transition “as a vision-led, unifying and place-based set of principles, processes, and practices that build economic and political power to shift from an extractive economy to a regenerative economy”. It is also a very broad and comprehensive process which Robins and Rydge (2019) view as a whole-economy agenda that considers the upsides and downsides of the decarbonisation journey. The Congress of South African Trade Unions define the Just Transition as “a principle and practice that has been widely used to describe the shift away from our current state, to a low-carbon and climate-resilient society and economy” (COSATU 2022:9). These definitions

highlight the nature of the Just Transition, its broad scope, and its objectives in transforming the current economy.

The Just Transition is a crucial process that was incorporated into the 2015 United Nations Framework Convention for Climate Change (UNFCCC) 2016, also called the Paris Agreement, reached at the United Nations (UN) Climate Change Conference (COP21) in Paris on 12 December 2015 (UN 2016). South Africa, like many other countries, submitted its nationally determined commitments, which constitute the cornerstone of its climate response strategy, to meeting its obligations to the UNFCCC in line with the Paris Agreement. The nationally determined commitments, therefore, place a Just Transition at the core of the implementation of the country's climate action (Department of Forestry, Fisheries and the Environment [DFFE] 2020). Chapter 5 of the Republic of South Africa's (RSA's) *National Development Plan 2030* (RSA 2012:179) expresses the country's vision 2030 as a "transition to a low-carbon, resilient economy and just society". Over the recent years, the Just Transition has received attention in policy-making and public debates. Processes relating to the transition are already underway in South Africa and other countries.

At the core of the Just Transition is a decarbonisation process undertaken through the Just Energy Transition (JET). This process entails a shift away from carbon-intensive production and consumption patterns towards cleaner and sustainable processes to reduce the current carbon emission footprint. One of the most central sectors in the climate change debate is the energy sector, which is highly fossil fuel-dependent in the case of South Africa. This energy sector (which entails the industry and infrastructure) has been hotly debated in respect of its significant emission levels and contribution to climate change. South Africa's energy model (i.e., the overall framework or strategy through which energy is produced, distributed, and consumed in the country) is built on coal; hence, past efforts to address energy security have centred on coal extraction, which has given the country an extensive carbon footprint. Coal has up to now been considered the bedrock of the world's energy supply, as it is the most widely available fossil energy resource (Creamer Media 2015). However, coal is a significant contributor to the world's CO₂ emissions, accounting for over 40% of the overall growth in global CO₂ emissions in 2021 (International Energy Agency 2021). Although coal

plays a significant role in energy provision, it remains the most polluting energy source. Thus, the challenging nature of the just transition in the context of South Africa is expressed in the National Development Plan, given the country's dependence on fossil energy, which is accounting for over 70% of the country's total emissions (RSA 2012).

The status quo regarding coal extraction and its associated impacts has raised what Munnik (2019:2) refers to as “new questions” about energy policy, triggered by the urgency of resolving the climate change problem. At the centre of these “new questions” is a debate about reducing greenhouse gas emissions and mitigating climate change through a process of transition to a new energy model that is not dependent on coal. Burton, Caetano and McCall (2018) argue that a transition from the current coal-intensive energy system and economy is crucial for the country to grow and develop sustainably. The International Institute for Sustainable Development (2018) explains that a JET is different from a mere energy transition in that the focus is on the shift from one energy technology to another, and in that the adjective “just” conveys the negotiated vision and process centred on dialogue and sustainable guiding principles towards a shift in energy technology. This process takes into account the workers and communities affected by these technological changes, thus aiming to minimise the impact of the change and to provide new opportunities for these populations. This shift presents societal changes on a macro level that go beyond the energy sector and cut across society's social-labour sector, communities, and the environmental and political spheres. Thus, the magnitude of the JET needs to be considered in the much broader and inclusive focus of the Just Transition.

This study interrogates the “just” aspect of the Just Transition in respect of coal communities. Coal communities refer to fenceline communities – communities on the fenceline of pollution - that are immediately affected by the coal industry and also those communities that are not in immediate proximity to coal industries. On the one hand, these communities have endured the injustices associated with degraded environments and the adverse health effects linked to efforts to sustain the current energy model. On the other hand, these communities have built dependent relationships with the coal economy. The study considers an argument by Overy (2018), who maintains that the idea of a Just Transition should be

considered within a wider discourse, in which the transition to a low-carbon economy adheres to the principles of social justice and ensures that past injustices are not replicated.

The study also considers the complex nature of transitions and their pathways. In her discussion of “contested notions of a just transition”, Cock (2016:56), presents three broad approaches to Just Transition. The first is the “extreme green economy” where the climate change discourse is reduced to a monetary value. Under this version, capital and profit are the driving motives for a green transformation. This version raises the spectres to which, in her article “The green economy: A just and sustainable development path or a wolf in sheep’s clothing?”, Cock (2014:18) refers to as the “corporate capture of the green economy discourse” or what Bond (2011:1) refers to as a “[c]limate-crisis capitalism”, which he explains as turning the climate change crisis into a short-term source of speculative profit. The second version is the “moderate” version (Cock 2016:56), which refers to a narrow view of transition, involving a shallow, reformist change which only alters the energy regime through the construction of a new regime with green jobs, new green technology, etc. Cock (2016) argues that this version is often underpinned by societal protection instead of transformation. The third version is an alternative notion which views climate change “as a catalysing force for massive transformative change, an alternative development path and new ways of producing and consuming” (Cock 2016:56).

These three versions are crucial to consider in the Just Transition. They are critical in defining the Just Transition pathway and trajectory. The extreme version refers to a model anchored in green capitalism, where strategically positioned corporates amass wealth through a green economic model. This model perpetuates inequalities between groups, widening the gap between the rich and the poor. The second version, the moderate version, only alters the energy regime, through a shift from fossil fuels to renewable energy and the creation of green jobs and the adoption of new technologies, but all social and political systems remain unaltered. This version is similarly problematic in that only a few strategically positioned stakeholders benefit from such a transition, and as a result, inequalities are exacerbated. The last version contains an important emphasis that alters the current system towards massive transformative change

and an alternative economy. This version holds the promise to redefine the status quo, including South Africa's development trajectory, by repositioning poor and vulnerable populations at the centre of positive and corrective change. This version contextualises a Just Transition within a broader discourse that emphasises a transition that does not replicate past injustices (Cock 2016; Overy 2018). This version would bring about deep transformations which will alter current socio-economic and political systems. I consider the value of such a transition on the basis of its potential to correct the current injustices that coal communities contend with by moving towards an alternative economy that places them at the centre of their own development.

This prompts a consideration of the justice implications resulting from the exclusion of coal communities from Just Transition processes. These communities have established their lives around the current economy, and have contended with the injustices imposed on them in the quest to build and sustain the coal economy. Thus, this study is premised on the argument that a transition is truly just if it ensures wide-reaching societal welfare for communities in the coalfields. Such a transition needs to be facilitated in a way that empowers coal communities, ensures that there is adequate representation of their voices, and ensures that all processes undertaken towards achieving a just transition do not compromise their livelihood security and overall well-being. Essentially, such a transition should be underpinned by an environmental justice which empowers coal communities to be at the centre of their own transition, to consider and document the injustices of the current energy and economic model, and to confront the underlying power structures in order to bring about deep structural transformation.

The position of the study is underpinned by the consideration of the reality of marginalised, disadvantaged and vulnerable coal populations that are more likely to be adversely affected than others and, in some cases, may be exposed to a disruption of their source of livelihood and ways of life. Bryant (1998) argues that such populations are subverted by development processes over which they have little control. Before positive change is realised, the changes (in the economic and physical landscape of the Mpumalanga Province) inherent in the Just Transition may expose these communities to dire conditions before yielding any positive

change. In the context of the Just Transition, the decommissioning of power stations and mine closures can potentially displace workers and affect local communities whose livelihoods are tied to this economy. In this context, Newell and Mulvaney (2013) maintain that issues of justice are inherent to the subject of energy, regardless of the energy trajectory pursued; therefore, understanding the anticipated injustices at the centre of the efforts to undertake a Just Transition is vital to plan effectively to ensure that such injustices are avoided and that the transition is well managed.

1.2 Research problem background: understanding the coal sector

1.2.1 An overview of the coal sector

The mineral extraction industry remains a major role player in the economies of many nations. China, India, the United States of America, Australia, Indonesia, Russia, South Africa and Germany are regarded as the world's coal giants (World Economic Forum 2018). Among these countries, China is the largest coal-producing and coal-consuming country, with coal consumption accounting for more than 65% of China's primary energy supply (Bai, Ding, Lian, Ma, Yang, Sun, Xue & Chang 2018). The use of coal facilitated the Industrial Revolution in many nations. Britain is one example of a country whose industrial revolution was spurred by the discovery of cheap coal energy (Minerals Council of South Africa 2018).

The African context of coal production is characterised by the wide distribution of coal reserves across Africa, from Morocco in the north to South Africa in the south, with the largest and best reserves distributed across South Africa, Botswana, Zimbabwe and Mozambique (Hancox 2016). The World Coal Association (2012) points out that coal remains at the heart of energy access, based on its potential to provide more than half of the electricity needed to meet global energy needs. To strengthen its argument, the World Coal Association (2012) asserts that China's increase in electrification to just over 99% between 1990 and 2005, and the increase in South Africa's electrification levels from 36% in 1994 to 75% in 2009 can both be attributed to coal.

The discovery of coal in South Africa led to significant economic development, resulting in a redefinition and transformation of the economy to a modern industrial state (Antin 2013). The discovery of coal in South Africa dates back to 1879, when commercially viable deposits were discovered in the Eastern Transvaal (now the Mpumalanga province). Coal mining expanded rapidly. New mines opened in Vereeniging in 1879 and in Witbank (now Emalahleni) in 1895, following in the footsteps of the mines that arose after the discovery of diamonds in Kimberly in 1870 and gold in the Witwatersrand in 1886 (Jeffery, Henry & McGill 2015; Munnik, Hochman, Hlabane & Law 2010). Today, South Africa has 19 coalfields, with the largest coal reserves in the Mpumalanga region (see Figure 1.1) and the Waterberg region of the Limpopo province, while smaller coalfields are located in Sasolburg in the Free State and on the Springbok Flats in Limpopo (Creamer Media 2015; Department of Energy n.d.; Hancox & Gotz 2014; see Figure 1.1).

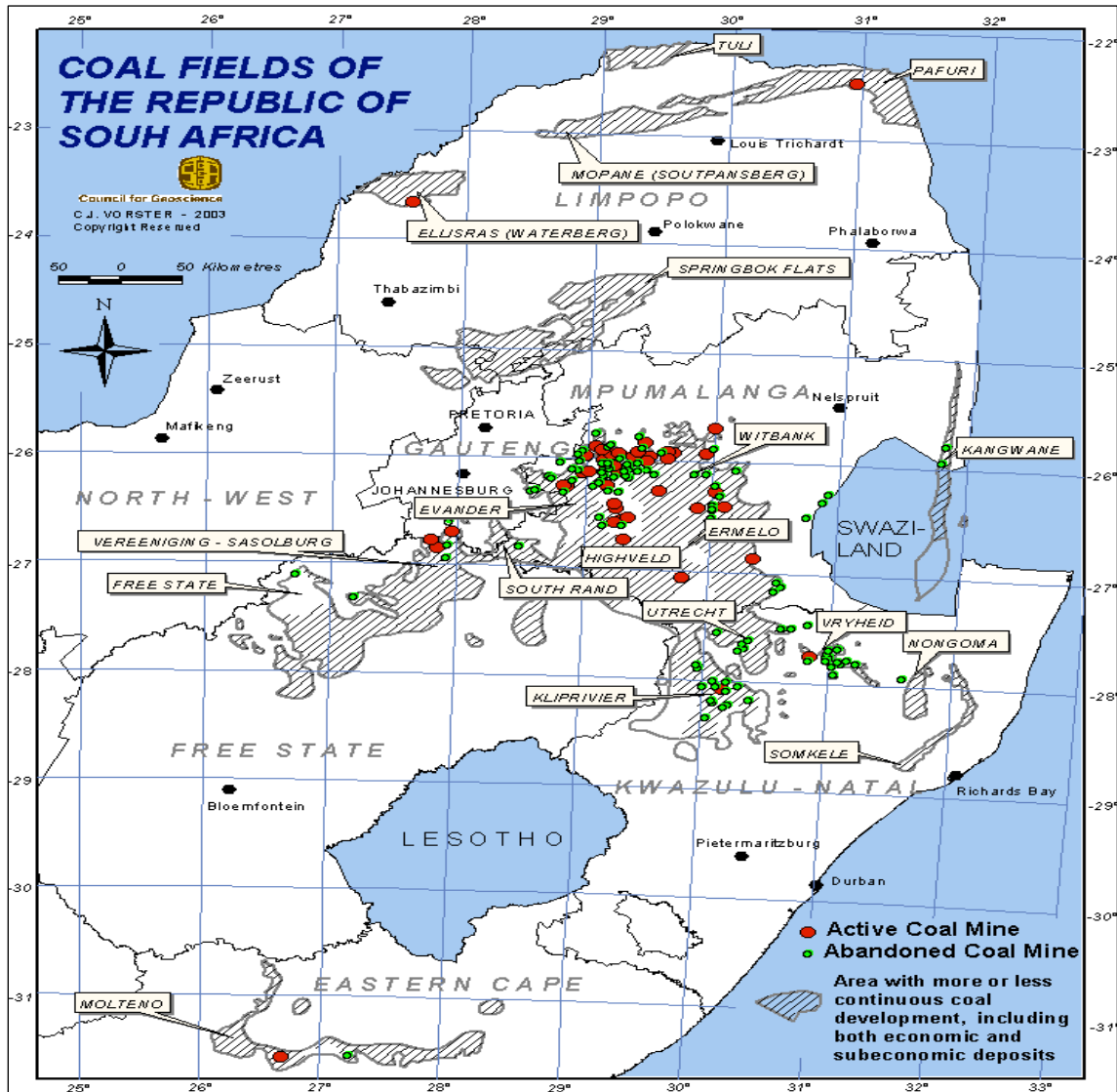


Figure 1.1: Coal mining in South Africa

Source: Fourie, Du Plessis and Henry (2006:2)

The South African economy is fuelled mainly by coal, as the industrial sectors and households depend on coal-generated electricity. Coal provides over 70% of South African primary energy – 90% of the country’s electricity is produced by coal-fired thermal generation (Hancox 2016; Jeffery et al. 2015).

In their book *The political economy of South Africa: From Minerals-Energy Complex to industrialisation*, Fine and Rustomjee (1996) explain the history and central role of coal in the system of accumulation, and its influence on South Africa’s mining landscape, particularly the coal mining landscape (discussed in detail in Chapter 2).

1.2.2 Coal mining in the Mpumalanga province

The Mpumalanga province contains the largest coal reserves in South Africa (see Figure 1.2). According to the Minerals Council of South Africa (2018), Mpumalanga accounts for 83% of the country's coal production, with 11 out of Eskom's 16 coal-fired power stations located in that province (see Figure 1.2).

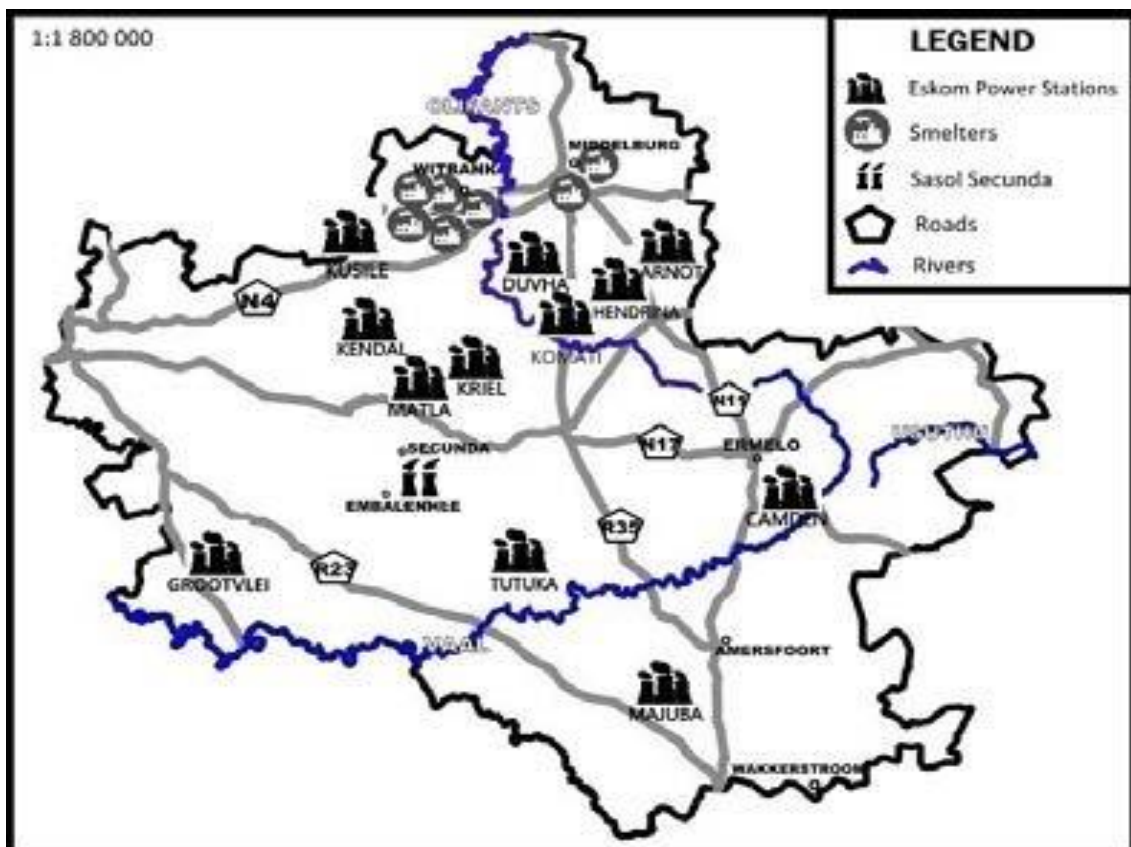


Figure 1.2: Mpumalanga: South Africa's coal energy hub

Source: Hallowes and Munnik (2016:35)

Before the establishment of the coal industry, agriculture was the most prominent land-use activity in what is today the Mpumalanga province (Singer 2011). The Mpumalanga landscape changed entirely with the discovery of coal and the establishment of the coal mining industry. Coal mining in Mpumalanga started with at least four operational collieries in the Middelburg and Witbank coalfields (Banks, Palumbo-Roe, Van Tonder, Davies, Fleming & Chevrel 2011), which were established to provide energy to the growing gold mining industry (Munnik et al. 2010; Singer 2011). The Witbank Colliery was established in 1903, followed by the Douglas Transvaal and Delagoa Bay, Landau and Coronation collieries

(Hallowes & Munnik 2017; Hancox & Gotz 2014). Coal mining in the Mpumalanga province is now primarily focused on Ermelo and Witbank (Emalahleni), which both contribute significantly to the country's total power generation capacity (Hobbs, Oelofse & Rascher 2008). About 60% of Mpumalanga's surface area is already being mined or subject to prospecting and mining rights applications (Centre for Environmental Rights et al. 2016).

There are economic benefits to coal, but the coal mining sector is characterised by negative externalities on the environment and the people living near the collieries (Munnik et al. 2010). Coal mining in Mpumalanga has exposed the natural environment and local communities to adverse effects. The Climate Transparency policy brief of 2019 warns that, although coal has been an integral part of South Africa's energy economy for decades, it is increasingly uncompetitive and that coal mining is replete with risks across the economic, social and environmental spheres. The upper catchment area of the Olifants River is densely populated with coal mines and industries that have existed for over 120 years, and this area is now severely polluted. The Komati River catchment also suffers the effects of acid mine drainage from coal mining (Hallowes & Munnik 2016). In addition to the runoff and spills from mining activities, which contaminate the water resources, the adverse effects of mining include air pollution from coal-fired power plants (Centre for Environmental Rights et al. 2016).

Coal mining remains a significant sector in the Mpumalanga province and contributes strongly to its Gross Domestic Product (GDP). The province is considered the heart of South Africa's coal sector and home to over 70% of the country's coal power plant capacity, according to the Centre for Strategies and International Studies (CSIS) and Climate Investment Finance (CIF) (2021). However, Burton et al. (2018) argue that although the coal mining sector is concentrated mainly in the Mpumalanga province, the coal mining sector is a relatively small employer, contributing to only 6.7% of Mpumalanga's employment. About 47% of households were recorded to be living under the poverty line in 2009, despite the fact that coal mining was the most significant contributor to the provincial GDP (Burton et al. 2018). In addition to the complexities entrenched in the minerals energy complex (see more details in Section 2.1), Hallowes and Munnik (2017) hold that the subordinate position of

coal to gold and other industries powered by coal has translated into the production of cheap electricity, which was premised on cheap labour. This, in turn, facilitated the concentration of mines in designated mining towns and the attraction of migrant workers from other regions, resulting in particular socio-economic and landscape changes in and around the Mpumalanga coalfields. The landscape changes introduced include informal settlements, new health issues, and other social issues that these communities have had to deal with. For these reasons and other factors, the Mpumalanga province presents an appropriate case study for this research project.

1.3 Contextual background to the research problem

The adverse effects of carbon emissions on South Africa's environment are well known. These range from the contamination and degradation of water resources, air pollution and land pollution, to an adverse impact on people's health and greenhouse gas emissions that contribute to climate change. The consequences associated with the continued use of coal to sustain the current energy model necessitates new conversations and taking action towards a sustainable transformation which will lead to a less resource-intensive and decarbonised economy. Sustainable transformations refer to a wide range of shifts or transitions, including a socio-technical transition, characterised by a shift from one socio-technical system to another.

Commonly, efforts towards sustainability transformations are centred around green growth, which is premised on promoting economic growth and development while preserving the capacity of natural assets to continue providing resources and environmental services for the sustenance of life (Organisation for Economic Cooperation and Development [OECD] 2018). According to Barbier (2016), the debates around greening the world have received significant attention; however, recently, an important debate is the relevance of green growth for low- and middle-income countries. This debate poses a critical question about promoting a green economy in poor countries, whose primary focus is maximising output from a natural resource base. This debate considers the developmental priorities of developing nations over those of developed nations that have achieved some level of economic sustainability. Dercon (2014) argues that for green growth to be

relevant for low and middle-income countries, it must be compatible with the most critical development needs and objectives of these countries. Dercon (2014) explains the importance of identifying which green policies will favour or hurt the poor. He does this by using an example of environmental pricing and regulation which can have a negative impact on poor consumers and poor producers, who suffer from a lack of sufficient resources.

These are important considerations in the just transition debate, with scholars such as Swilling, Musango and Wakeford (2015) arguing that a Just Transition is only possible if the overall goal is human well-being (income, education and health) in a sustainable world that is decarbonised, with resource efficiency and ecosystem restoration. Swilling et al. (2015) warn against the possibility of an unjust transition which advances a capitalist or green capitalist agenda at the expense of society. Thus, they maintain that a Just Transition should be centred on and driven by a commitment to human well-being and sustainability goals (Swilling et al. 2015). This process requires what Hopwood, Mellor and O'Brien (2005) refer to as the transformation approach. Based on Hopwood et al.'s (2005) analysis there is an interconnection between the mounting crises in the environment and society, therefore radical change is needed to prevent social and environmental systems breakdown. Thus, according to these scholars a transformation approach is appropriate as it will respond to the current crisis by considering the environment and society as interdependent and interconnected entities rather than isolated entities.

The reality of local coal mining communities is that of degraded environments and adverse health effects, which confirms the argument by Hopwood et al. (2005) that past growth models have been unsuccessful in eradicating poverty globally in most countries. Therefore, a model premised on preserving the well-being of the environment while addressing the developmental challenges of the poor is needed. However, Newell and Mulvaney (2013:5) argue against the generalisation that all "clean technologies" are homogeneously "green". Barbier (2016) also rightly draws attention to the fact that even policies with potential benefits for the poor have often negatively affected the very poor. Based on the arguments presented by these scholars, it is evident that efforts for sustainability

can produce and/or replicate patterns of injustice. Therefore, transition efforts should consider inherent justice dimensions.

For this reason, this study starts from the perspective that a Just Transition can only be considered “just” if it does not disempower, exclude and leave coal communities worse off, as they are positioned at the receiving end of the transition. A Just Transition should embrace an approach which places affected communities that have endured the social injustices created by past energy security policies at the centre of planning and implementation, and which cautions against the recurrence of patterns that may directly or indirectly facilitate injustices. Therefore, the current study explores the opportunities and challenges of the Just Transition on coal communities in the Mpumalanga coalfields.

1.4 Problem statement

South Africa’s Just Transition to low carbon economy is already underway. Significant international, national and local efforts and processes regarding the Just Transition are unfolding. The co-evolutionary, dynamic, complex and multi-actor nature of the Just Transition is evident through the wide variety of planning processes, dialogues, forums and implementation across different platforms. What is critical to this study is the position of coal communities in the Just Transition. These communities consist of local coal mining communities that will be directly affected by any structural reforms to the current energy model, which is dependent on coal mining. A Just Transition to a low-carbon economy presents a more sustainable alternative only if it is premised on ensuring that communities and workers tied to the current energy sector are not left behind and left worse off.

An important argument in this study is that coal-affected communities are in the paradoxical position of being negatively affected by the current coal economy, while also being dependent on it for their subsistence and sustenance. This argument considers that the geographical and economic landscape of mining areas such as Emalahleni (whose name is derived from a Nguni word meaning “place of coal”), Middelburg, Kriel and Ermelo in the Mpumalanga coalfields are shaped and defined by coal mining. Therefore, changes and alterations to the current coal economy will have a significant impact on the social structures, the

physical landscape and the well-being of the populations in the mining towns and, consequently, the Mpumalanga province. Therefore, the question the study poses is how we can achieve a Just Transition that considers coal communities as important stakeholders that should not be left behind. Moreover, how can these communities be recognised as custodians of important knowledge, whose voices are critical in the Just Transition, and whose vision of the Just Transition is also significant? These questions are essential to consider as they shape the opportunities and challenges of the Just Transition for coal communities. The concern of this study centres on building the transition from the bottom up, structuring it towards the production of an alternative economy that considers communities as important stakeholders rather than as marginalised and vulnerable groups which are voiceless and powerless.

1.5 Research question and objectives

The primary question of the study is the following:

What are the opportunities and challenges for coal communities in the Just Transition?

Flowing from this, the primary objective is to outline the opportunities and challenges for coal communities in the Mpumalanga coalfields in the Just Transition.

The secondary objectives are the following:

- to analyse the environmental justice struggles of coal communities in the current coal mining landscape;
- to understand the non-linear dynamics that underpin the Just Transition;
- to deconstruct the political manoeuvres that underlie the Just Transition;
- to analyse the position of coal communities in the Just Transition; and
- to explore what would constitute a “just” transition with wide-reaching societal welfare for communities in the Mpumalanga coalfields.

1.6 Significance of the study

The study seeks to make a theoretical and analytical contribution on the topic of a Just Transition. The theoretical contribution is contextualised in an interdisciplinary theoretical framework which brings together different theories from different disciplines. This includes Dependency Theory, environmental justice, Political Ecology and Socio-technical Transitions Theory. At the analytical level, the study seeks to identify the opportunities and challenges that the just transition present for coal communities and explore what a just transition that is truly just for coal communities look like. The study also seeks to frame an environmental justice emphasis and approach that the Just Transition should embrace in order to bring about a transition that is just and does not leave coal communities behind.

1.7 Scope of the study

The scope of this study covers two analytical levels. The first analytical level is the national level, where the focus falls on understanding the Just Transition trajectory at the national level. This covers policy documents, debates and engagements around the transition trajectory and how affected populations are positioned in the Just Transition debate at the national level. The second level looks at coal communities in the Mpumalanga coalfields. This part of the study follows dialogue processes involving non-government organisations (NGOs) and community activists regarding the Just Transition and their position in the Just Transition debates and planning.

1.8 Outline of the study

This section provides an overview of the eight chapters of the thesis. The chapters cover the following:

1.8.1 Chapter 1: Introduction

This is the current chapter, which introduces the topic of a Just Transition to a low-carbon economy and the current coal landscape or context, including coal communities as the core focus of the study. This has been done by providing the background to the research problem, based on the challenges and opportunities

in the Just Transition as far as coal mining communities in the Mpumalanga coalfields are concerned. The chapter has outlined the argument of the study, the problem statement, the primary research objectives, the primary objectives and the sub-objectives of the research study.

1.8.2 Chapter 2: Literature review

The purpose of this chapter is to ground the research question in the existing body of literature on the topic of the Just Transition, and also to identify gaps in this literature. Chapter 2 considers the complex nature of the Just Transition debate and the context within which it unfolds. It provides an interdisciplinary literature review to ground the different complex aspects of the research question of this study. The chapter provides a historical analysis of coal mining as an example of extractivism, from the broader view of an unequal world perspective. Next, it explores the current coal landscape through the lens of the South African Minerals Energy Complex (Fine & Rustomjee 1996), as well as how counter-power is rising from the context of vulnerability and what was considered powerlessness, through community agency and social movements. Then the chapter presents the possibility of a shift to an alternative economy, the Just Transition to a low-carbon and resilient economy. The nature, characterisation and dynamics of the Just Transition are explored in relation to how they influence the Just Transition pathways and trajectory. The complex and non-linear nature of socio-technical transitions are detailed to provide a context for South Africa's transition to a low-carbon economy.

1.8.3 Chapter 3: An interdisciplinary theoretical framework

This chapter presents an interdisciplinary theoretical framework for the study which drew its theoretical and analytical insights from Dependency Theory, Socio-technical Transitions Theory, particularly the Multi-level Perspective, Political Ecology and environmental justice. These theories allow the study to deal with ecological issues, and understand the transition, as well as the history of inequalities and injustices.

1.8.4 Chapter 4: Towards a (decolonial) environmental justice

This chapter builds on Chapter 3, but goes further to construct an environmental justice analytical framework which offers this study a critical grounding for the research question. The chapter explores the complementary strengths of Political Ecology and environmental justice and explains how the study benefits from the rich theoretical and analytical insights of the convergence of Political Ecology and environmental justice. Finally, the chapter builds an environmental justice framework that draws from the Radical environmental justice framing of Schlosberg, incorporating insights from the social justice, cognitive justice and decolonial epistemologies.

1.8.5 Chapter 5: Research methodology

The chapter provides a detailed outline of the fieldwork processes and the tools/techniques used to collect data. These include the use of the participatory observation method to collect data at the national level through observation of dialogues, engagements, meetings, Indabas and conferences. At the local level (the community level), this fieldwork includes participation in the GroundWork/Life After Coal Community Voices Project, supported by the Friedrich Ebert Stiftung, the Climate Action group, and other community activists' engagements which all constituted sources of data for this study.

1.8.6 Chapter 6: A non-linear, complex, and contested transition

This chapter explores the national transition trajectory through the debates happening at the national level and provides a synthesising analysis. The analysis looks at the broad debates at the national level which are characterised by multi-faceted contestations, which paints a picture of a Just Transition that is non-linear, complex and contested.

1.8.7 Chapter 7: Community perspectives on the Just Transition

This chapter explores the perspectives of South African coal communities regarding their position in the Just Transition. This chapter reports the results on the perpetual and multifaceted injustices for coal communities in the current coal landscape. The core focus of the chapter is on how coal communities perceive

the Just Transition, their current positioning in that transition (at the start of the transition) and what they define as a Just Transition.

1.8.8 Chapter 8: Summary and Conclusion

This concluding chapter provides a summary of the key findings and outlines the contributions of the study. The key conclusions focus on the Just Transition unfolding in a complex context characterised by contestation, and multifaceted social, economic, and political dynamics, and how these in turn shape and influence the opportunities and challenges of a Just Transition for South African coal communities.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

The first chapter introduced and provided background on the research problem and built a context for the research question, which focuses on the opportunities and challenges of the Just Transition among South African coal communities. Given the long history of a dynamic of negative impacts, combined with livelihood dependence on the coal economy, the study explores the opportunities and the challenges that the Just Transition brings to these communities. The literature review in Chapter 2 seeks to ground the current study in the existing body of knowledge, which provides some tools to think through different aspects of transitions.

The literature review in this chapter is divided into four sections. The first section aims to describe the current coal landscape and its historical underpinnings in the broader context of an unequal world. I explore this context by looking at the unsustainable modes of extraction used in promoting the colonial and capitalist project, which in turn continuously create and maintain inequalities between the global North and global South. In this section, the historical influence of developed countries over underdeveloped countries, and the mechanisms used to create and perpetuate inequalities are discussed. The second section explores the current South African coal landscape from the perspective of the Minerals Energy Complex. I include an historical analysis of South Africa's coal economy through the Minerals Energy Complex, the environmental injustice struggles in the current coal landscape, and the struggle for justice through activism on the ground. The third and fourth sections focus on the proposed shift from the current coal landscape to a low-carbon and climate-resilient economy through the Just Transition. Under this section I explore the nature, and characterisation of transitions, as well as the transition typology and pathways, actors in transitions and the power dynamics inherent in transitions.

2.2 An unequal world

2.2.1 An unequal world – tracing the history of the current coal landscape back to the influences of the global North

This section is intended to build a context for understanding the historical influences that have shaped the current coal landscape, which is characterised by complex inequalities, unsustainable extractions, degraded environments and social ills. This history is long and complex, and is tied to a more global context. Thus, I use the reality of an unequal world to frame the global influences that have shaped the current context of the coal economy.

There is a strong consensus among writers from the global South that colonialism established an ongoing extractive relationship between the global North and the global South, disguised by a claim to a moral relationship in which the global North was “helping” the “less developed” global South, while in reality resources kept flowing from the South to the North. The core insight here is that the political world was constructed in such a way that powerful states dictate the development trajectory of less powerful states: the most affluent nations define themselves and assume the right to define, influence and shape the economies or lives of less affluent states and nations. This design has been perpetuated through coloniality, which Ndlovu-Gatsheni (2015:488) describes as “an invisible power structure, an epochal condition, and epistemological design, which lies at the centre of the present Euro-North American-centric modern world”.

Ndlovu-Gatsheni (2015) expanded his analysis of coloniality by drawing attention to its representation of the darker side of modernity. It exists as an embedded logic that facilitates the enforcement of control, domination, and exploitation while masquerading as progress and something good and beneficial for all (Ndlovu-Gatsheni 2015). This model of development is often underpinned by inequalities intensified through the exploitation of nations considered underdeveloped by the developed nations.

Those nations considered less developed or underprivileged are often characterised by mineral wealth from which they are unable to derive maximum benefits (Acosta 2013, 2017). In his book, *How Europe underdeveloped Africa*,

Walter Rodney (1982) remarks that in a quest to answer the question of who or what was responsible for the underdevelopment of Africa, it is important to first acknowledge the role of the imperialist system in shaping Africa. Rodney (1982) argues that the imperialist system bears the main responsibility for the African economic underdevelopment facilitated by the exploitation project which saw Africa's wealth being drained off, systems being manipulated and capitalist strategies used to exploit Africa for the benefit of Europe and the United States. Rodney (1982) exposes how an unequal world was created and accelerated by the principle of the abundance of some, emanating from the deficiency of others, through created systems and institutions. This is a common logic that underlies the unequal relationship between the global South and the global North.

This logic is also characteristic of the "development" logic which placed the global North in an advantageous position at the expense of the global South. This pattern of exploitation has rendered Africa relatively poor in comparison to the global North despite the mineral wealth that Africa possesses. Sachs and Santarius (2007) argue that the development models designed by the West have been one-sided in their benefits: these development models have benefited the global North, thus accelerating inequalities between the global North and global South. Hickel's (2017) book *The Divide* gives an account of the emergence of the narrative of "developed" and "underdeveloped" nations in the context of the United States. Hickel (2017) shows that the United States considered itself developed and ahead of other nations due to its innovations, better technology, values, and institutions, by implication characterising the global South as left behind, underdeveloped and struggling to catch up.

Over centuries, the West proclaimed itself to be a beacon of hope and assumed some level of superiority over those nations it considered poor and primitive, in need of salvation and intervention in order to catch up. Europe and Britain picked up the same narrative and used it as a convenient excuse and justification for perpetuating the inequalities that existed between themselves and their colonies (Hickel 2017). In consequence, the global North embraced its perceived superiority, which resulted in deepened sovereignty for global North countries and in strategies of exploitation that were masked as bringing about significant change and improvement in the socio-economic conditions of the people in the global

South. Sachs (2019) points out that the ideas of leaders in the “development” arena dictated the same development path, not only defining the path, but showing nations which way to go.

The models and strategies for bringing about development led by the global North are generally directed towards countries in the global South that are specifically endowed with mineral wealth, more than countries that lack mineral wealth. Although the terms of the relationship have in most cases been proclaimed to be mutually beneficial, the reality has been a one-sided benefit, which saw accelerated development of the global North, while widespread poverty and inequality became the reality of the people in the global South. Acosta (2013:66) and Malin, Ryder and Lyra (2019:110) use the terms “the resource curse” or “the paradox of plenty” to conceptualise the paradox of resource-rich areas which simultaneously suffer a state of poverty; in other words, they draw attention to the relationship between the co-existence of rich natural resource wealth and poverty in countries considered underdeveloped. Acosta (2013) and Malin et al. (2019) show that the abundance of natural resources in the global South has contributed to its poverty and exploitation. Hickel (2017) maintains that the European industrial revolution was accelerated by the resources looted from Europe’s colonies, which provided capital for industrial investment, and the energy and raw materials needed to secure European industrial dominance. Murombedzi (2016) points out that the project of European nations to seize and exploit African resources was central to their own transformation. Thus, in consequence, the exploitation of natural resources, which in many instances happens at an unsustainable rate, has been central to the industrial development and prosperity of the global North, and simultaneously to the widespread poverty and recurrent economic crises in the global South (Acosta 2013; Hickel 2017). This long history of entanglement reflects what Rodney (1982:14) has termed a “relationship of exploitation” which clearly underpins the relations between the global South and the global North through the created “interdependence” designed to benefit one over the other.

The applicability of the concept of a “relationship of exploitation” in the context of the global North and the global South can be explained through the plundering approach of the global North. Commonly, this has been facilitated through

structured strategies of colonialism, neo-colonialism, imperialism and capitalism, which saw the countries of the global North gaining dominance and power over countries of the global South with the aim of looting their mineral wealth. In this regard, Rodney (1982:14) rightly remarks:

A second and even more indispensable component of modern underdevelopment is that it expresses a particular relationship of exploitation: namely, the exploitation of one country by another. All of the countries considered 'underdeveloped' are exploited by others, and this underdevelopment is a product of capitalist, imperialist and colonial exploitation.

At the core of the colonial project were strategies which sought to alienate Africa from its resources and impose new forms of political authority and governance over those resources, to the benefit of the European nations. It is clear that at the core of the colonial project lies the agenda to dominate, impose new forms of governance (Hickel 2017; Murombedzi 2016), and loot the nations of the global South rather than to develop them and transfer skills. This model of development has, therefore, created an unequal world through systems of expropriation.

This exploitation was carefully crafted and structured, putting in place the means to carry it through. In the twentieth and twenty-first centuries, these included the use of concessional loans and aid through the International Monetary Fund and the World Bank to assist the global South to build its economies and catch up. However, in most cases, these resources did not yield or translate into the expected outcomes, but instead created new forms of inequality in states in the global South, led to dependence on aid and concessional loans, and positioned the global South as indebted to the global North.

Two things that underlie an unequal world are mineral wealth and the strategies of conquest used by the global North over the global South. In the South African context, the definition of mineral wealth is broad, given that the region is richly endowed with such resources. Mineral extraction thus presents one of the most significant strategies used to advance the "development model" that has facilitated widespread poverty, inequality and degraded environments, thus assuming centrality in the creation of an unequal world, manifested in global and national inequality. For the purposes of this study, I focus on the mineral endowment of coal and its central role in energy generation. Coal mining in South Africa presents an example of mineral extraction, characterised by a promise of

development, but a reality characterised by a development crisis that has placed South Africa high on the list of emitters, and communities in the coalfields in a state of perpetual injustice.

2.2.2 Mechanisms used to create and perpetuate an unequal and separate South Africa

In this section I provide an historical account of the exploitation which created inequality in South Africa to provide context around the environmental injustices which communities in mineral-rich areas contend with. Building on the above account of an unequal world, I use the literature to show the effects of the subordinate position in which South Africa as a country in the global South finds itself in relation to the global North, and how this situation has created a micro-level environment which mimics the global picture. To perpetuate the system of an unequal world, the apartheid government, which was in power from 1948 to 1994, used segregation, conservation, land dispossession and political marginalisation to subordinate black South Africans. This pattern was perpetuated in the racialised and class-based development path in South Africa which, through the ideology of Apartheid and its institutions, created great inequality and enormous disparities in the country. This racialised and class capitalist project imposed conditions and restrictions on black South Africans which confined them within the racial contours of the society (Southall 2014) and intensified segregation, exclusions, marginalisation, and unfavourable entrepreneurial and general living conditions among non-white communities.

One of the strategies used in this way related to nature conservation. Anderson and Grove (1987) point out that the idea of conservation emerged as a Eurocentric ideology which incorporated a strong colonial focus underscored by white privilege, power, possession and the perception of black people as environmentally destructive. Thus conservation was used as a mechanism to accelerate a separate development, which deepened inequality and widespread poverty among the black population. The ideology of conservation facilitated a process of alienating black populations from nature, intentionally disregarding the interdependent relationship and custodian position of rural black poor populations and nature. Khan (2002) maintains that the European impression of Africans as

uncivilised and backward was central in the conservation ideology and influenced the social attitude of white cultural supremacy and the subordinate status of blacks in society. Conservation was used as a tool to separate and exclude communities from resources which they depended on for survival. This in turn facilitated unjust dispossession, which left black populations in dire poverty and landlessness.

Another approach which perpetuated marginalisation, dispossession, exclusion and many other injustices was mineral extraction through mining. Mineral extraction in South Africa, as in many countries in the global South, is deeply entrenched in well-crafted strategies and tactics of the global North, which placed nations in the global South in a state of dependence regardless of their mineral resource wealth. Acosta (2013, 2017) refers to the concept of extractivism to explore this process whereby resource extraction in the global South is tied to a history of a mode of accumulation characterised by unsustainable extraction, looting and plundering, which were all strategies and mechanisms of colonialism and neo-colonialism. Extractivism, which does not consider the sustainability, regenerative capacity and limits of the techniques being used and the natural resources in question (Acosta 2013, 2017; Villamar & Muroz 2018), played a central role in shaping the Industrial Revolution, which placed the global North at an advantage and the global South at a disadvantage. This mode of extraction was shaped and rooted in a colonial history that created a structure of dominance by the global North over the global South. Extractivism to this day sustains a neo-colonial relationship through the production of policies of both neoliberal and progressive governments (Acosta 2013, 2017; Mbembe 2003). This has facilitated widespread poverty and underdevelopment, because it benefits foreign recipients in the global North and international markets more than the domestic markets in the global South. According to Malin et al. (2019), persistent poverty is prominent in communities that host extractive activities. For instance, the export of a significant portion – one third – of South Africa high grade coal is just one example of extraction that is disruptive to local communities and beneficial to elites and international markets (Pai, Allen & O'Hare 2021).

Host communities suffer persistent poverty and a general economic malaise which may perpetuate powerlessness and vulnerability. These are exacerbated

by a dispossession logic which separates indigenous communities from their ancestral lands to make way for mining, which in turn degrades the environment and subjects these communities to mining externalities. Brown and Spiegel (2019:155) also give an account of the “accumulation by dispossession” phenomenon, which is deeply entrenched in coal mining. They maintain that, in order to pursue extractivist agendas, the displacement of local communities and enclosure of resources for the benefit of a few becomes the order of the day.

Extractivism is a complex and disruptive process which does not affect only the local environment, but also the daily relations of the affected communities, as it can turn sites of extraction into “privileged spaces of war and death” through dispossession and the conditions imposed on local communities, which become unbearable for the local communities to live under (Mbembe 2003). This implies that the claims of creating opportunities for development that are proffered by those pursuing mining interests are only a front for the reality of injustice, privileging some at the price of the total disadvantaging of others.

An important dimension that underpins these systems is the question of power in the commodification of nature. The commodification of nature driven by unequal power is central in the production of extractivism and its undesirable effects on nature, as well as on the economies of host nations and their communities, which have suffered as a result of processes relating to extractivism. This has facilitated a process which led to nature being commodified, and the interdependent relationship that exists between people and nature being disregarded, when the monetary gains derived from nature assumed priority. The Minerals Energy Complex provides a good lens for unpacking these complexities, especially in the context of South Africa’s coalfields.

2.3 South Africa’s mineral extraction: the minerals energy complex

2.3.1 A historical analysis of South Africa’s coal economy through the Minerals Energy Complex

An analysis of the history that shaped South Africa’s coal economy is important in understanding the current coal landscape and the context in which the Just Transition debate is unfolding. Thus, in this section I consider the complex context

of the current landscape from the rich, complex and long history moulded by the Minerals Energy Complex.

The Minerals Energy Complex is a construct that describes an interlinked and interdependent system of accumulation based on minerals and energy that lies at the core of South Africa's political economy (Fine & Rustomjee 1996). The Minerals Energy Complex concept is used to highlight the role and determining power of this system of accumulation on the economy, as manifested through the close integration of and coordination between the state and the private sector; the state's dependence on revenues derived from the mineral sector; clear enclave logics and patterns of ownership by big corporates, especially big corporate mining houses (Fine & Rustomjee 1996). The Minerals Energy Complex analysis exposes the domination of the South African economy by six super-conglomerates that simultaneously control core sectors of the economy (Fine & Rustomjee 1996), including the private sector. The Minerals Energy Complex also provides a lens through which to understand the subordinate position of coal-generated energy to the mining industry which scholars such as Hallows and Munnik (2017), and Froestad, Nokleberg, Shearing and Trollip (2018) have argued that the MEC enabled the continuous flow cheap electricity and cheap labour in the coal mining. Consequently, a realistic picture of South Africa's mixed economy should include a consideration of these super corporations and their strong influence on and control over the political economy of the country.

This prompts an important question: how are these huge conglomerates and the complex political economy positioned in the Just Transition debate? According to Acosta (2013, 2017), big transnational corporations which operate in an enclave and extractive logic have the ability to assume a powerful position of great influence, especially in relatively weak national states. In some cases, these transnational corporations take advantage of their contribution to the economy and the balance of trade to influence the state of host nations, constantly threatening governments that have plans to implement changes that will affect these corporations negatively (Acosta 2013, 2017). I consider these important actors who are strategically positioned to have significant influence.

Moreover, a Minerals Energy Complex analysis reveals the historical context of the coal economy by considering coal mining's subordinate position to gold mining and how that position has defined and shaped the landscape of mining towns and coalfields. Hallowes and Munnik (2016) explore how and why this subordinate position has resulted in the production of cheap coal by relying on cheap labour. They explain how this in turn shaped the migrant labour system that undergirds the South African mining economy. Similarly, Clark (1994) also considers the role of the Minerals Energy Complex in shaping the culture of migrant labour and the compound system in South Africa's mining sector. This system of migrant labour attracted migrant labourers from neighbouring towns and countries, and these still today make up a significant portion of the population in the mining fields. The compound system is also the focus of Maseko's (2021) study, which looks at how, historically, this migrant labour system depended on the housing of male black mine workers in well-secured single sex compounds, where their movements and interactions were restricted. Cock (2019) describes a more current form of the migrant situation in the form of the informal settlements that have sprung up in parts of the Mpumalanga coalfields, for example, the informal settlement of Mashakhane near Duvha Powerstation, and the social networks that undergird the life there. Cock (2019) explains how social networks such as the "homeboys network" facilitate migrants' influx from rural areas to secure employment in the coalfields via homeboys network referrals. Looking at the history of mining in South Africa through the different mechanisms explored in Section 2.2.2 and considering the Minerals Energy Complex systems, such as the compound system, informal settlements, and created social networks, it is evident that in addition to the physical landscape, the extractivist agenda also facilitated a disruption of indigenous social systems and the establishment of new social systems.

Mineral extraction, by its very nature, implies destruction and, ultimately, unsustainability. The current landscape of many mining towns in South Africa is a testimony to this reality. This is particularly evident in the coalfields of South Africa, where unsustainable extraction of coal and the degraded and unrehabilitated environment reveal the assumed priority of the economic gains that are derived from coal mining over the ecological impact, health and well-being of the local

environment and communities. According to Munnik (2019), this problematic logic constitutes a dominant coal discourse, which obscures the interwoven and rich realities of society and nature in favour of a flat ontology which is reduced to monetary terms. Similarly, Bonneuil and Fressoz (2015) reject a logic which promotes the subordination of nature and society to the economy. They point out that such a logic has emanated from the dominant Western paradigm, constructed during the colonial era, when the interconnectedness and interdependence between society and nature were intentionally disregarded. The manner in which coal mining has been undertaken reveals the assumed priority of the economic gains derivable from coal mining over its ecological and social implications.

This type of thinking the subordination of the health and well-being of populations in mining fields to the economic gains from the extraction of the minerals concerned. At the social level, this is manifested in exploitative projects and the disruption of people's lives and livelihoods, and, in some cases, the creation of new forms of livelihood, cultures and ways of life. The societal considerations or (in)justices borne by coal mining communities have, over the years, remained an issue of less significance in the broader coal debate. This logic has influenced how communities affected by coal mining and their local environment have been viewed and considered in the coal discourse. This complex picture prompts the question of how coal communities are positioned in the current coal economy.

2.3.2 The current coal landscape: environmental injustice struggles

South Africa's extractive history was shaped by a system of accumulation (Fine & Rustomjee 1996), underpinned by a claim that there would be a trickle-down of wealth to poor communities in mineral-rich areas. For the purpose of this study, I explore this in the context of communities in the Mpumalanga coalfields. Thus far, little attention has been given to these communities, who find themselves bearing the brunt of the complex mining economy, with little agency to influence it. Coal mining subjects local communities to mining externalities which have a negative impact on their environment, and consequently, on their well-being. Malin et al. (2019) note that, although extractive industries are often portrayed as economic necessities and even as blessings to the rural poor and peri-urban areas,

substantial evidence reveals that extractive industries can create persistent structural inequalities for the local communities.

The diversity of the issues faced by communities affected by mining aligns with what Farrell (2012:45) refers to as the “lives of interconnected issues”. Practical examples of this include the dispossession of poor black communities and the imposition of externalities through the water crisis that arises from acid mine drainage. Moreover, former mineworkers, who, in addition to having endured poor working conditions, are now dealing with respiratory health issues and other chronic medical conditions. A final example is inadequately regulated mining practices, which include inadequate closure and rehabilitation practices. Such issues, together with the other effects of mining on local communities, are not given the priority it deserves in policy-making (Bench-marks Foundation 2014). In recent years, environmental justice research has studied these issues closely. It has established that environmental inequities are systemic and therefore have the potential to start a domino effect, amplifying other social inequities; then create a web of environmental, social, economic and health inequities (Malin et al. 2019). This constitutes the reality of coal communities who constantly have to battle against the injustices entrenched in the coal economy.

The problem of abandoned and unrehabilitated coal mine sites has been an issue of concern for coal communities for decades. Over the years, this issue has dominated academic, media, government and private sector debates, along with issues around the water crisis as a result of acid mine drainage and related contaminants which led to the quality of water in many mining fields deteriorating at an alarming rate (Naidoo 2015), thus affecting the health of these communities (Moeng 2018). These defunct mine sites have left communities to deal with sinkholes, underground fires and many other problems (Lieverink 2016). Other challenges include degraded land, where the quality of the soil has deteriorated, making it difficult for these communities to farm effectively. Thus, coal communities have to contend with the adverse effects and injustices of coal mining in their areas.

The challenges around coal are not of local or national significance only, but have international significance through the climate debate. South African mining case

studies present challenges relating to mine abandonment without proper closure and rehabilitation (Bench-Marks Foundations 2014). Severe challenges arise from the current realities for communities near defunct and unrehabilitated mining sites, such as the Tudor Shaft informal settlement in the Witwatersrand's gold and uranium mining area, where a population of 1800 people lived in shacks built on radioactive and toxic soil (Olalde 2016). Other examples are the Legazi informal settlement in the Emalahleni-Middelburg area, where the community continually experience bad land conditions characterised by deep sinkholes (Munnik et al. 2010), and the case of zama zamas¹ (Ntwaagae 2023).

The realities on the ground testify to high levels of poverty and inequality entrenched in the mining industry, which is underpinned by extractivist attitudes. Cock (2019:864) paints a clear picture of the coal mining context:

Many poor, black communities living close to the operative coal-fired power stations and open-pit working or abandoned mines are experiencing the direct loss of their health due to air pollution, and dealing with forced removals, social dislocation and dispossession.

However, amid these injustices, there is great dependence on the local coal economy. The local communities have built their lives around this economy and attach significant value to it to the extent that some cannot imagine or conceptualise a transition to a life without coal (Cock 2019). To further explain this, Cock (2019:866) uses the concept of a “captive imaginary” to show the contradictory relationship between coal mining communities and their coal mining economy, as expressed in their dependence on the economy, regardless of the many other injustices tied to it. Cock (2019) explains that the relationship between coal communities and their local context (the coal landscape) creates a contradictory pattern, characterised by confrontation and dependence.

By contrast, proponents of mining paint a different picture that is one sided. This is seen in arguments and narratives presented in favour of coal mining. A publication by the World Coal Association (2012) argues in favour of mines and the economic benefits derived from mining. They argue that the presence of coal mining supports employment for local communities and promotes the circulation

¹ The South African name for illegal miners.

of money in mining communities (World Coal Association 2012). The injustices that the coal economy perpetually creates are omitted or underrepresented in such analyses. However, even in the quest to paint a one-sided picture, some scholars present arguments that seek to challenge these analyses. For example, Burton et al. (2018) argue that although coal mining contributes significantly to the GDP of the Mpumalanga province, it remains a relatively small employer, accounting for only 6.7% of the province's employment.

This contradiction exposes the reality that those with economic power tend to use justifications and reasoning which emphasise the economic benefits of mineral extraction, but show little regard for the negatively affected local communities and the environment. This kind of one-sided discourse is representative of the manoeuvres that are used to advance agendas that suit the elite, while intentionally disregarding the suffering of populations that are on the receiving end. These communities bear the brunt of the downside of extractivism, and have to endure the injustice of exclusion from decisions affecting them.

The issue of participation by the affected persons is legislated under the *Minerals and Petroleum Resources Development Act, 28 of 2002* (RSA 2002), but, despite a good mineral extraction and environmental legislative framework, these communities continue to face exclusion and a lack of or limited participation. Weaknesses in the framework are visible in the form of fragmented and unclear details regarding the achievement of effective participation. Unclear details in legislation tend to facilitate inadequate enforcement of legislation and hamper accountability (CSIS & CIF 2021; Moeng 2018). Effectively, these communities suffer a democracy deficit resulting from their exclusion from decisions that affect their lives.

2.3.3 Struggles for justice: building counter-power through activism

The years of exclusion, imposition and all other injustices suffered by mining communities have prompted community members to build counter-power through activism. To respond to the injustices that these communities have suffered, and continue to suffer, there is a wave of activism that is rising and growing among communities affected by mining. These communities are building power and capacity on the ground to confront the structures of power that have defined their

lives and living conditions, and perpetuated entrapment in an unjust system. Drawing on the literature, in this section, I frame these power debates from a social movements perspective and structure and agency. This is done for the purpose of exploring community agency within the power structures that play out in the context of their injustices, and the Just Transition.

2.3.3.1 Social movements and activism

The question of agency in the Just Transition debates prompts an analysis of the role of social movements and how they foster human agency. They have a long history and have contributed significantly to the development debate, aiding development in developing countries. Social movements are generally considered to be politically or socially directed collectives or networks aimed at challenging political, economic and social systems (Bebbington, Mitlin, Mogaladi, Scurrah & Bielich 2010). Social movements are known for deploying different strategies and tactics to advance their agendas. According to Bebbington et al. (2010), their mandate and strategies include broadening governance practices, promoting new and alternative ways of thinking to challenge dominant discourses, and also challenging bureaucratic modes of engagement. Common tactics include mobilisation, resistance through protests, demonstrations, petitions and others. Over time, the scope of social movements has evolved. Innovative ways have been deployed to advance their agendas.

Deng, Mah, Cheung and Lo (2023) make an interesting contribution to the energy transitions literature through their study of civic activism and petition politics in energy transitions. These scholars show how social movements' strategies in energy transitions have evolved to include the deployment of discursive tactics, the mobilisation of political and social networks to gain access to national policy-making, and the mobilisation of mass media and social media to reframe narratives and mobilise multiple stakeholders. Discursive tactics, mobilisation, and narratives have thus become central to social movements.

In the context of social movements, power constitutes an important subject. Power is exercised in social movements for the purpose of empowerment, and resistance, influencing the status quo, among other things. This is achieved through the deployment of power as a resource to confront complex webs of

power which, according to Bebbington, Bebbington, Bury, Lingan, Muñoz and Scurrah (2008) may include structures, discourses and institutions that drive and enable the exploitation, exclusion and dispossession of populations. They further use transformative power to challenge the status quo and constitutive power to exert some form of influence on a matter/issue (see Section 2.5.3 for a more detailed description).

Ahlborg and Nightingale (2017:8) remark that “actors are not in power and do not hold power, rather human power is produced through the continuous and ambiguous exercise of power, such that power is only evident in relational performative moments”. I argue that this is a limited view. Actors do hold power to position themselves and to act, and this is evident in social movements. The ability to identify and define a problem, which in most cases may well be complex, and difficult to dissect, emphasises that actors do hold power. Through their actions, which may include resistance, they exercise their power. This argument considers the conception of power by Avelino and Rotmans (2011:798), “as the capacity of actors to mobilise resources to achieve a certain goal”. Thus, actors possess that capacity which constitutes a first step towards mobilisation and related activities.

However, it must be acknowledged that their power tends to be constantly throttled and undermined by the very constitutive powers which can be more complex to manoeuvre. Thus, it is widely admitted that social movements have in some instances succeeded in their agendas, while in others, they have failed (Bebbington et al. 2008). As indicated in the previous paragraph, social movements have to navigate through challenging terrains and complex power structures, with the result that they can never guarantee success. Consequently, based on this analysis, it is evident that transitions are inherently complex and characterised by power dynamics which are difficult to manoeuvre, because they are undoubtedly non-linear and complicated. Therefore, to further explore the action space of coal communities in their complex context and the Just Transition, I consider the debates around structure and agency.

2.3.3.2 The agency of coal communities: a structure and agency perspective

Structure concerns the power structures or patterned arrangements which influence societal choices and opportunities. Agency is the capacity of individuals to act independently of these structures, transform these structures and determine their own choices. Both are critical in understanding the current context of coal communities and their position in the Just Transition. Structure and agency are central to one of the most significant debates in social sciences.

Walsh (1998) defines structure as recurring patterns of social behaviour which have a constraining effect on people around it and impose pressures that force people to act in accordance with it. MacRaild and Taylor (2004) explain structure as social factors that often exist at an ideological or mental level, but with the capacity to impede or prevent individuals from fulfilling their full potential. Essentially, structures are not necessarily physical, they are often systematic, ideological, etc., but powerful enough to entrap, impede and enable agency. Agency can be defined as the ability to express free will, exercised by individuals or groups against the constraining effect and pressures imposed by a structure (Walsh 1998).

Debates around structure and agency are complex, with scholars constantly expanding the debate. Here I include, for example, Margaret Archer's (2003) structuralist and post-structuralist arguments, which expose the conflationary tendencies entrenched in the analysis of structure and agency. Notwithstanding the complexity of these debates, the current study considers a more basic analysis, which I draw from scholars such as Tan (2010), who deal with the question of structure and agency from a simple perspective, posing essential questions that are foundational to the structure and agency debates in social sciences and, consequently, to this study. The questions centre on the autonomy of individuals or groups of persons regarding their actions or destinies, or their subjectivity to structures or circumstances which dictate or direct their behaviour or actions. These concerns are of interest especially in the context of coal communities, because they support an inquiry into the current positioning of coal communities in their current landscape. This positioning is characterised by their entrapment in injustices, and in turn influences how they position themselves in

the Just Transition debate. Thus, this discussion is underpinned by the following question: “What is the context of the autonomy of coal communities in the current Just Transition debate?” This question investigates whether coal communities have the autonomy to confront their current structures of injustice, and define and exercise their agency towards transitioning from the current coal landscape towards a post-coal landscape in a manner that is fair to them. Can they change the coal economy as a structure that they have been entrapped in for so long that their social setting, well-being and choices are also entrapped in this structure? Or they do not have any sense of agency because this structure has become central to who they are?

The question of structure and agency in the context of coal communities should be navigated in the complex context of dependence and affectedness. This perspective considers how reliance on the coal economy influences the agency of coal communities. The construct of the “captive imaginary” (Cock 2019:866) explains this complex picture of structure and agency in the context of coal communities. The construct implies a situation in which the current fossil energy model (with its inherent inequalities and subjugation) led to a structure that has perpetuated disregard and injustice for coal communities for decades. On the other hand, this same structure has provided employment and livelihoods for these communities, thus creating a paradoxical context of affectedness and dependence. In this complex context, agency speaks to the efforts of these communities to redefine their context and negotiate themselves out of this perpetual cycle of environmental degradation and injustice. Hence, in my study on coal communities in the context of emerging counter-power among coal communities, I focus more on the agency aspect. This subjective focus aligns with Dowding’s (2008) reflection on the subjective tendency for writers who focus on power structures to gravitate towards structures, while those who focus on the power of agents concentrate on agency. This reductionist approach is typical of the binary divide inherent in structure and agency debates. Thus, although there is an evident actor focus which emanates from the study’s core focus on coal communities, it is worth noting that the study does not disregard the power structures that have perpetuated subjugation and injustice towards these

communities, but considers how these power structures may impede the agency of coal communities in the Just Transition.

In contrast to the perspective discussed above, Anthony Giddens's Structuration Theory challenges the reductionist perspective through a different consideration of the relationship between structures and actors. Giddens's structuration theory considers the duality of structure and agency. On the one hand, actors are embedded in structures, but on the other, actors also produce structures (Hardcastle, Usher & Holmes 2005). Giddens ascribes the failure of structure and agency approaches to their inability to transcend the dualism of structure and agency, claiming that his approach embraces their duality, as it is neither agency- nor structure-centred (cited in Dowding 2008).

This duality has been considered for its empowering attributes by Geels and Schot (2010), who argue that actors are not disempowered, passive rule-followers: they are knowledgeable agents who require structures to enable their actions. Similarly, Howarth (2013) argues that individuals are only able to act upon and change structures they inherit, which implies that no real change can occur until such structures offer some possibilities for change. Thus, it becomes evident that the duality of structure and agency is an essential consideration in the structure and agency debate. It prompts a shift from a limited perspective that considers structure only in terms of subjugation, imposition, and entrapment, and brings about an interesting consideration of structure as enabling action (enabling agency). Thus, as Howarth (2013) argues, the enabling attribute of a structure promotes agency, because real change depends on there being a structure to change. Therefore, borrowing from Giddens's argument on the dualism of structure and agency, the study shifts from a narrow emphasis on the agency of coal communities in the Just Transition (in the form of agency to break out of the structure of entrapment), and then goes further to consider how the Just Transition positions itself as a structure that seeks to enable agency.

The above historical analysis of coal mining has considered coal mining from the broader perspective of an unequal world perspective, extractivism, and the Minerals Energy Complex. I explained how the perpetuated inequalities and inherent subjugations have facilitated an unjust relationship between coal

communities and the local coal economy, and how this relationship is characterised by a contradictory pattern of affectedness and dependence. The section has also explored the issues of agency, given the current structures in the coal landscape. From this position, I now proceed to explore the subject of a Just Transition and how it presents an opportunity to move from the current context towards an alternative context.

2.4 Shifting towards an alternative economy

This section focuses on the proposed shift from the current coal landscape to a low-carbon and climate-resilient economy through the Just Transition. The literature is reviewed for the purpose of responding to the following questions:

- What are the dynamics and processes underlying South Africa's Just Transition?
- What are the power manoeuvres that underlie the Just Transition?

I respond to these questions by zooming in on the nature and characterisation of socio-technical transitions and the power dynamics that underpin them.

2.4.1 A transition to a low-carbon and climate-resilient economy: A Just Transition

Over the years, debates around the existential crisis arising from climate change have prompted conversations and efforts towards reducing the global emission footprint. The elimination of fossil energy, coal in particular, from the world's energy mix has been identified as a priority in the global efforts to reduce greenhouse gas emissions (World Bank 2021). This has resulted in significant changes in the coal industry, including disinvestment from the industry. As Brown and Spiegel (2019) rightly put it, the global movement since 2015, with the Paris Agreement on climate change, together with the UNFCCC, which is centred around the transition away from coal, has yielded significant changes over the years. These include, but are not limited to, China's taking significant steps to limit the use of coal; divestment from coal; investment in renewable energy; and a decline in the coal industry in the United States, with the result that coal company banking institutions became bankrupt, and other related financial institutions cut ties with the coal industry (Brown & Spiegel 2019). These changes have had a

significant impact on the viability and the profitability of the coal mining sector and consequently on the future of fossil-generated energy.

These processes are part of the effort to achieve a Just Transition, which has been defined as transition from the current high emission fossil economy towards a low carbon and climate resilient economy (African Development Bank 2022; Congress for South African Trade Unions [COSATU] 2022; International Labour organisation [ILO] 2016). A Just Transition, as a concept, can be traced back to the work of labour movements during the 1970s and 1980s to advocate for the protection of workers affected by environmental regulations (McIlroy, Brennan & Barry 2022; United Nations Development Programme 2022). The Just Transition as a concept was born from the determined efforts of a trade unionist, Tony Mazzacchi, working in occupational safety and health, to reconcile environmental and social concerns (Morena, Krause & Stevis 2019). The Just Transition is thus regarded as a labour concept, because of its genealogy and its long history and usage in labour movements and activism (Wang & Lo 2021).

Over time, the concept gained significance in environmental movements, where it was re-interpreted in the environmental and climate justice context (CIF 2020). Especially in the last decade, the use of this term has grown (Olsen & Hovary 2021), in policy and practice, and in academic debates. Wang and Lo (2021) assert that the concept of a Just Transition later gained significance in academic scholarship and drew rich theoretical and empirical insights from different disciplines. Morena et al. (2019) argue that even though it has a recent history in academia, the concept has a long research history among activists and organic intellectuals in labour movements and related groups. I consider the Just Transition to be one of the most significant themes at present, and predict that it will dominate the academic debates in the future because of its significance and multi-disciplinary nature.

The concept of a Just Transition has gained significance in policy, practice and the academic arena, but it is defined and described differently by different actors and across various spheres. One of the common definitions of the Just Transition is by the International Labour Organisation (ILO), which defines the Just Transition as greening the economy in a fair and inclusive manner by ensuring

the creation of decent work opportunities, and that no one is left behind in the process, and social and economic opportunities of climate action are maximised (ILO 2015). Many other actors define it differently, based on their contexts. Morena et al. (2019:14) argue as follows:

The growing references to just transition undoubtedly signal a desire to further root social and equity concerns into the climate debate. While this is to be welcomed, it also complicates the task of identifying what just transition stands for, who is behind it, what are the underlying politics, and who it is for. Instead of leading to an alignment of views, the concept's growing popularity has actually turned it into a contested concept.

In addition to the contestations that Morena et al. (2019) and colleagues warn about in the Just Transition, scholars such as Sovacool, Martiskainen, Hook and Baker (2019) caution against the prospective creation of new injustices and vulnerabilities. These scholars warn that without vigilance, low-carbon transitions such as the Just Transition can create new injustices and vulnerabilities, while simultaneously failing to address the structural drivers behind current injustices (Sovacool et al. 2019). I also consider these possible injustices in the context of what Morena et al. (2019:5) consider a “de-historicization and uprooting” in their problematisation of how these have facilitated the separation of a Just Transition from the frontline communities and labour unions that were central in its development, and that continue to rally and mobilise around it through their daily struggles. The problematisation of the popularisation of the Just Transition by Morena et al. (2019) offers an interesting analysis that shows how the vested interests of multiple actors in the Just Transition have added different interpretations of the concept. The downside of this multiplicity is a risk that the essence of the concept may be lost, and that the concept may become vague. In addition, Sovacool et al. (2019) point out the complex nature of transitions, cautioning that they can yield results other than those initially anticipated.

Following on from the above discussion, to explore more context for the complex nature of transitions, I review the literature of socio-technical transitions. This term encapsulates, amongst others, sustainability transitions, low carbon transitions, and technological transitions.

2.4.2 Understanding the Just Transition from a socio-technical transition research perspective

A good understanding of what constitutes a socio-technical transition, its nature and inherent complexities offers a good context for understanding the Just Transition. The socio-technical transition consists of two key aspects, namely technology (technological innovation) and society, which together make up a socio-technical system.

According to Geels and Schot (2010), the shift from one technical system to another operates at a societal level; thus, the “socio” aspect in transitions speaks to the societal functions in which the shift primarily occurs. The technical focus is on the technological element that drives the transition. Socio-technical transitions also relate to the concept of “transitions” which, according to Lopes, Scavarda, Vaccaro, Pohlmann and Korzenowski (2018:198), have in the past 50 years become highly relevant in fields such as political science, social science, and environmental sciences, prompting a new era referred to as “Transiology”. These scholars maintain that the transition concept was used by socio-technical transition researchers in the 1980s in response to environmental issues, after these issues had received significant attention because of the work of the UN Commission on Sustainable Development (Lopes et al. 2018). Over the years, the concept has evolved to embrace both technology and the innovation aspects that make up a socio-technical transition.

The innovation that happens at a technological level can trigger changes in society, or respond to the need for societal change. These changes unfold over more extended periods and in phases (which are detailed in the next section under socio-technical niches). Thus, a socio-technical transition involves the development of technical innovations and the application of these innovations at the societal function level (Grin, Rotmans & Schot 2010). At the core of socio-technical transitions are the technological changes and innovations which occur at the societal level, which have an impact on societal functions or sectors and way of life. The societal and technical domains together constitute a socio-technical system which consists of several elements that are interdependent, interrelated and intertwined (Markard, Raven & Truffer 2012). Although the social

and technological (or technical) are generally independent variables, underpinned by diverse theoretical bases, in the context of a socio-technical transition, they are considered to be based on their interdependent and intertwined nature.

According to Kuzemko, Lockwood, Mitchell and Hogget (2016), and Sovacool and Geels (2016), the social processes in the societal domain involve multiple phases and various actors, usually with varying vested interests. Equally, the technological aspect is primarily considered as “heterogeneous engineering” (Geels & Schot 2010:18). This conceptualisation draws on the work of Hughes (1986:282), who regarded technology as a “seamless web”; and Rip and Kemp’s (1998:338) conceptualisation of technology as “configurations that work” (Geels & Schot 2010:45). The work of these scholars has prompted a shift from a singular conception of technology towards a more inclusive notion, which, according to Berkhout, Smith and Stirling (2004), encapsulates social relations such as values and people or organisational behaviour that link, use and make sense of technological artefacts. Therefore, to understand the complex dynamics that underlie a socio-technical system, the internal structures that underlie and make up the societal domain and the technical (technological) domain must both be considered. These may include, for example, a network of actors, institutional structures and political influences that make up the societal domain, and the technological innovations and changes that drive a transition.

Socio-technical systems and transitions are underpinned by systems thinking, rather than by mechanistic, fragmented thinking. Hjorth and Bagheri (2006) argue in their paper on navigating sustainable development that traditional and mechanistic approaches have proven to be ineffective in addressing sustainability issues. Therefore, linear and mechanistic thinking must give way to non-linear and organic thinking, commonly known as systems thinking (Hjorth & Bagheri 2006). A shift from reductionist thinking is also evident in sustainability studies, macroeconomics, and other fields. This perspective is supported by Farla, Markard, Raven and Coenen (2012), who write that although sustainability is characterised by a wide variety of topics, approaches and methodologies, the most common feature is the systems perspective within which they are framed.

The basis for the socio-technical transition perspective that this study adopts lies in the work of Geels and Schot (2010), whose approach goes beyond the micro-aspects and hardware aspects of a transition towards a more contextualised view and understanding of technology, grounded in Science and Technology Studies. The work of Markard et al. (2012) also builds on this perspective by arguing that a socio-technical transition encompasses a series of technological and non-technological innovations which not only change the structures of existing systems but affect the societal domain. Within the context of the Just Transition, the JET, which is premised on a shift from one energy model to another, presents a good example of technological innovations that have societal implications. This is because the energy shift has technological implications (through the introduction of clean technology to replace the current technology) and has societal implications which include an impact for the labour market (both in the current energy model and the new energy model), communities, and consequently, for the entire economy.

Although socio-technical transitions are holistic and are characterised by systems thinking, they are goal-oriented, and the parameters of the goal(s) depend on the nature of the issues or challenges that prompt the transition. A historical analysis of transition can be traced back to significant systematic changes or a migration from one system to another, as found in the earlier work of Schumpeter (1950, cited in Diamond 2006) and Geels and Schot (2010:11), who wrote on “creative destruction”, and the literature on “[s]ocio-technical configurations” (Rip & Kemp 1998:338) and the shift “from to sailing ships steamships” (Geels 2002:1263). The earlier work on transition focused on technological changes that triggered incremental changes in a system. These pioneering shifts provide a context for how modern-day socio-technical transitions were structured, organised and attained.

The changes associated with socio-technical transition illustrate its complexity and magnitude. The two fundamental mechanisms central to a socio-technical transition become apparent in navigating these complexities. The first mechanism is its disruptive nature, emanating from exogenous pressures, which in turn destabilises the regime and results in systematic changes. The second mechanism is the alternative innovation or niche technologies that it presents.

Geels, Sovacool, Schwanen and Sorrell (2017) discuss the complexity of transitions by considering what is generally underrepresented in academic and policy debates. Their argument deals with the presence of multiple actors, characterised by diversity, vested and competing interests, entrenched beliefs, unequal resources and complex social relations. These scholars elaborate on the characteristics of transitions, using three concepts, encapsulated in the adjectives “disruptive, contested, and non-linear” (Geels et al. 2017:464). In their exposition, Geels et al. (2017) maintain that transitions are disruptive because they threaten current economic positions and business models; they are contested because of conflicting positions regarding the transition pathway, implementation and end-state; and they are non-linear because of inconsistencies entrenched in policy and innovations. These characteristics (being disruptive, contested and non-linear) result from the broader nature of transitions that go beyond the market diffusion of new technologies to include user practices, complex cultural discourses and political struggles. Lastly, these scholars consider the complex negotiated processes and trade-offs and the purposive (goal-oriented) nature of low-carbon transitions to understand the essence and undertake a more realistic analysis of low-carbon transitions (Geels et al. 2017). The pathways and characteristics of socio-technical transitions are key to the core of transitions and bring context to the nature of transitions and the manner within which they unfold.

The nature and extent of these mechanisms are better articulated under the different transition pathways and types. Transition pathways include the nature and extent of regime destabilisation, systematic changes and technological alternatives that happen in the socio-technical system. These range from changes that may improve the level of sustainability while remaining within the existing structure, to following a more destructive path that provides more sustainability, but with higher levels of destruction and regime destabilisation.

Hopwood et al. (2005:13) present three conceptual frameworks which can also be helpful in mapping the levels of regime destabilisation. These frameworks address changes that can be achieved within the current system (what they call the “Status Quo”), changes that create fundamental reform but minimal destabilisation (“Reform”), and lastly, “Radical transformation”, which confronts the economic and power structures of society (Hopwood et al. 2005:38). Thus,

although transformation triggers societal changes, the scope and magnitude of the changes differ. Over the years, persistent environmental challenges resulting from unsustainable interaction between human society and nature have prompted more structured sustainability transitions. These unsustainability challenges have brought about continuous unsustainable production and consumption patterns (Kohler et al. 2019; Smith, Voß & Grin 2010). Thus, transitions centred on addressing (un)sustainability are concerned with developing sustainable practices and technologies. Accordingly, Markard et al. (2012) describe sustainability transitions as long-term, multi-dimensional and fundamental transformation processes through which established socio-technical systems shift towards more sustainable modes of production and consumption. The description provided by Kohler et al. (2019) builds on Markard et al.'s (2012) perspective regarding socio-technical transitions; however, Kohler et al. (2019) consider the trans-disciplinary nature of transitions, they focus on the bigger picture and broader questions that go beyond a merely technocratic orientation and a single dimension. Therefore, non-linearity and the complex nature of transition require a non-mechanistic way of understanding them, but due consideration must be given to aspects that underlie non-linearity.

2.4.3 Three key analytical levels in socio-technical transitions

Socio-technical transitions are characterised by three conceptual and analytical levels: the socio-technical regime, socio-technical niches (niche innovations or niches) and the landscape. These are central to socio-technical transitions and constitute the core language used in transition research. As Markard et al. (2012) put it, these conceptual approaches are central to the theoretical framing of sustainability transitions. Geels and Schot (2010) refer to these components as heterogeneous socio-technical configurations which differ in stability and size. Thus, the multi- and inter-disciplinary nature of transition research is underpinned by the disciplinary diversity of these conceptual approaches.

The first conceptual approach or analytical level is the *socio-technical regime* which constitutes the core of transitions. The socio-technical regime consists of the set of rules, institutions, organisations, and actors at the centre of a transition. Moradi and Vagnoni (2018) expand on this description by indicating the context

of these rules in enabling or constraining the various incumbent actors. Geels (2020) expands on this perspective by considering the regime in terms of the institutional restructuring of tangible socio-technical systems. The descriptions above present a regime as a system containing rules, institutions and actors who shape, direct and govern a transition. Hurlbert, Osazuwa-Peters, McNutt and Rayner (2020) offer an interesting perspective that builds upon the idea of logic and direction by arguing that the concept of socio-technical regimes emerged as a framework for understanding complex system changes that occur as a result of the multi-actor and multi-level processes.

However, based on the analysis of Smith et al. (2010), regimes constitute the centre of socio-technical transition, represented by a shift from a framework for understanding complex system changes to constituting the mainstream and highly institutionalised way of realising societal functions. Kemp (2010) considers a regime to be the heart of a transition. Thus, the rules, institutions (and their institutional restructuring), and structure(s) that constitute a regime provide a logic and direction for a transition, as well as provide a basis for understanding complex systems and realising societal functions. Smith et al. (2010:441) consider these to be “heterogeneous configurations”, which are the prevailing means to achieve vital societal functions. Gaps and weaknesses in the regime can create an opportunity for niches to unsettle the regime and seed a transition (Smith et al. 2010). Thus, these configurations, including the logic and direction of the socio-technical regime, have a responsibility to maintain stability and functionality within the regime to protect or preserve it. This protection, or resistance, to transition from the regime, which may in some cases prevent changes to a socio-technical regime, is called a “lock-in” by scholars such as Geels (2014:23) and Arranz (2017:126).

The second analytical level is *socio-technical niches*. These are commonly described as “protected spaces”. According to Markard et al. (2012), these protected spaces are central in transition studies, due to their significant role in facilitating the emergence of novel technologies. Niches provide protected spaces for path-breaking, radical alternatives (Smith et al. 2010), safeguard radical innovations from mainstream market selection and further facilitate and nurture processes relating to learning and development (Geels 2019). These alternatives

(niche innovations) are designed to break through the regime; however, in some instances, they may need to be stronger or more competitive to overcome the constraining influence of the regime. Niche innovations can be described as emerging social or technical innovations that are entirely different from the existing socio-technical system (Geels 2018). In the context of the energy transition, niche innovation includes, for example, renewable energy. It is thus evident that niche innovations have to contend with the influence of established regimes and find creative ways to break through them. Therefore, Smith et al. (2010) argue that niches that were successful in seeding a transition have had to overcome the constraining strength and influence of established regimes. Their success depends on the coordinated efforts of a broader circle of more powerful actors. The regime's strength may subject the niches to a lot of resistance and alterations, which means iterations of trial and error until a sustainable and competitive novel technology is achieved. Geels and Schot (2010), in their work on the typology of transition pathways, give an excellent context to the dynamics that unfold in socio-technical niches and regimes, and to how these, in turn, influence the typology of a transition. These dynamics, which are non-linear and complex, constitute the core focus of this section.

The third and last analytical level is the *socio-technical landscape*, which represents the external factors that can prompt or fuel a transition. According to Smith et al. (2010), landscapes provide a highly structural context and an influential backdrop for both the regime and niches. These factors are independent of the regime and the niches, but strongly influence both. The landscape exerts pressure on the socio-technical regime to create an opportunity for responses to, and the breakthrough of, new technological innovations, such as renewable energy in response to climate change (Swilling et al. 2015). These pressures have the ability to bring significant changes, which include regular, hyperturbulence, specific shock, disruption and avalanche environmental change (Geels & Schot 2007). As Moradi and Vagnoni (2018) point out, the changes that occur in the landscape are slower than the changes that occur in the regimes and niches; however, they have a significant influence that determines the stabilisation or destabilisation of regimes. Geels (2018) also writes that, although the socio-technical landscape represents broader contextual developments that influence

the regime, the regime actors do not have control or influence over it. These landscape pressures or changes may range from slow-changing developments such as demographics, geopolitics, international or national political crises, and macro-economic trends. They also include immediate changes and external shocks such as pandemics, wars, global oil crises, and financial crises, which can influence or impose changes on a socio-technical system (Geels 2019). The magnitude of such changes may prompt a radical change or alteration to the regime and niches.

2.5 Understanding transition pathways: typology and pathways

2.5.1 Transition typology and pathways

As discussed in the previous section, a good understanding of socio-technical transitions must consider the dynamics that underlie transitions, which are typology and pathway-specific. The availability of numerous transition pathways reiterates the complexity of the dynamic and non-linear processes entrenched in transitions through the interaction of the three analytical levels explained above. In this regard, Xi (2021) argues that the interaction of niche innovations and socio-technical regimes results in different transition pathways.

2.5.1.1 Smith, Stirling and Berkhout's classification of transition pathways

Smith, Stirling and Berkhout (2005) classify transition pathways through their fourfold transition context mapping. The first context is *Endogenous renewal*, which centres on a coordinated response to threats to the regime. The second is *Re-orientation of trajectories*, which focuses on internal responses to shocks that may threaten the regime. The third one is *Emergent transformation*, which centres on uncoordinated responses to external pressures which may impose shocks on the regime. The fourth context is *Purposive transitions*, characterised by a deliberately intended, pursued transition which takes into account societal interests. These contexts reflect the non-singularity, non-linear or unpredictable nature of transition trajectories. The interaction between the three analytical levels (the regime, niche and landscape) is equally complex, and the responses depend on the nature and strength of the influencing factors and resource availability.

2.5.1.2 Geels and Schot's description of transition pathways

To better understand this, I draw on Geels and Schot's (2010) work on transition pathways. The first transition pathway is the *Technological substitution pathway*, which considers transitions to be fostered by the emergence of radical innovation and the subsequent replacement of the existing regime. This is the most common transition pathway, characterised by a niche innovation that is developed and readily available to replace the regime (this can involve more than one innovation). This pathway presents a clear-cut transition, in which the pressures from the landscape cause avalanche changes or disruptive changes that disrupt the regime. The innovation developed in the niche is then readily available to respond to these pressures by replacing the existing regime. The case of a developed renewable energy model to replace fossil energy presents a good example in this context.

The second typology is the *Transformation pathway*, which refers to a type of transition that occurs in the form of modifications to an existing regime in response to landscape pressures (Geels & Schot 2010). The modification (not total disruption) results from the fact that niche innovations may need to be sufficiently developed to replace the regime totally; thus, the niche innovation is deployed gradually to modify the regime.

The third pathway is the *De-alignment and re-alignment pathway* (Geels & Schot 2010). In this pathway, de-alignment refers to the irreconcilability between landscape changes, regime disruption and inadequately developed niche innovations. Because landscape pressures disrupt the existing regime, niche innovations need to be adequately positioned to respond, so a space for the emergence of multiple niche innovations opens up. In response, multiple innovations penetrate the space and, ultimately, the dominant niche innovation constitutes the regime's core.

The fourth pathway is the *Reconfiguration pathway*, which represents the adoption of symbiotic innovations developed in the niches into the regime to solve local problems. Subsequently, the adopted innovations trigger further adjustments in the basic architecture of the regime (Geels & Schot 2010).

The fifth pathway is the *Mixing pathway*, which represents a transition that unfolds differently over time as the adoption of multiple pathways responds to the nature and extent of landscape pressures (Geels & Schot 2010). The transition does not take the form of one specific pathway but adopts the different pathways discussed above in line with the landscape pressures that have arisen.

The last pathway is the *Reproduction pathway*, in which there are no radical alterations to a regime, because landscape pressures are absent. Therefore, the regime remains stable and reproduces itself (Geels & Schot 2010).

All these forms of transition reflect the realities that unfold in a socio-technical system. Some of the factors that determine a transition pathway include lock-ins, which are discussed in the next section. Considering the nature of South Africa's energy transition, it can be argued that more than one of these pathways has been followed. However, it seems that the main pathway that South Africa's transition is taking is the *Technological substitution pathway*, which means that fossil fuel energy is being replaced by renewable energy. Although the technological substitution pathway implies a clear multi-level perspective (MLP) transition, there are some features of the transition in the South African case, particularly the socio-political debates surrounding the transition, that can render this pathway debatable.

2.5.2 Actors in socio-technical transitions: power dynamics among actors in transitions

At the centre of socio-technical transitions are the actors who have a vested interest in the transition. Transitions are not self-initiated and self-driven, because there are actors and stakeholders who are responsible for initiating, directing, influencing and being affected by the changes resulting from the transition. These multi-actors or multi-stakeholders are at the core of socio-technical transitions, and are an essential characteristic of transitions (Geels & Schot 2015; Kohler et al. 2019).

Papachristos, Sofianos and Adanides (2013) highlight three interrelated elements of a socio-technical system. These are a network of actors and social groups, a set of rules (formal, cognitive and normative rules) and the material and technical

elements. All the critical aspects of socio-technical transitions (the analytical levels, typologies, pathways and others) are characterised by key role players. Berggren, Magnusson and Sushandoyo (2015) describe the different positions and functions that actors assume in the various pathways, which include their adaptation to changes, adjustment of regimes, and promotion of niche innovation. These actors possess different kinds of power, which positions them accordingly in the transition agenda.

Some of these powers include what Grin et al. (2010) regard as dispositional power at the regime level, relational power at the niche level, and structural power at the landscape level. Similarly, Avelino (2017) refers to reinforcing power at the regime level, and transformative and innovative power at the niche level. From the differences explained by these scholars, it is evident that niche actors and regime actors have different powers and pursue different agendas within the same socio-technical transition. The work of Geels (2014:23) on “regime lock-ins” provides a good example of how regime actors pursue a resistance agenda to protect the regime from changes that may come through niche actors whose agenda is to promote and pursue new innovations and novelties. Therefore, the multi-actors in transitions are differently positioned, and pursue different end goals.

Another good example is drawn from the article by Brauers and Oei (2020) on the drivers and barriers to transition in Poland, as it provides a good context for the role that actors play in resisting a transition. According to these scholars, because Poland is one of the biggest coal producers in the European Union, generating 80% of its energy from coal, its plans to shift away from fossil fuels to a greener energy model remain a very contentious topic. Resistance to transition results from the coal dependence, and the vested interests of actors in the coal regime. Brauers and Oei (2020) maintain that these actors include coal firms, unions, parts of civil society, and government, who have a vested interest in the production and consumption of coal, and who play a significant role in influencing policy and politics around the coal economy. These powerful actors are well-positioned to direct and influence conversations around a transition to a low-carbon economy. Tying this to the discussion on power strategies and narratives,

it becomes clear that these actors control the narrative around protecting the future of coal in their country.

However, a more recent report on the Just Transition in Poland shows that the Just Transition is underway in that country. According to Sniegocki, Waselewski, Zygmunt and Look (2022), over the years, the coal economy in Poland has seen a significant decline which affected its competitiveness and the power of pro-coal actors; and as a result, policies have been implemented to respond to these changes by restructuring and bolstering the competitiveness of the sector. At the centre of these new policies are efforts to address the socio-economic consequences of the declining coal market, such as job losses and mine closures, through the creation of an alternative energy economy. The Poland case study shows how power dynamics in transitions are constantly changing, thus, translating to the non-linearity and the normative directionality of transitions.

The complexity around power is attributable to its dynamic nature. In addressing the ever-changing power dynamics in transitions, the current study considers the work of Avelino and Wittmayer (2017) on shifting power relations in transitions. In their simple but significant introductory emphasis, these scholars focus on knowledge of the actors in a transition (by responding to the question of who the actors are) and the changing power relations among these actors. Kohler et al. (2019:6) elaborate on this analysis by broadening these questions to identify the winners and losers in transition by asking: “who gets what, when, and how?” All these questions become more interesting when they are considered through Avelino and Wittmayer’s (2017:516) “horizontal and qualitative typology of power relations and dynamics” that deal with power from three positions. The first is “power over”, which seeks to assess which actor(s) have power over others. The second is “[m]ore/less power to” which seeks to address the question of which actors have more power and which ones have less power. The third is “[d]ifferent power to” which seeks to look into the question of the different power relations among actors. This provides an interesting analytical framework for analysing power relations in the Just Transition, considering the nature of the actors and the power relations among these actors in the South Africa case, which, as in the case of Poland, includes the fossil regime actors. In South Africa, this includes ESKOM, the private sector (mining companies, mining logistics companies, etc.),

the government, civil society (labour unions, NGOs, communities etc.) and many others. Hence, the questions of who has more power over the other, who is more or less powerful, and what the different power relations among these actors are, present an important consideration which speaks to the power dynamics among actors in the Just Transition.

The different power positioning among the actors prompts an interesting analysis, as described by Avelino and Wittmayer's (2017:513) "processes of disempowerment", which look into the paradoxes of empowerment whereby efforts to empower some actors may, in fact, translate to their disempowerment. In engaging with this aspect, I bring in the question of the agenda that underlies the efforts to empower. This is particularly interesting to consider, especially in the Just Transition, which is characterised by multiple actors with vested interests, resources and agendas. The literature has argued the exclusion and disempowerment of communities in processes of significance (Leonard 2019). Therefore, efforts to empower are commonly directed at actors at the bottom of the pyramid of power as they are typically considered disempowered, powerless and sometimes voiceless. However, at times, these efforts can disempower the affected populations, especially if not managed appropriately.

2.5.3 Power complexities in transitions

Power can be considered the most significant influence on transitions. The complex power structures, relations and manoeuvres that underlie transitions play a significant role in shaping the transitions and determining the transition trajectory. As Brauers and Oei (2020) argue, transitions are undergirded by politics and power in the form of their structural, institutional and discursive expressions. These play an essential role in creating certain transition pathways. Understanding the role of power and politics in transition is crucial, but the concept of power is inherently complex, with a multi-disciplinary conceptualisation. Therefore, Avelino and Rotmans (2011) consider these diversities in order to arrive at a conceptualisation of and framework for power that considers the requirements of transition research, which include the long-term dynamics, non-linear transformative change and related interplays entrenched in transitions. These scholars focus on the actor-specific resource and capacity of a system in

their conceptualisation; hence, they settled on a conceptualisation of “power as the capacity of actors to mobilise resources to achieve a certain goal” (Avelino & Rotmans 2011:798). The conceptualisation of power by Avelino and Rotmans (2011) considers a critical aspect of power, that is, the dimension of power and changes that occur around the positioning of power. Similarly, Bryant (1998) considers yet another interesting dynamic, which is the “control” dimension of power. This refers to a situation in which one actor possesses the ability to control the environment of another.

Dimensions of power changes around the position of power and control (which comes with power), constitute three interesting power dynamics. Time and change are interesting and often underplayed dimensions that offer an important lens through which power should be considered. These dimensions align with Avelino and Wittmayer’s (2017) conceptualisation of shifting power relations. They argue on the basis of who the actors in transition are and how power relations among these actors change. Their description engages with the power structures and relations which translate into narratives (discussed in more detail in the next section). The long-term and non-linear nature of transitions prompts such analysis whereby power is conceptualised through dimensions of time and change. In their study of power, Avelino and Rotmans (2011) further propose an alternative power conceptualisation to explain the different kinds of power among actors. Their conceptualisation is centred around innovative power, which flows from the capacity of actors to create or discover new technologies. Moreover, there is constitutive power, which refers to the capacity of actors to control and manipulate structures for the distribution of resources. Finally, transformative power arises from the capacity of actors to change the way things are done. This conceptualisation conveys the essence of power in transitions, especially among the actors. However, power in transitions is much more complex; thus, a deeper understanding of the complex manoeuvres inherent in these power structures is needed. Therefore, I explore this in the section below, under discursive power manoeuvres.

2.5.4 Discursive resistance narratives in transitions

Based on the discussion above, it is evident that socio-technical transitions are not only characterised by complex dynamics, but that they also occur in complex power structures. These complex power structures shape the dynamics and the environment within which transition debates unfold. Although power is very significant and central, the topic of power in socio-technical transition remains highly implicit and is downplayed, in most instances. I maintain that power constitutes the core of socio-technical transitions. To construct a working definition of discursive power manoeuvres, I borrow from Munnik's (2012:31) study, which considers discursive power as "the ongoing construction and deployment of meaning, which enables and constrains social actors to describe and define a situation". My definition also draws on Allen (2014) and Rye (2014), who refer to constitutive power as a mode of power or type of power that actors may not be aware of, an elusive form of power which can also be considered as a "web" or capillary power. Ndlovu-Gatsheni's (2015:488) equation of coloniality to "invisible power structures" also informed this description. For the purposes of this study, then, I define discursive power manoeuvres as invisible structures, strategies and tactics that are very powerful and influential in the transition agenda but that are difficult to define, identify and classify.

I also draw on the work of Geels (2014), Osunmuyiwa, Biermann and Kalfagianni (2018), Trencher et al. (2019), and Ting and Byrne (2020) on the power tactics that are deployed to influence the transition agenda. Geels (2014) elaborates on the distinctions between power deployed in resisting the regime, and power defending the regime against structural reforms and socio-technical transitions in response to climate change-related pressures. Geels's (2014) categories of power include the following:

- *The instrumental form:*
Influential economic or political positions (positions of authority), resources such as money, access to the media, personnel and others are used to exert influence in favour of a certain agenda. In essence, the *instrumental form* of power is commonly used to advance agendas and pursue the goals and interests of the most powerful actor(s).
- *Discursive strategies:*

These are strategies which powerful actors can use to resist transition. These actors deploy discursive strategies to shape narratives which may result in dominant discourses that influence what is being discussed and how it is discussed. To build a context around these discursive strategies and how they can shape the discourse, Geels (2014) draws from the work of Snow and Benford (1988, cited in Geels 2014) on the three different framing dimensions (*diagnostic framing*, which entails the identification and definition of a problem(s); *prognostic framing*, which focuses on advancing possible solutions to the diagnosis; and *motivational framing*, whereby a justification for action is provided). Similarly, Swilling et al. (2015), in their exploration of political power analyse how power relations are distributed and maintained; the underlying policy paradigm, which considers the framing of narratives and shaping of beliefs among different policy actors, and the terms of debates and adoption.

- *Material strategies* to defend the regime:
Under this strategy, the focus is on the use of financial resources for the improvement of the technical capabilities of the regime (the incumbent actors). As an example to demonstrate this power, Geels (2014) draws on the technical innovation around coal-fired power generation through technologies such as carbon capture, coal gasification, superficial pulverised coal technologies, and flue gas desulphurisation. These innovations have legitimised the clean coal discourse, which has in turn been used to attract attention and resources in support of the coal regime.
- Broader *institutional power*:
According to Geels (2014:34), this power is “embedded in political cultures, ideologies and governance structures”. Geels explains how broader institutional contexts feed into the resistance strategies of regimes by creating an enabling environment through the use of ideologies which may seem neutral, while, in actual fact, they favour powerful regime actors.

The four power strategies illustrate how powerful (regime) actors shape the narrative around transitions by defining the problem(s), presenting solutions, and influencing policy. Through their discursive manoeuvres, these narratives continuously change, in some instances using language that appeals to the public

(for example, using constructs such as affordability, accessibility, and employment opportunities). Although these narratives can give the impression that there is room to influence them, there are more powerful actors who manipulate, influence and re-orient these narratives. As a result, appealing language can spark public debates, which may question the suitability of alternatives outside the created narrative or discourse, and in the process may legitimate problematic narratives. Material strategies can be tied to the broader institutional power, because financial resources, technical capability and political environments are the interplays that privilege powerful regime actors. The use of narratives to direct a transition is a powerful strategy. These narratives are powerful tools used to select and filter the interpretation of reality, which may strongly direct the trajectory of a transition (Trencher, Healy, Hasegawa & Asuka 2019).

The use of discursive strategies, defensive strategies and institutional forms of power has been explored further by Osunmuyiwa et al. (2018), on the basis of how the emergence of renewable energy technologies has been resisted by rentier actors with vested interests in Nigeria's fossil economy. The *defensive strategies* used by the rentier actors in Nigeria include state capture as an instrument to block transition attempts (Osunmuyiwa et al. 2018). These scholars also consider the application of narratives as a *discursive capability* through which public debates or symposiums and media framing have been used to shape an "indigenous claim" narrative over the fossil economy (Osunmuyiwa et al. 2018:147). Public statements by influential political actors such as Prime Ministers and Cabinet Ministers regarding the fossil economy have, in many instances, advanced resistance narratives in defence of the regime actors, thus revealing both the instrumental forms and the broader institutional power (Geels 2014; Osunmuyiwa et al. 2018). The third strategy is the use of structural or institutional resources, which often entails the creation of policy arguments directed toward prioritising existing technologies and creating barriers over other or new technologies.

In the context of South Africa, Ting and Byrne (2020) have explored power dynamics deployed in the quest to protect South Africa's fossil energy regime, ESKOM, according to five dimensions: the *market*, the dimension of

organisational networks and capacity; discursive strategies; public policies; and technology and infrastructure. Regarding the *market* dimension, Ting and Byrne investigated the developed market relations between regime incumbents and the state, which works in favour of the regime. The *organisational network and capacity dimension* refers to the established knowledge base that favours and protects the power and dominance of the regime. The third and most common strategy is the *discursive strategy*, which powerful regime actors use to define norms, shape the prevailing discourse and ideologies and influence the beliefs among powerful and influential elites. In respect of *public policy*, the fourth dimension, Ting and Byrne (2020) reiterate what Geels (2014) has argued about the institutional and policy environment that favours the regime and facilitates its reproduction. The last dimension is *technology and infrastructure*. It echoes the same sentiments through which existing standards and requirements also tend to favour the regime incumbents, thus creating obstacles to niche innovation. These five dimensions have been central in protecting the fossil regime in South Africa. In this regard, Swilling et al. (2015) warn that the status quo can be protected until such time that stressors and enablers such as external shocks trigger a paradigm shift and policy change. This has been the case in South Africa, where a significant paradigm change and policy changes are imminent. However, although there are positive changes, there are some policy barriers which add to the complex dynamics that underpin South Africa's energy transition (Todd & McCauley 2021).

I further explore South Africa's context by borrowing from a recent and interesting analysis of power dynamics in South Africa's Just Transition. In their recent publication, Kalt, Simon, Tunn and Hennig (2023:6) present a much broader and inclusive analysis of power dynamics in South Africa's Just Transition which they frame as "the political project of South Africa's hydrogen transition". Kalt et al. (2023:6) explored this political project under what they consider "completing initiatives" which include green extractivist, green developmentalist, fossilist and socio-ecological. These scholars have explored how these competing initiatives will impact the transition pathway. This talks to the competing agendas entrenched in these initiatives, with the green extractivist striving for a green hydrogen market with a significant export footprint, while the green

developmentalist is rather envisaging a localised impact through a domestic economic value. The fossilist on the other hand is pursuing what Geels refers to as a “regime-lock-in” by preserving the status quo of the fossil fuel-based economy. And lastly, the socio-ecologicals, who seek to counter the extractive logic and prioritise the well-being of communities through strong activism. Kalt et al.’s (2023) analysis highlights the complex nature of South Africa’s Just Transition and the inherent power dynamics. I also consider these power dynamics in energy transition through what Swilling (2023) conceptualised as discursive periods, detailing the complex and non-linear processes that have unfolded between the years 1998 and 2022.

A similar account of power dynamics and strategies has been explored by Trencher et al. (2019) in the context of discursive resistance to phasing out coal in Japan. The coal regime in Japan is complex. Navigating this complexity requires an understanding of the position and the economic rationale of the incumbent actors in a politically powerful industry with strong state backing (Trencher et al. 2019). Geels’s (2014) instrumental dimension of power constitutes the core of Japan’s fossil economy. Of particular interest for the current study are the pro-coal narratives used by the coal regime to resist socio-technical transitions, which permit an understanding of the instrumental power tactics entrenched in the Japanese coal economy. The first narrative is the *efficiency and cleanliness of Japanese coal technology*. In this narrative, according to Trencher et al. (2019), the regime actors refer to the coal industry as highly efficient and clean, thus protecting the coal regime and promoting coal exports to developed countries that already have high efficiency and clean technology. The second narrative is *the compatibility of coal-fired electricity with climate policy*. This narrative links well with Geels’s construct of motivational framing, which describes how a more convenient discourse can redirect a policy direction, in this case by implying a balance between economic interest and environmental protection (Trencher et al. 2019). The third narrative is *coal and energy security*. This narrative advocates for the centralisation of coal in the Japanese energy mix and consideration of coal as a significant energy backup, which is also essential in reducing dependence on imported oil (Trencher et al. 2019). The fourth narrative is *coal’s cost superiority and economic importance*,

which considers the economic efficiency of coal in terms of pricing, compared to other energy sources, which is argued to have a positive impact on the international competitiveness of Japanese firms. Trencher et al.'s (2019) case study has illustrated how powerful narratives are influencing and defining the transition pathway. This is evident in how the narratives crafted to protect the coal regime have significantly influenced energy policy and climate mitigation targets in Japan. The resistance narratives protect the coal regime by maintaining support for it; the Japanese coal regime has leveraged a shared discourse to justify and drive resistance to technological changes; and this discourse drives investment towards growing the coal economy (Trencher et al. 2019). Narratives are thus proving to be very powerful tools in strategies to direct transition pathways and trajectory.

For example, the narrative centred on the cost efficiency of coal in comparison to the cost of and access to renewable energy remains a critical narrative in the energy transition. However, in recent years evidence suggests the opposite of this narrative; scholars such as Swilling (2020) argue that renewable energy has become more affordable than fossil energy in many countries, with investments in renewable energy exceeding that in fossil energy. Although this may sound sufficient to discredit the narrative of the cost of renewable energy vis-à-vis the cost of coal, due to the interplay of power, it may be altered to suit a certain agenda. Thus, over time, narratives may become invalid as new developments arise, thus prompting an alternative narrative in order to maintain the status quo.

Kohler et al. (2019) point out that transitions are multi-actor processes, enacted by a range of actors and social groups endowed with resources, capabilities, beliefs, strategies and interests. Similarly, Scoones, Leach and Newell (2015) comment that transitions are characterised by a number of social actors with highly uneven political power. Therefore, transitions cannot be adequately explored without understanding the nature and network of actors at the centre of these transitions and their inherent power dynamics.

2.6 Conclusion

The subject of the Just Transition is broad and has produced a diverse literature. As a new concept, the Just Transition requires a detailed historical analysis to

enable a contextualisation of the debates, the transition trajectory and injustices it would perpetuate if it is not done correctly. Therefore, this chapter considered the complex nature of the Just Transition debate and the context within which it unfolds. This was supplemented by a review of the diverse interdisciplinary literature relevant to grounding the different complex aspects of the research question of this study.

The study achieved this through a literature review that covered the different aspects in three different sections. The first provided a historical analysis of coal mining from a broader unequal world perspective, focusing on extractivism. The second section then explored the current coal landscape through the lens of the Minerals Energy Complex. The perpetuated inequalities and inherent subjugations were explained in relation to how they have facilitated an unjust relationship between coal communities and the local coal economy, revealing a relationship characterised by a contradictory pattern of affectedness and dependence. The section further explored how counter-power is rising from the context of vulnerability, and what was considered powerless, through community agency and social movements. The third section explored the literature on the shift to an alternative economy – the Just Transition to a low-carbon resilient economy. It considered how the nature and characteristics of the Just Transition and the dynamics that underpin it influence the Just Transition pathways and trajectory. The complex and non-linear nature of socio-technical transitions was detailed to provide a context for South Africa's transition to a low-carbon economy. This section was able to show the different transition pathways informed by the non-linear dynamics and politics inherent in transitions.

This chapter therefore showed how the current coal landscape is shaped by a long colonial, imperialist, neo-colonial, capitalist and apartheid history. It also showed that transitions are complex and non-linear, and that (although transitions may be intended to bring beneficial transformation or reforms) each transition needs to navigate significant and complex dynamics.

Despite the rich literature explored in this chapter, three gaps were identified. The first is that the Just Transition debate and the complex dynamics underpinning South Africa's Just Transition remain inadequately explored in academic

scholarship. Scholarship on the Just Transition is fast evolving. When I started the literature review process there were very few articles in academic journals covering the area of the Just Transition, however, over the years this has changed. However, even with this positive development in the expansion of scholarship in the Just Transition, the available literature addresses the multi-actor nature of transitions and the dynamics prevalent among the actors, but it does not adequately explore those actors or stakeholders who are powerless and vulnerable, and who they find themselves on the losing side when they have to compete against powerful interests and agendas. Lastly, the literature that explores power dynamics in socio-technical transitions inadequately addresses and contextualises invisible power structures, which are very powerful in defining and determining the transition trajectory.

Therefore, given this complex context, this thesis deploys an interdisciplinary theoretical framework to explore the inherent inequalities that shape the current landscape and the global influences that have maintained the status quo. This framework also provides a theoretical lens to explore the current injustices that coal communities contend with in the current coal landscape, the non-linear dynamics that underpin transitions, and the power dynamics that are inherent in transitions and powerful in influencing the transition trajectory. This theoretical framework is explored in the next chapter.

CHAPTER 3: NAVIGATING THE JUST TRANSITION: AN INTERDISCIPLINARY THEORETICAL FRAMEWORK

3.1 Introduction

This chapter presents the theoretical framework deployed in this study. The literature review in Chapter 2 grounded this study in the existing body of knowledge by considering core elements underpinning the research question from the perspective of diverse bodies of literature. These include the global influences that shape the current coal economy and the coal mining landscape, and the implications of the Mineral Energy Complex for the current coal mining landscape. Chapter 2 showed the way in which the current landscape is characterised by environmental injustices and how the transition to an alternative system through the Just Transition is unfolding. Chapter 2 drew on insights from different fields of study, given the complexity of the coal mining landscape and the Just Transition. Continuing from Chapter 2, the current chapter therefore constructs an interdisciplinary theoretical framework which draws on theoretical insights from different theories.

The first theory I consider in Chapter 3 is Dependency Theory, which enabled the study to navigate the unequal world context to put the current coal landscape in South Africa in a global historical perspective. It creates an understanding of how the ongoing extractive relationship between the global North and the global South has historically shaped and continues to shape the coal landscape. The second theory is the Socio-technical Transition Theory, with a specific focus on the Multi-Level Perspective, to explain the character of socio-technical transitions such as the Just Transition. The third theory is Political Ecology, an interdisciplinary theoretical lens which the study deployed to navigate the complex power dynamics inherent in transitions.

A fourth theory, environmental justice, which serves as a threefold theoretical and analytical framework, is discussed in detail in Chapter 4. Environmental justice is deployed in this study to frame the current injustices of communities in the coalfields. It also allowed me to conceptualise an environmental justice framework

which could underpin a “just” transition – one that is just and fair to coal communities.

3.2 Dependency Theory

Dependency Theory is popular in the social sciences (Romaniuk 2017). It is one of the classical theories in Development Studies. This theory gained prominence in the field of social sciences between the 1950s (Romaniuk 2017) and 1960s (Sonntag 2001). During the 1960s, Dependency Theory gained prominence through the work of Marxist scholars such as Paul A. Baran and Paul Sweezy, and world systems theorists such as Immanuel Wallerstein (Romaniuk 2017), as well as German sociologist and economic historian Andre Gunder Frank (Sapru 1994). Dependency Theory emerged as a reaction to Modernisation Theory (Coccia 2019; Romaniuk 2017). Modernisation theory defines development in terms of a non-linear and progressive development path, following the “stages of growth” (Coccia 2019; Romaniuk 2017). Proponents of Modernisation argue that underdeveloped countries need to adopt economic growth policies prescribed by the global North to achieve a linear development path (Coccia 2019; Romaniuk 2017). On the contrary, Dependency theorists attribute development challenges in the global South to colonial legacies and contemporary international power relations, which in turn shape the socially structured inequalities and hierarchies of power that are central to the global system of societies (Chase-Dunn 2015). Hout (1993) asserts that Dependency Theory has become one of the most successful theoretical approaches in the study of international relations, because it explains how a capitalist world system perpetuated inequalities among countries across the world.

In explaining the inequalities between the global North and the global South, Dependency Theory argues that a system was created where the dominant wealthy nations, “the core”, benefited from an exploitive relationship with the resource-rich global South, “the periphery” (Hout 1993:1). The “core” became wealthy from and developed using resources extracted through unsustainable means from the subservient, impoverished “periphery” (Hout 1993:1). According to political economist Patrick Bond (2017:67), “the simplest explanation of dependency theory is that the North gets richer the more it exchanges with the

South, which in turn gets poorer because of a value transfer”. Based on such analyses, Dependency Theory explains the ongoing extractive relationship between the global North and the global South, disguised as a morally beneficial relationship, while in reality facilitating the upliftment of one over another by the paralysis of the other through a flow of resources from the global South to the global North.

3.2.1 Dependency Theory: a theoretical lens for exploring the historical influences that shape the current coal landscape

Many scholars have explored Dependency Theory and have written extensively on it. This study draws from the work of scholars such as Frank, Walter Rodney and Ndlovu-Gatsheni. The writings of these scholars on Dependency Theory offer this study a critical theoretical lens to contextualise the current coal landscape. To ground the issues of inequality in the current landscape, I draw on the work of Frank (1966, 1969) on the “development of the underdevelopment” published in the 1960s regarding the unequal and extractive relations between the global North and the global South, which saw the global North developed at the expense of a deteriorating global South. I further consider Walter Rodney’s (1982) book, *How Europe underdeveloped Africa*. Building on the work of Frank, Rodney (1982) explores the oppressive relationship between the global North and the global South. These theoretical positions provide a grounding for the unequal world context argument and expose the mechanisms used to create and perpetuate the current unequal and separate South Africa already discussed in Sections 2.2.1 and 2.2.2.

I also consider the contemporary work of a decolonial scholar, Ndlovu-Gatsheni (2017) on the critical explanatory power of Dependency Theory for an understanding of the experiences that shape Africa, Latin America and other former colonial regions. I draw on Ndlovu-Gatsheni’s defence of the relevance of the Dependency Theory in contemporary development debates. In his article “Death of Dependency? The significance of Dependency Theory in the contemporary world”, Radovanovic (2012) raises the question of the relevance of Dependency Theory in the contemporary world. His analysis follows a debate around whether Dependency Theory has become “obsolete, disappearing from

the theoretical radar and leaving some questions about development and poverty unanswered” (Radovanovic 2012:1). Bond (2017) adds that the alleged death of Dependency Theory in the 1970s was attributed to its failure to explain the rise of some of the strong economies of Asia, despite their relationship and integration with the global North. Oyetunde (2022) points out that although Dependency Theory lost its dominance as an explanatory framework between the 1960s and 1980s, in the last decade, debate regarding its relevance in explaining contemporary international political economy has re-emerged in academic discourse.

Amid these debates, Ndlovu-Gatsheni (2017) asserts the significance and relevance of Dependency Theory in contemporary South Africa. He refutes the claim that Dependency Theory may over time have lost momentum in development debates, showing that the theory has been appropriated and developed, and that through its explanatory framework, it remains central in the construction of other important theoretical frameworks, such as Decoloniality Theory. Moreover, Ndlovu-Gatsheni (2017) argues the relevance of Dependency Theory in explaining the existing core-periphery reality and understanding the structural processes that produce the contradictory effects between the global North and the global South (Ndlovu-Gatsheni 2017). Ndlovu-Gatsheni’s analysis ties in well with that of Chase-Dunn (2015:197), who maintains that “Dependency [T]heory is alive and well. Understanding the changing nature of global power is not a task whose time has ended”. I agree with the argument by Ndlovu-Gatsheni (2017) and Chase-Dunn (2015) regarding the relevance of Dependency Theory in contemporary development debates. I argue that Dependency Theory remains relevant and appropriate in responding to questions of development, poverty and inequality in the global South, especially in the context of the complex relationship that exists between the global South and the global North, and the continuing inequalities in the global South with an ongoing extractive relationship between the global North and the global South.

One of the arguments I make in the current study is that in navigating the subject of the Just Transition and the position of coal communities in it, the current context should be considered through the lens of the history of inequalities that have shaped this landscape. In respect of the narrative of an unequal world, explored

in Chapter 2, for the historical analysis of the current coal landscape, I have argued the influence of colonial and post-colonial structures in influencing and shaping the landscape of South Africa's largest coalfield, the Mpumalanga coalfields. This landscape is characterised by deep inequalities, moulded by colonial, capitalist and the apartheid history. These inequalities have influenced the social and economic landscape by perpetuating the entrapment of coal communities in injustices, while also frustrating their agency, power and voices in the process. As Swilling et al. (2015) point out, the continued failure to confront and dismantle the basic power structures of the apartheid socio-political regime lies at the core of South Africa's development failure in the post-apartheid dispensation. Similarly, I argue that not tracing the long rich history that shapes the current landscape and its inherent inequalities denies us an opportunity to understand the current coal context and the context that underpins and shapes the realities of coal communities. This history constitutes an important consideration, as it enables us to define a course of justice appropriate to ensuring a fair, inclusive and truly Just Transition.

Understanding the context in which these coal communities navigate the Just Transition is important in responding to the research question and in envisioning a transition that can ensure wide-reaching societal welfare for communities in the coalfields:

We cannot hope to formulate adequate development theory and policy for the majority of the world's population who suffer from underdevelopment without first learning how their past economies and social history gave rise to their present underdevelopment. (Frank 1969:257)

Therefore, grasping how the current context was itself shaped and influenced by colonial, neo-colonial, imperialist, apartheid, capitalist, and extractivist structures also enables us to understand how the current context plays out in the Just Transition debate, inasfar as coal communities are concerned.

The colonial, neo-liberal and apartheid history which shaped the current landscape has benefited elites at the expense of poor populations. Coal communities are an example of such populations, which bear the brunt of these unsustainable and exploitative structures. Their current realities, characterised by high levels of poverty and unfavourable living conditions because of a degraded environment, were perpetuated through unsustainable extractive patterns. These

realities offer one example of how these colonial, apartheid and capitalist structures shaped their context. Frank (1969) explains that unsustainable capitalist modes of extraction saw elites enriched, while the poor communities became even more impoverished through the structure of the periphery and the core. The flow of resources from the periphery to the core in the context of the coal mining landscape is evident through the unsustainable extraction of coal to meet export demands. One third of South Africa's high-grade coal is exported to the European market at the expense of the environment and local communities, demonstrating unsustainable extraction of coal for exportation (Cock 2019; Pai et al. 2021). The consumption of cheap coal in South Africa (Hallowes & Munnik 2016) epitomises the periphery and core logic. This also has connotations for the unequal power relations between the global North and the global South. Thus, I also consider the views of Chase-Dunn (2015:196), who maintains that "Dependency [T]heory requires that we think structurally. We must be able to abstract from the particularities of the game of musical chairs that constitutes uneven development in the system to see the structural continuities".

The structures which dependency sought to confront still remain and are linked by a domination-subordination relationship (Sonntag 2001). This prompts a critical analysis of the current structures to see how long-standing patterns of colonialism, neo-colonialism, and capitalism are perpetuated even in the post-colonial and post-apartheid coal mining landscape. The domination-subordination relationship between the global North and the global South mean that the global North assumed a position to define a development model that would save the global South from its "primitive" underdeveloped way of life through these unequal relations. Ndlovu-Gatsheni (2017) points out the complex relationship between the global North and the global South in his claim that Dependency Theory is critical in understanding how coloniality was created, how global power structures were sustained by asymmetrical power relations, how hegemonic epistemologies were entrenched, racial hierarchisation enforced, and an exploitative world economy was created and sustained (Ndlovu-Gatsheni 2017). As I explained in Section 2.2, the relationship between the global North and the global South was anchored in the global North's sense of importance, posturing as a beacon of hope and superiority over the nations considered poor and primitive, needing

salvation and intervention to catch up. Modernisation Theory became the theoretical grounding on which these ideas were expressed. However, Dependency Theory rejected the attribution of underdevelopment to the global South based on its alleged primitive cultural characteristics, and Modernisation Theory's prescriptive claim that development can be achieved through "stages of growth" (Kvangraven, Styve, Kufakurinani & Santana 2017; Sonntag 2001).

Dependency Theory considers how the quest for modernisation undermined the sustainable indigenous practices, cultural and traditional experiences of the global South by regarding these practices and experiences as primitive and underdeveloped, needing the salvation of the global North, while land and other assets were alienated and colonial economic and political systems were imposed. The result of the modernisation/development intervention thus destroyed the relationship that rural populations in the global South had with their land and environment, and introduced the unsustainable extractivist and capitalist patterns and tendencies that later trapped poor communities such as those in the Mpumalanga coalfields in the climate change battle. Therefore, the study uses Dependency Theory as an appropriate theoretical lens based on the work of Frank, Rodney and Ndlovu-Gatsheni.

3.2.2 Exploring the strengths and limitations of the Dependency Theory for this study

In exploring the strength and relevance of the Dependency Theory for this study, I continue to draw from the work of scholars such as Ndlovu-Gatsheni, McKenzie and Grosfoguel. One of Ndlovu-Gatsheni's most significant points pertains to the relevance of the Dependency Theory in understanding the historical and current context of countries in the global South – he maintains that the Dependency Theory remains powerful in the quest to understand the continuing periphery-core reality. Ndlovu-Gatsheni adds that beyond just explaining the centre-periphery reality, Dependency Theory also enables the understanding of the structural processes that produce the contradictory effects which have seen Africa remaining poor while the industrialised North continues to thrive through Africa's wealth.

The explanatory strength of the Dependency Theory is also emphasised in the work of McKenzie (2017:22) through his argument that “underdevelopment was and remains the outcome of a particular configuration of the relationship between countries of the global North and those of the global South”. Based on the explanations provided by Ndlovu-Gatsheni and McKenzie, it is through the Dependency Theory that the current conditions in Africa and other countries in the global South can be understood in relation to their relationship to the global North: “We need to use the global unit of analysis, rather than focusing on the nation-state in order to understand the present inequalities of the world” (Grosfoguel 2017:52). Grosfoguel (2017) adds that relying on nation-state boundaries in an effort to explain conditions linked to poverty and wealth does not provide the complete picture. However, these scholars also clarify that focusing on the global unit of analysis does not suggest that the national-state can be disregarded; instead it should also be considered as an important and necessary locus of action for confronting and challenging the global power structures.

The thinking of these scholars is critical for this study, given the earlier points presented in Section 2.2 that sought to trace the history of the current coal landscape to the influences of the global North. Based on this analysis, it becomes apparent that the Dependency Theory offers significant relevance for this study in terms of navigating the unequal world context that underpins South Africa’s current coal landscape. Furthermore, Centenos’s (2017) sentiments that Dependency Theory permits an analysis and explanation of the current context through a historical lens adds to the relevance of Dependency Theory for this study. Therefore, the use of Dependency Theory not only offers this study a significant theoretical lens for exploring the historical influences that shape the current coal landscape, but also provides the study with an explanatory lens to explain the current conditions in the context of the transition debate.

Although the Dependency Theory offers the study a useful explanatory lens that historicises and contextualises unequal and exploitative relationships between the periphery and the core, it does have some limitations. These include what scholars refer to as a lack of a unified interpretation and understanding of the nature of dependency (Kvangraven 2023). Other scholars have argued that Dependency Theory displays epistemological limitations and economic

determinism. In responding to the economic determinism, Ndlovu-Gatsheni (2017) argues that contemporary theories such as Decoloniality, which borrows its analysis from Dependency Theory, expands on these limitations through its analysis that considers the experiences of Africa beyond economic determinism, towards ontological, cultural, ideological, epistemic and psychological considerations which are indicative of the asymmetric power relations that underpin the periphery-core reality (Ndlovu-Gatsheni 2017).

Other limitations of the dependency theory concern Frank's work. Critics relate Frank's description of class structures as being overly schematic and static because he fails to provide an in-depth demonstration of how forms of dependency have changed over time, and how it neglects issues of class dynamics (Kvangraven 2023). Another limitation which was especially important for this study is the lack of a localised context. The focus of Dependency Theory is inequalities between two countries, thus neglecting inequalities within the same country. Therefore, to respond to this limitation, this study considered "colonialisation of a special type" (African National Congress 1997; O'Malley 2004), which provided the vocabulary needed to conceptualise the internal inequalities facilitated through systems of capitalism.

Having explored the historical influences that shape the current coal landscape through the Dependency Theory lens, I now move to the question of a shift away from the current context towards an alternative context, which is the second theoretical focus in this chapter. Loorbach, Frantzeskaki and Avelino (2017) posit that such shifts go beyond technological modifications; they entail power struggles and socio-economic changes which severely affect the existing institutions' systems and operations. To understand these complex shifts and the profoundly entrenched non-linear dynamics, a theoretical lens with the ability to explain and characterise these complexities is essential. For this reason, the study deploys the Socio-technical Transitions Theory, with a particular focus on the Multi-level Perspective, to illuminate the non-linear dynamics that underpin the Just Transition.

3.3 Socio-technical Transition Theory: the Multi-Level Perspective

Socio-technical Transition Theory (STT) is a multi-disciplinary theory that is applied across different fields of study. STT derives its theoretical underpinnings from evolutionary economics, the sociology of innovations and neo-institutional theory, niche management and technological transitions (Geels 2002; Pautanen 2021). According to Poutanen (2021), socio-technical transitions theory is considered an extension of the Socio-technical Systems Theory, which Appelbaum (1997) has described as an industry-based theory that offers extensive conceptual and empirical frameworks used in organisations. Nesari, Naghizadeh, Ghazinoori and Manteghi (2022) trace the history of STT from its use in the analysis of different transitions across different fields. These scholars also show how the use of STT has since evolved from fields such as transport, energy, water and others, to future sustainable trends such as renewable energy, biomass regional heating, electric vehicles, and agricultural innovations (Nesari et al. 2022).

The STT theory follows the Socio-technical Systems Theory's logic, but considers the dynamics that underpin a shift from one socio-technical system to another (Geels 2002; Poutanen 2021); Socio-technical Systems Theory considers only a system's technological or technical and social elements. Markard et al. (2012) describe socio-technical systems as constituting a network of actors, and socio-technical transitions as comprising complex social processes involving multiple phases, a network of actors with varying vested interests and institutions (see also Kuzemko et al. 2016). Therefore, STT is commonly used to analyse and explain processes that underlie a socio-technical transition (Markard et al. 2012).

STT offers multiple interdependent conceptual, theoretical and analytical frameworks, often regarded as middle-range theories that address different transition foci. Middle-range theory or theories of middle range is a concept developed by Robert Melton during the 1940s to refer to

theories that lie between the minor but necessary working hypotheses that evolve in abundance during day-to-day research and the all-inclusive systematic efforts to develop a unified theory that will explain all the observed uniformities of social behavior, social organization, and social change. (Melton 1949:448)

These include Strategic Niche Management, which is a framework that combines ideas from the sociology of innovation and evolutionary economics, commonly used in analysing the emergence of radical innovations (Kohler et al. 2019). Another is Transition Management (TM), which constitutes a policy-oriented framework (Kohler et al. 2019), an analytical lens used in assessing how societal actors in a transition deal with diverse complex societal issues (Loorbach 2009). A third approach is the Technological Innovation System approach, which focuses on the novelties that occur in niche innovations and the institutional context. The last (and popular) middle-range theory and analytical framework is the Multi-Level Perspective (MLP), which considers transition through what Geels (2011), terms “a nested hierarchy”, which constitutes the interaction of the three conceptual and analytical levels explained in Section 2.4.3 (the socio-technical regime, socio-technical niches and the landscape).

3.3.1 *The Multi-Level Perspective*

The MLP has been used in different contexts as a theoretical and analytical framework. Markard et al. (2012) consider the MLP a theoretical framework, but Geels maintains that the MLP is a middle-range theory in which the aggregate niche-regime-landscape model describes the phenomenological outlines of transitions. The MLP is grounded in three theories, namely Evolutionary Economics, the Social Construction of Technology (SCOT) and Neo-institutional Theory (Geels 2020). These theoretical positions feature complementary strengths and differences in the conceptualisation of transition and agency. One of these complementary strengths is what Geels refers to as crossovers between the three theories. This implies that the MLP draws on the potential linking points among the theories that constitute the foreground and background of the key concepts used in the MLP (Geels 2020).

The MLP is the most commonly used approach in sustainability transition research. Kohler et al. (2019) consider the MLP one of the core frameworks in the Sustainability Transitions Research Network, which is an international network of scholars interested in sustainability transitions. The MLP is grounded in the extensive work of Geels, who maintains that the MLP is the most prominent framework for understanding socio-technical transitions. Geels (2020) sees the

MLP as a useful framework for analysing transitions because of its multi-focality, which addresses the radical changes resulting from the novelties that happen in niches, the dynamic stability of regimes and the influences emanating from landscapes. Markard et al. (2012) also argue that the MLP framework undergirds a body of literature dedicated to understanding socio-technical transitions.

The fundamental construct underlying the MLP is that transitions are driven not by a single factor, but by multiple factors, which constitute non-linear and complex processes resulting from the developments, interactions and alignments at the three analytical levels: the landscape, the regime and niches (Markard et al. 2012; Moradi & Vagnoni 2018). The popularity of the MLP in sustainability transition research is the result of the macro-perspective of the framework, which can work with the complex non-linear dynamics that characterise socio-technical transitions.

The MLP offers a firm grounding for this study and was chosen as a significant theoretical lens through which South Africa's Just Transition can be explored and analysed. An analysis of the South African transition trajectory using the STT enables an understanding of the non-linear dynamics, multi-actor processes, and far-reaching changes along different dimensions (Kohler et al. 2019; Markard et al. 2012). The compatibility of the socio-technical transition theory for this study is further emphasised by Moradi and Vagnoni (2018), who argue that STT can describe, map and analyse different processes of change and unite the various transition approaches. They emphasise the long application history of the MLP in analysing transition processes and forecasting transition pathways by designing and developing transition scenarios (Moradi & Vagnoni 2018). Therefore, the Just Transition in South Africa and its inherent non-linear dynamics and complexities are explored below, using the MLP in the broader STT.

3.3.2 The Multi-Level Perspective: a theoretical lens for South Africa's Just Transition

This section seeks to answer a critical question: What makes the MLP an appropriate theoretical framework for analysing South Africa's Just Transition? The core position of the MLP is that transition occurs through the interaction of diverse processes in the three analytical and conceptual levels – the regime,

niches and the landscape (Geels & Schot 2010). This is understood in the context of what has been termed the “nested hierarchy” (Geels 2011:37), which represents the embeddedness between the three analytical levels- landscape, regime and niches. This framework describes socio-technical transitions resulting from the alignment of trajectories and ongoing processes within the three analytical levels. According to this framework, changes in the landscape create and exert pressure on the regime. The results of the pressure cause destabilisation or disruption within the regime, thus creating new windows of opportunity for innovation. Regime destabilisation has been described by Turnheim and Geels (2013:1753) in terms of the “discontinuation of the reproduction of the core elements of the industry”. According to these scholars this process unfolds through external pressures that can cause performance problems which will ultimately weaken the regime (Turnheim & Geels 2013).

The niches then respond to the pressure and the created window of opportunities through niche innovation (Geels & Schot 2007 2010). The MLP framework also covers socio-technical regime lock-ins, which according to Arranz (2017:126) can be broken through “regime destabilisation”. Some rules account for these lock-ins, which represent the forces that keep the dominant regime stable and regulations that reinforce the stability of the socio-technical regime (Geels 2020; Geels & Schot 2010).

When one considers South Africa’s Just Transition through the lens of the MLP, niches are where low carbon and/or renewable energy technologies are developed as niche innovations. The regime refers to the coal economy, which includes coal mining, production, rules, policies, legislation, infrastructure (for mining, transportation, sales of coal), networks, coal-dependent communities, import and export systems and many other elements which make up the coal economy. The landscape consists of the exogenous factors that create pressures in this context, including climate change debates, international pressures, disinvestment in coal, new coal laws, activism and many other factors that have imposed shocks and changes to the coal economy. Based on these, the argument by Geels and Schot (2010), Moradi and Vagnoni (2018), and Geels (2020) that there is no single driver of transition, and that transitions result from the alignment of developments and interfaces at three levels, appears to be relevant to South

Africa's Just Transition. Moreover, interaction at these three levels reflects the systematic and structural elements of the Just Transition. Below, I consider in more detail the suitability of the MLP, based on its diverse and multi-faceted uses in socio-technical transitions.

3.3.3 *The use of the MLP in different contexts*

The MLP has been used in different contexts to analyse different transitions. I use a number of case studies to show its contemporary and multi-faceted applications.

In their article "A multi-level perspective analysis of urban mobility systems dynamics: What are the future transition pathways?", Moradi and Vagnoni (2018) use the MLP to assess the non-linear dynamics and decarbonisation pathways for a mobility regime (the transport sector). These scholars sought to identify the key regimes in the transportation sector and assess the dynamics and pathways to a low-carbon transition for this sector in line with the 2030 targets. These scholars used a framework that combines multiple stakeholders and the MLP to investigate these dynamics and pathways in detail. These scholars justify the use of the MLP on the basis of four reasons. Firstly, technology and society co-evolve, involving multiple dimensions. Secondly, the MLP approach is inherently actor-based in its consideration of the interactions and networks among multiple actors. Thirdly, it has a multiple focus, which ranges from more straightforward drivers and linear cause-effect relationships to complex non-linear dynamics. Fourthly, the MLP has the ability to consider regime stability (lock-ins and resistance to change) on the one hand, and radical changes and regime destruction on the other. These reasons underlying the use of the MLP are core characteristics of the MLP, rendering it a suitable and popular theory in socio-technical transitions.

Another interesting and contemporary application of the MLP in socio-technical transition research is seen in the article by Ajaz and Bernell (2021) on "Microgrids and the transition towards decentralised energy system in the United States". They explore the adoption and increased use of microgrids as a decentralised energy system and how this plays out in energy transitions. Their study applied the MLP framework to explore the drivers, contexts, processes, institutions and interactions that affect the adoption of microgrids in a comparative analysis examining two centralised grid regimes and the deployment of one microgrid in

California, New York, and Oregon. According to Ajaz and Bernell (2021:2), the MLP provides a “systematic perspective to provide insights for understanding this socio-technical shift in the energy system”. Their comparative analysis using the MLP shows how Geels and Schot’s (2010) transition pathways apply to the energy regime in the stated case studies, and the role of policy and state-level financial support in the socio-technical transition. Thus Ajaz and Bernell (2021) present an interesting perspective which speaks to a systematic perspective for understanding regimes, which in turn strengthens the suitability of the MLP in the current research and in future research.

The popularity of the MLP in studies on the socio-technical transition has been enhanced by the theoretical collaborations that have emerged in contemporary literature on the topic. The complexities around socio-technical transitions and the multi- and interdisciplinary focus of socio-technical transitions call for a diverse focus and analysis. Along these lines, scholars such as Wainstein and Bumpus (2016) have explored the interface between the MLP and the Business Model Theory in explorations of the dynamics that are vital to accelerate the socio-technical transition. The critical question these scholars pose is how to marry the global relevance and urgency of the decarbonisation agenda to the speed at which transitions toward meeting the set target are unfolding. Wainstein and Bumpus (2016) assert the usefulness of the MLP in their case study to understand changes and tensions at different societal levels, and the regime and niche levels. They argue that this collaboration is significant in providing a better understanding of the business dynamics in the current landscape of modern power systems. Similarly, Brunet, Savadogo, Baptiste, Bouchard, Cholez, Gendron and Merveille (2021), in their study, “The three paradoxes of the energy transition in Rwanda”, used an analytical framework that combined the MLP with a Multi-Scalar approach to assess the impact of a solar plant in the energy landscape in Rwanda, which is a low-income developing country. These case studies show diverse issues that characterise socio-technical transitions and how these issues can be better identified by means of the MLP. Moreover, these case studies have illustrated the MLP’s strengths, which can be enhanced by combining it with theoretical collaborations suitable to the research problem in question.

Combined frameworks that display compatibility and strong complementarity can augment the MLP. The work of Brunet et al. (2021) makes a multi-level contribution to the MLP by introducing the aspect of how historical contexts influence and shape a transition. In their analysis of the Rwandan case study, they emphasise the significance of the geographical and historical context in explaining a transition. Their study deployed a methodological and analytical approach in which geographical scales were considered, based on their impact levels and key players in the transition. Their case study reveals complex multi-layered dimensions entrenched in transitions. Ajaz and Bernell (2021) also brought in contemporary use of the MLP, which they describe as a multi-dimensional and systematic analytical framework, which holds the potential for analysis of the influences, and insight and understanding regarding transitions through complex relationships and processes constituting socio-technical systems.

Hurlbert et al. (2020), in their study “Transitioning from coal: Towards a renewables-based technical regime in Saskatchewan”, used the MLP to assess actors and their network of relationships and significant policies and rules informing the coal transition. The use of the MLP in their case study provided a significant lens for understanding the role of actors and their networks in shaping transitions. These scholars appreciated how the MLP framework enabled them to understand how the processes in the networks play out in a real social context. They concluded that the MLP reflected the significance of an effective actor-network in driving successful niche innovation and the switch points in the transition trajectory (Hurlbert et al. 2020). Their case study presents an actor focus that, when explored through the MLP, zoomed into interesting issues about the transition trajectory.

The above case studies demonstrate how the use of the MLP as an analytical and theoretical framework has evolved over the years, and its varied applications. The success of its application reveals the transdisciplinary nature of the MLP, its compatibility with and applicability across different transition focuses, and in transition research across different fields of study.

3.3.4 *The strengths of the MLP in assessing South Africa's Just Transition*

South Africa's Just Transition presents a complex process with non-linear dynamics and unique power dynamics, involving multiple stakeholders with competing vested interests. The MLP's multi-focal character provides a comprehensive lens to study the dynamics and interactions that characterise South Africa's Just Transition. Jorgensen (2012:997) emphasises this strength, arguing that the MLP offers

a quite elegant, systematic model of three inter-connected levels that are defined by the metaphorical notions of niche, regime and landscape. The model and the metaphors used have a certain intuitive and explanatory strength which implicitly gives new content to and links between micro-, meso- and macro-level theories.

The systematic aspects of the MLP have been further articulated by Ajaz and Bernell (2021), who explain the MLP's multi-dimensional and systematic analytical framework and its ability to enhance insight and understanding regarding transitions. They praise the MLP's inherent actor-based approach, which considers the interactions and networks among multiple actors, and its multi-focus, which ranges from more straightforward drivers and linear cause-effect relationships to complex non-linear dynamics. Moradi and Vagnoni (2018) also emphasise the strength of the MLP in assessing South Africa's Just Transition, considering the complex dynamics that underpin it.

However, although the MLP offers the current study a critical theoretical and analytical lens through which the non-linear processes and dynamics that underpin South Africa's Just Transition can be discussed, and has facilitated significant analysis of many socio-technical trajectories and dynamics, it has some limitations. Some of these have been explored through collaborative analysis, and its lacunae have been filled by means of complementary elaborating enrichments, as can be seen in the case studies above. A few scholars have acknowledged these limitations, but for the purposes of this study, only the limitations that apply to or influence the context of the study are considered in the next section.

3.3.5 *The limitations of the MLP in assessing South Africa's Just Transition*

The MLP is unable to address adequately some essential context-specific issues. In this regard, Geels et al. (2017) point out that there are country-specific dynamics which depend on political coalitions, industry strategy, cultural discourses, civil society pressures, socio-political context and other factors which drive and influence transitions. These elude the MLP's focus on co-evolution, long timeframes, and the non-linear dynamics of socio-technical transitions. In the current study, I consider the context-specific struggles of coal communities, the intricate dynamics of power and politics that are deeply entrenched in the Just Transitions and that play out through the multi-actor character of the Just Transition. If these issues are not carefully considered and analysed, they can undermine the essential justice and fairness that should underpin a Just Transition.

Actors and power in transitions are a topic that the MLP does not address comprehensively (Avelino & Rotmans 2011). Some of the limitations that Geels (2019:193) highlights include limited attention to "cultural discourse and framing struggles", which relates to the importance of frames, narratives, and storylines as they shape the socio-political context of problems, actors, innovations and pathways. Geels (2019) adds that these narratives, frames and storylines are important as they influence interpretation and perspectives. This is essential in South Africa's Just Transition because actors and other stakeholders frame the transition from different positions and attach different interpretations. For example, for firms and industries that are central to the coal economy, a transition means disruption; and for coal-dependent communities, the transition means a loss of livelihood and uncertainty about the future, but for affected communities, it also means hope for a better economy and clean environment. For actors in the renewables market, it means a window of opportunity.

The MLP does not fully address grassroots innovation, which refers to the work done by those who are literally at the coalface and social movements in initiating and driving transitions. In the South African context, the role played by the grassroots level and social movements remains central in the Just Transition. This

has been briefly mentioned in Section 2.3.3.1, under social movements. The MLP fails to cover multiple transition pathways comprehensively. The transition pathway of South Africa's Just Transition is particularly interesting in the context of this criticism because of the way it is evolving, as this transition was activism-led transition and, ultimately, state-led through the work done by the Presidency.

Other areas where the MLP is limited are "incumbent firm resistance and re-orientation" and "destabilisation and decline" arising, in particular, from the adverse effects which Geels (2019:195) calls the "flipside of innovation". The last criticism relates to the need for "policy analysis", focusing on the policy-makers and processes that underlie and drive transitions. Scholars have responded to some of these limitations by adding theoretical and analytical enrichments, as well as heuristics to understanding some of these issues.

In one of his relatively early articles, "The multi-level perspective on sustainability transitions: Responses to seven criticisms", Geels (2011) deals with the criticism that the MLP underplays the role of agency in transitions (see also Smith et al. 2005), and the need to pay more attention on the role of power and politics. In his response, he rejects the claim that the MLP underplays agency, by showing the entrenched nature of actors in transitions based on the enactment of trajectories and multi-level alignments by social groups, thus maintaining that the MLP considers agency in terms of bounded rationality and interpretive activities (Geels 2011). Geels does not stop there: he provides insight into how a specific focus on rational choices, power struggles, cultural discursive strategies, and further theoretical enrichments can enrich the agency issue in the MLP.

Therefore, even in the context of the current study, the limitations highlighted here do not imply that the MLP neglects or disregards these issues; however, the limitedness of its focus poses context-specific analytical challenges which may result in the inability of the MLP to assess the realities on the ground adequately and to advocate for a transition that is truly just for coal communities. Based on these limitations and criticisms, Geels (2019) argues that conceptual elaborations and enrichments are epistemologically possible and have become popular in transition studies. Some of these theoretical and analytical enrichments have resulted in a reformulation of the MLP, for example, by Kanger (2021).

This study considers these conceptual elaborations and analytical enrichments in the actor and power perspectives of the Just Transition. The study brings in the Multi-actor Perspective, an analytical framework that responds to the lack of precision in transition research regarding different types and levels of actors. For its analysis of power in the Just Transition, the current study brings in the politico-economic complex of rentier states that Osunmuyiwa et al. (2018:4) used to explore “the under-theorised understanding of the influence of political systems, the role of actors and the strategies employed in blocking transitions”. To expand the exploration of the political dynamics that underlie South Africa’s Just Transition, I also consider the socio-political regime, drawing on the perspectives of Swilling et al. (2015).

3.3.6 *The Multi-actor Perspective*

One of the essential characteristics of the Just Transition is the presence of diverse multi-actors with vested interests. Actors are significant drivers of transitions: they influence the trajectory of a transition, and define the core dynamics that underlie a transition.

Several scholarly arguments have been advanced regarding the limitations of the MLP in explaining this critical aspect. Jain (2020) discusses actors and their role in driving the transition agenda, and points out that the MLP downplays this role. In his approach, Jain (2020) draws on the institutional entrepreneurship and socio-technical imaginaries literature to explore how actors attempt to shape their transition trajectories and the level of uncertainty and power dynamics at play. Geels (2020:2) deals with the aspect of actors in transitions by elaborating on the issue of agency through a “multi-dimensional model of agency”, which is based on the assumption that actors are self-interested, act strategically and consider actions that best produce the results they expect.

These perspectives are both critical to consider in the current analysis of the role of multiple actors in South Africa’s Just Transition, and the power dynamics at play at different levels. In responding to the question of South Africa’s coal-affected and coal-dependent communities, an actor-focus approach is essential to illuminate the country’s Just Transition. Such an approach outlines the actors, their problematisation and narrative processes, which, according to Hurlbert et al.

(2020), complements the discussion around the coal transition. It also outlines their participation, the policy playing field (which can enable actors or discourage them) and the injustices to which a transition can subject actors.

In light of this emphasis, this study explored socio-technical regimes with a keen interest in the actors, especially coal communities, and borrowed from Avelino and Wittmayer's (2017) Multi-actor Perspective. The Multi-actor Perspective seeks to respond to the lack of precision of transition research in clearly distinguishing between different types and levels of actors (Avelino & Wittmayer 2017). Furthermore, the Multi-actor Perspective is argued to address two conceptual weaknesses/limitations in the way 'actors' are understood in transition research, and are reflected through the categorisation of civil society to represent everything that is a non-market or government sector; secondly, the distinguishing of the different actors at different levels of aggregation (Avelino & Wittmayer 2017). The Multi-actor Perspective considers the multiplicity of actors in transition, and how many of these actors, especially civil society, are often generalised, thus distorting the essence of the actors on the ground. The Multi-actor Perspective seeks to distinguish between four sectors: the state, the market, communities and the third sector (CBOs, labour unions, faith-based organisations). It also considers the differences between actors at different levels of aggregates, which include sectors, organisational actors, and individual actors (Avelino & Wittmayer 2017). A generalised categorisation of civil society can potentially obscure the role played and position assumed by individuals, communities and community-based organisations in transitions. In this regard, Geels (2011) warns that a concrete aggregation of the actors, the underpinning power and political dynamics need to be understood thoroughly. Therefore, Avelino and Wittmayer (2017) contribute significantly to transition studies through their systematic and explicit analysis of the actors, and the complex and diverse roles that the different actors undertake at different levels of aggregation.

3.3.7 Politico-economic complex of rentier states, and the socio-political regime

The question of power in transitions has been argued in Chapter 2 to be the key to how transitions play out. This is so because power manoeuvres extend and

play out in the context of the political economy, which ultimately shapes any transition. Therefore, the centrality of power must be considered and analysed, based on its impact on the transition pathway and trajectory. Brauers and Oei (2020) stress that it is important to bring political economy thinking into the discussion of socio-technical transitions. The lacuna in this regard is increasingly becoming a focus of analysis in energy transition research (Brauers & Oei 2020). The limitation of the MLP in dealing with the issue of politics and power has also been acknowledged by Geels (2019), who admits that the MLP has been criticised for neglecting power and governance in transitions. Geels (2019) gives some examples of scholars mobilising insights from political science theories to conceptualise the power dynamics that underlie policy development in the niches and regimes. Although there are clear grounds to argue that power is under-theorised in the MLP, this does not imply that the MLP overlooks the subject of power altogether. The socio-technical regime implicitly deals with power issues through its focus on dominant institutions, policies, practices, and infrastructure.

Newell, Johnstone and Skovgaard (2018) argue that understanding the politics and political economy of the energy transition helps to unmask the broader networks of power that sustain fossil fuel economies. These networks explain why the fossil economy remains resistant despite the strong climate and transition debates. One such discussion is provided by Osunmuyiwa et al.'s (2018) study "Applying the MLP on socio-technical transitions to rentier states: The case of renewable energy transition in Nigeria". Their case study offers an excellent analytical and theoretical approach to the MLP in a third-world country which can be described as a rentier state. The case of Nigeria offers a relevant context for South Africa, in that their study explores the political complexities inherent in many developing states. Their study covers multiple dimensions, including the analytical and methodological challenges and omissions subject to sustainability transition studies in the context of non-OECD countries that are also rentier states. Osunmuyiwa et al. (2018:146) have argued for the use of the rentier theory in the MLP to "explore the under-theorised understanding of the influence of political systems, the role of actors and the strategies employed in blocking transitions". These scholars then developed a regime matrix which brings together the

potential actors in the socio-technical regime of the MLP and those in the politico-economic (rentier) regime.

This study deploys a “politico-economic complex of rentier states” to enrich the MLP framework. The politico-economic regime relates to defensive strategies which include state capture to block transitions; discursive capabilities, such as socio-cultural discourses, scientific findings and media framings; and the structural or institutional resources involved in the creation of structural and institutional barriers by means of policies and institutional processes that promote regime lock-ins (Osunmuyiwa et al. 2018), which have already been explored in Section 2.5.4. The work of Osunmuyiwa et al.’s (2018) breaks through the limitations of the MLP’s common application to industrialised (global North) contexts, thus offering enriching elaborations for this current study.

The politico-economic complex of rentier states provides an important lens through which to consider the political context of South Africa in relation to the Just Transition and the debates around it. The power structures and dynamics in the rent-seeking context cannot be downplayed, as they determine and shape any fundamental structural transformation. A similar construct to Osunmuyiwa et al.’s (2018) politico-economic complex is the “socio-political regime” construct, which Swilling et al. (2015) argue for in the context of South Africa. Swilling et al. (2015) use the socio-political regime to capture the political dynamics that underlie South Africa’s dual development and environmental trajectories. The socio-political regime is characterised by a constellation of powerful, influential and politically connected actors; the power structures and manoeuvres within the socio-technical regimes; the underlying policy paradigms and manoeuvres; power relations and arrangements within regimes (Swilling et al. 2015).

The politico-economic complex construct and the socio-political regime construct expand on the MLP’s socio-technical regime notion by offering useful lenses through which the politics that unfold within and underlie deep-level structural transformation can be understood. Therefore, these notions augment the MLP’s coverage of complex non-deterministic interrelations between the landscape, the regime and niches by showing how the shocks and pressures that occur in the landscape can influence a complex political economy and policy environment.

The combination of these lenses thus achieves the conceptual elaboration and enrichment that Geels (2019:197) advocates for.

These significant enrichments are further augmented by Geels himself through his introduction of politics and power into the MLP using insights from political economy. Geels (2014) shows how incumbent regime actors use different forms of power, including instrumental, discursive, material and institutional power (discussed in detail Section 2.5.4) to resist transitions. Geels (2014) articulates the use of post-political discourse, through which institutions are influenced to favour regime actors over niche actors and to side-line alternative transition pathways. The politico-economic complex and socio-political regime thus offer frameworks through which these different forms of power can be considered.

One of the secondary objectives of this study is to deconstruct the power dynamics that underlie the Just Transition. Thus, the study is enriched by the deployment of Political Ecology Theory, which is discussed in detail in the next section.

3.4 Political Ecology

Political Ecology is an evolving theory drawing on diverse theoretical, analytical and critical approaches. It is grounded in a range of disciplines, including human geography, cultural ecology and ethnobiology (Tetreault 2017). As a framework, Political Ecology interrogates intersecting injustices resulting from unequal access to resources... and “tackles the injustices and power inequalities that lead to ecological and social inequalities” (Batterbury & Rodrigues 2023:1, cited in Bebbington et al. 2008). Although Political Ecology claims its origins from fields such as cultural ecology, political economy, geography and others, its centre of analysis is specific and distinguishable.

Blaser and Escobar (2016) identify Political Ecology’s unique contribution in its ability to bring together different frameworks and to work through their limitations and deficiencies. This includes, for example, the question of power and its multiple faces, structures of inequality entrenched in human-environment interactions, and the conceptualisation of nature (Biersack 2006; Blaikie & Brookfield 1987; Blaser & Escobar 2016), which are key to Political Ecology. Similarly, Leff (2012) argues

that the emergence of Political Ecology was a response to the obliviousness to nature in political economy.

Political Ecology as a field of study owes its epistemological development to indigenous Latin American scholars. The first use of the term “Political Ecology” has been credited by numerous scholars to Eric Wolf in his 1972 publication, *Ownership and Political Ecology* (cited in Biersack 2006; see also Bryant 1998; Walker 2005; Sridhar 2008; Tetreault 2017; Walker 2005). However, Khan (2013) and Leff (2015) argue that several writings with slight variations in meaning were available even before Wolf’s work, referring to the critical social ecology of Peter Alexeivich Kropotkin, the critical approaches of Alexander Humboldt, Elisse Reclus, Russel Wallace, Mary Fairfax Somerville, and George Perkin Marsh. Leff (2015) does agree, however, that the scholarship and experiences that forged the epistemological basis of Political Ecology and the theoretical thinking, empirical research and political action that developed Political Ecology are Latin American.

Early writings in Political Ecology focused on unequal power relations, conflict and cultural modernisation in response to the Malthusian theories of the global environmental crisis of the 1960s, according to Walker (2005). After this period, between the 1970s and 1980s, dependency theories and the neo-Marxist school of thought, which were most influential at the time, played a significant role in shaping the third-world Political Ecology through a focus that considered the political dimension and a more localised and case study-based ecological focus (Bryant 1998; Tetreault 2017). Therefore, writings since this period present Political Ecology as a field of theoretical inquiry, scientific research and political action that emerged primarily from a neo-Marxist approach.

Variations in the conception and use of the term Political Ecology can be attributed to the diverse and broad scope and nature of this field of study, which Tetreault (2017) describes as its epistemological plurality. Similarly, Bryant (2015) considers this epistemological plurality in the context of a long international lineage with diverse debates over politics, power, class, the state, gender and the inherently unequal power relations between the global North and the global South, which have all shaped the thinking in Political Ecology. The epistemological plurality of the discipline can also be attributed to the grounding of Political

Ecology in multiple schools of thought which defy easy classification. This plurality is evident in the evolution of Political Ecology as an analytical framework with its differentiated emphases, as explored in the next section.

Over the years, research in Political Ecology has seen many twists and turns – research in this discipline has focused more on one area (the political aspect) over the other (ecology). This is evident in a new wave of research focusing more on the political aspect, with little emphasis on ecological concerns (the details of these changes are discussed in the next section). This concern was popularly captured under the phrase “politics without ecology” following the new direction, which, according to Walker (2005), placed less emphasis on biophysical ecology.

3.4.1 An evolving theoretical and analytical focus

Political Ecology has over the years evolved significantly in multi-faceted ways. Biersack (2006:4) indicates that such changes are based on the theoretical positioning of Political Ecology, which saw a shift from neo-Marxism to post-Marxist frameworks through orientations which reject “symbolic and material” reductions entrenched in Marxism, thus embracing a discursive orientation to reality. Another example of such a shift lies in epistemologically distinct research prototypes, namely “structuralist” and “post-structuralist” Political Ecology. Biersack (2006) delineates this shift from “first-generation” (the structuralist) to “second-generation” (the post-structuralist) Political Ecology. Political ecologists have explicitly debated this significant shift and its impact on the identity and direction of Political Ecology (Biersack 2006; Blaikie & Brookfield 1987; Forsyth 2008; Walker 2005). One of the most significant concerns tied to this shift is the question of the centrality of both ecology and politics in Political Ecology.

Notwithstanding concerns over the limitedness of “structuralist” Political Ecology, the neglect of ecology in “poststructuralist” Political Ecology was already raised by scholars such as Vayda and Walters (1990), who advanced concern about the writings of political ecologists who focused on (environmental) politics rather than on the influence of politics in environmental change. On the other hand, Political Ecology scholars such as Watts (1990), in defence, argued on the basis of the limited conception of the role of the political economy and located discursive power dynamics in ecological decision-making within “structuralist” Political

Ecology. Walker (2005) maintains that the shift from a “structuralist” Political Ecology followed arguments by some scholars that the then current Political Ecology scope and conception did not consider the complex power dynamics entrenched in ecological (and environmental) politics (Walker 2005).

Thus, “poststructuralist” Political Ecology has been argued to provide a more comprehensive analysis which considers discursive and symbolic politics, the institutional nexus of power, knowledge and practice (Watts 1997). An interesting perspective on the concerns over the divergences in Political Ecology is what Walker (2005:78) calls “the question of naming”, which he relates to the evolving conception of the construct of ecology, which is at times interchangeably used with terms such as “environment” and “nature”. Interestingly, Walter (2005) does not disregard the intellectual and epistemological implications of the evolving conception, which he argues can be potentially considered a “discursive trespassing and expropriation of intellectual terrain” (Walker 2005:78).

From its early writings onwards, Political Ecology has been defined in the following ways:

Political ecology combines the concerns of ecology and a broadly defined political economy. Together this encompasses the constantly shifting dialectic between society and land-based resources and within classes and groups within society. (Blaikie & Brookfield 1987:17)

[It is a] more fruitful engagement of new and innovative ways of alternative constructions of nature and society, and of critique of authoritative knowledge and unequal power both discursive and material. (Blaikie 1999:114)

Political ecology is the study of power relations and political conflict over ecological destruction and social struggles for the appropriation of nature; it is a field of controversies on the ways of understanding the relations between humanity and nature, the history of exploitation of nature and the submission of cultures, of their submission to capitalism and the rationality of the global world-systems; of power strategies within the geopolitics of sustainable development and for the construction of an environmental rationality. (Leff 2012:5)

These definitions reveal the initial and primary emphasis of Political Ecology and go further to embrace the epistemological shifts that have occurred over the years. In its original framing, Political Ecology considers ecological concerns and the political economy within which these take place. Regarding post-structuralist

Political Ecology, Blaikie (1999) emphasises the role that power relations and political conflict play in ecological distribution and social struggles. This perspective reflects the environmental crisis (especially in the Latin American context) which is underpinned by complex capitalist political and power structures. Leff's (2012) definition complements the other two definitions, but explicitly reveals the historical structures that facilitated exploitation by, imposition on and exclusion through modernist rationalities. Therefore, I argue that Leff's (2012, 2015) work on Political Ecology undergirds this study.

In view of all these debates and arguments, the study embraced a poststructuralist focus, as it is comprehensive and allows for a nuanced interrogation of complex power structures which have shaped the politics and ecology entrenched in Political Ecology. Although the core focus is the question of power, the study took care not to neglect the ecological aspect. This aspect was considered implicitly, especially in the context of how coal communities interact with and relate to their physical environment. Due consideration was given to the strong agency, expressed through a desire to break through the perpetual injustices of exclusion and imposition, as reflected in the structure and agency debates in the literature review (in Chapter 2) and environmental justice chapter (Chapter 4).

3.4.2 The relevance of Latin American Political Ecology to the study

Political Ecology offers a rich multi-faceted conceptual and theoretical grounding for the current study. The theoretical grounding relates to the subject of power in transitions, providing a solid theoretical lens through which the power structures, dynamics and manoeuvres entrenched in transitions can be deconstructed. Some of these power constructions include narratives in which scholars such as Adger, Benjaminsen, Brown and Svarstad (2001) articulate the strength of Political Ecology in tracing their genealogy and the inherent power relations in these narratives. Political Ecology's three attributes – the deconstructive, decolonial and emancipatory approaches – provide a significant lens through which to analyse the power dynamics underpinning the Just Transition. Moreover, the theory of Political Ecology provides theoretical enrichment to the environmental justice

perspective. Political Ecology and environmental justice are thus compatible and mutually reinforcing; therefore, the current study drew on this complementarity.

As with any other theoretical or analytical framework, Political Ecology has some limitations. It has been criticised specifically for its lack of precise classifications (Walker 2005), the absence of a clear, coherent theoretical grounding (Sridhar 2008), and a grand theory or a meta-narrative, or a comprehensive theoretical underpinning (Khan 2013). Blaikie (2012) also argues that senior scholars in the field have suggested that Political Ecology has become too far-reaching and inclusive, making the conceptualisation ambiguous, and that it has been suggested that Political Ecology is effectively incoherent and disorganised. Leff (2015) rejects such claims of a lack of theoretical underpinning. He maintains that Political Ecology has rich theoretical underpinnings and usefully explores power relations and political conflicts over ecological distribution, as well as social struggles in the globalised economy for the appropriation of nature (Leff 2015).

Notwithstanding the alleged conceptual, analytical and theoretical limitations, the current study used Political Ecology as a suitable theoretical lens, because it presents an individual researcher with an opportunity to work in a scholarly and political tradition, with the freedom to define a specific approach suited to the case study at hand. This is particularly important for this study, considering the contemporary politics in transitions and the limited analytical and theoretical grounding available. In this, the current study concurs with Robins (2012) that Political Ecology is based on concepts that are mobilised from broader schools of thought, with a heavy focus on case studies that stress idiosyncrasies, contextual outcomes, and general theory-building. It is these advantages of using Political Ecology that informed its choice as a lens that is relevant to this study of South Africa's Just Transition as an evolving case study.

3.4.3 Navigating power through Political Ecology

As explained above, Political Ecology offers this study a lens to navigate the power dynamics in the Just Transition, in addition to the literature on power in socio-technical transitions covered in Chapter 2. The complexities of the topic of power and actors in socio-technical transitions are illuminated by Political

Ecology, which allows scrutiny of the composition of these power dynamics and how they play out in the Just Transition.

I draw on the article by Ahlborg and Nightingale (2017), on theorising power in Political Ecology as an example. These authors try to answer the question of where power is in Political Ecology by means of a concrete analysis. They consider the complex and interrelated locations of power, which in some instances stabilise or destabilise social hierarchies, dominant discourses and practice. Ahlborg and Nightingale (2017) stress that the conceptualisation and location of power differ across the field of Political Ecology. The evolving locations of power explained by Ahlborg and Nightingale (2017) are an important consideration in the Just Transition, given the multiple stakeholders and their various positions and influences in the Just Transition.

This study considers power from different perspectives and locations. This ties in with the heterogeneous conceptions of power visible throughout the study. Political Ecology is thus an appropriate lens that offers analytical and theoretical tools and diverse approaches to navigate the question of power in the Just Transition. A crucial insight from Ahlborg and Nightingale (2017) is that power is complex and is located in diverse spaces that are difficult to understand. This includes the location of power in narratives, discourses, institutions, multiple actors, etc. Therefore, it is vital to consider these complex locations of power, given the multi-actor nature, open embeddedness and uncertainty, contestations and disagreements that Kohler et al. (2019) have noted in their characterisation of socio-technical transitions. These complex locations also have to be read against Geels's (2014) distinctions between different kinds of power (explained in Section 2.5.4).

Political Ecology offers a synergy in perspectives on power, including a Foucauldian perspective, which provides Political Ecology with insights into the (dis)entanglement of power dynamics and relations entrenched in knowledge systems (Leff 2012). It also speaks to an actor-oriented power which relates to the agency exercised by actors and to Neo-Marxism, through its focus on the inequalities produced by global capitalism (Svarstad, Benjaminsen & Overa 2018). This important attribute of Political Ecology therefore brings together the

different conceptions of power which the study pursues across the various sections and chapters – for example, the unequal worlds perspective, structure and agency, power complexities in transition research, the multi-actor perspective and environmental justice. Over and above these benefits, this approach positions the study to navigate the different locations of power in the Just Transition by drawing insights from multiple perspectives.

Furthermore, poststructuralist Political Ecology offers an analytical approach that considers the realities of coal communities, in that it allows for a more localised case study context, which can convey the realities of marginalised actors and their agency, social inequalities and other issues, which structuralist Political Ecology has been criticised for neglecting (Biersack 2006; Tetreault 2017). It thus also addresses Bryant's (1998) criticism that (structuralist) Political Ecology puts politics first in an attempt to understand the link between the human-environment interaction and the spread of environmental degradation. This analytical approach allows me to zoom into the realities of the coal communities that bear the brunt of the fossil energy regime, and the power structures and dynamics that they have to navigate to ensure that they are not on the receiving end of a (un)Just Transition.

3.4.4 Three core attributes of Political Ecology: deconstructive, decolonial and emancipatory

As explained earlier, the study considered Political Ecology suitable as a lens because of the following attributes: it is deconstructive, decolonial and emancipatory. These are critical for the study alongside the rich theoretical perspectives which include the actor-oriented power theories, structural power perspectives influenced by Marxist ideas, and the discursive power perspective which are known to constitute the three main theoretical perspectives in Political Ecology (Svarstad & Benjaminsen 2020). This section therefore explores these attributes in the context of the Just Transition:

3.4.4.1 The Just Transition through the deconstructive attributes of Political Ecology

Political Ecology offers a critical analytical lens because of its attributes, as articulated by Leff (2015) in his assertion that, in practice, Political Ecology seeks to deconstruct theories, decolonise modes of thinking and confront dominant strategies of power-in-knowledge. The deconstructive strength of the poststructuralist Political Ecology articulated by Tetreault (2017) offers this study a significant analytical grounding, which is necessary to deconstruct the complex and multi-faceted power dynamics entrenched in socio-technical transitions. Such power dynamics underpin South Africa's Just Transition, given its long, complex history and the socioeconomic and political context in which the transition is unfolding.

Political Ecology allows for deep probing into issues that are often only considered on the surface. This is seen in the critical questions that political ecologists ask to challenge thinking processes around environmental degradation and the political economy, and also the genealogy of narratives concerning the environment (Adger et al. 2001). Bryant and Bailey (1997) point out that although political ecologists agree with the narratives centred around the third-world environmental crisis, they go further to ask the difficult question of "whose environmental crisis?", thus probing the economic and political context in which the crisis occurs and the inextricable linkage between the environmental and developmental crises. Thus, the inherent critical and probing nature of Political Ecology, which unmask and deconstructs modern rationality, provides this study with a significant critical lens into the narratives, power structures, and dynamics that underlie the Just Transition.

Based on Leff's characterisation, deconstruction unveils the processes underlying the construction of dominant knowledge and its inscription, which has allowed such knowledge to dominate and order life. He goes further: he argues that decolonisation needs to be based on an epistemological condition for the deconstruction of the exploitative trends of the global economy, thus bringing awareness regarding alternative modes of thinking (Leff 2012, 2015). He thus demands that these new ways of thinking allow people to emerge from subjugated

places of being and enunciation which are replete with discursive power strategies (Leff 2012, 2015). Leff's position prompts questions such as what informs or underlies the power and knowledge structures that in turn underpin the Just Transition? What are the ontological underpinnings of the significant conceptions that underpin the Just Transition jargon? These may even include concepts such as the "Just Energy Transition" and "climate justice" themselves. Thus, we should ask questions such as these: What informs their construction? Who is at the centre of these constructions? These questions are posed in cognisance of the fact that there are narratives in the Just Transition debates which may obscure the need to deconstruct these conceptions. These may include, for example, in South Africa, a narrative of 'nobody must be left behind', which implies inclusivity and justice, but hides the realities behind the platitudes. Therefore, Political Ecology offers an analytical lens that positions a researcher better to deconstruct the colonial hegemonies and power knowledge strategies that underlie the Just Transition.

In Political Ecology, there is a notion of a "politicised environment", which is linked to an analysis of unequal power relations. According to Bryant (1997), these unequal power relations can exacerbate conflict over access to and the use of environmental resources. This notion also offers an important analytical lens into how power relations and scales constitute the bigger debate over environmental decisions and control. In the context of the Just Transition, this speaks to the climate debates and geo-politics which underpin the Just Transition at the global level. The study considers these issues on the basis of the interplay between international pressures and national political interests, which both affect the Just Transition. These issues also influence how the totality (the dynamics at the international and national level) plays out at the localised level (in the coal communities). Although the core focus of the study is the localised context, due cognisance must be taken of the fact that what translates into the local is inevitably influenced by a broader context. The politics on the ground do not occur in a vacuum; therefore, a more comprehensive analysis offers a more informed perspective.

Contemporary work on Political Ecology, for example, in the work of Ahlborg and Nightingale (2017:5), offer a deconstructive tool through the idea of constitutive

power. Drawing on the work of Ahlborg and Nightingale (2017) and Allen (2014), it can be argued that the construct of constitutive power enables researchers to navigate the conception of power exercised through discourses and institutions. This is not tangible or definable power. It can be described as a “web”, “capillary” power and a multiplicity of force relations (Ahlborg & Nightingale 2017; Allen 2014). Based on such an analysis, it can be argued that the interplay between international pressures and national political interests constitutes complex power structures that are constitutive in nature. In principle, responding to the question of the position of the coal communities in the Just Transition prompts an analysis that considers these complex and multi-scalar power plays.

3.4.4.2 The decolonial attribute of Political Ecology

The study has a particular interest in the colonial history that shaped the coal regime and how the power structures entrenched in this history can disrupt or undergird the transition. As I have shown in Chapter 2, South Africa’s coal regime has been shaped by an inherently extractive and complex colonial history. Therefore, it is central to my analysis how the power structures embedded in this history can continue to influence the Just Transition trajectory. Long-standing colonial patterns of power, exercised through the institutional frameworks and structures which, according to Maldonado-Torres (2007), constitute coloniality, remain powerful and can dictate the transition trajectory.

Thus, in the context of this study, the debates around coloniality and the colonisation of knowledge must consider not just how the country’s rich colonial history largely shaped South Africa’s coal mining regime, but must go further to consider how these patterns are perpetuated and can derail a Just Transition. Therefore, in this study, I use the decolonial attribute of Political Ecology to expose the instituted hegemonic, knowledge and power structures through the deconstructive and decolonial lens offered by Political Ecology. According to Leff (2015:48):

Fundamental to this process is the deconstruction of metaphysical thinking and logocentric science instituted as a hegemonic way of conceiving reality constructed by modern economic/scientific/technological reality. This is an endeavour designed to deepen understanding of the epistemological foundations of colonial regimes and their power-knowledge strategies that dominate peoples and environments in Latin America to such ill effects.

The deconstructive and decolonial attributes of Political Ecology are necessary to understand and unmask the power structures that can influence, direct, undergird or disrupt the Just Transition. In his definition of decoloniality, Maldonado-Torres (2007) advocates for the dismantling of power relations and conceptions of knowledge which may facilitate the reincarnation of geo-political hierarchies of power in new and more powerful expressions.

Similarly, Leff (2015) maintains that decolonial thinking –through decolonising knowledge, epistemological vigilance and critical thinking about power structures deployed in the contemporary geopolitics of sustainable development – constitutes a power strategy that can be deployed in confronting global forces that are inherently exploitative and oppressive. Although these power structures seem to promote sustainability, they need to be confronted, based on their underpinnings. Key questions such as the following need to be asked: Whose agenda is the Just Transition? Who stands to benefit more from the Just Transition? Such probing questions position one to confront the power structures that affect and underpin the Just Transition. Leff (2015) points out the Latin American context of such agendas, on the basis of the ongoing post-colonial subjugation and colonial thinking in the Latin American context of green economy projects. Barbier (2016) and Swilling et al. (2015) give a similar account of the relevance of green growth for low- and middle-income countries amid their primary development priorities. It is imperative, therefore, to consider how issues relating to subjugation and other colonial modes of thinking and expressions can masquerade as constructive, even in processes such as the Just Transition, by exploiting narratives of sustainability.

3.4.4.3 The emancipatory attribute of Political Ecology

Another significant attribute of Political Ecology is its emancipatory aspect, which encapsulates both the deconstructive and decolonial attributes of Political Ecology. According to Leff (2012), the emancipatory purpose of Political Ecology is tied to its epistemological deconstruction and reconstruction. Here, metaphysical thinking, hegemonic world systems and political orders which subjugate and misrecognise other knowledge systems are destabilised to establish alternative ways of thinking and being. This aligns with Escobar's (2016)

analysis of the epistemologies of the global South, which he bases on the call for emancipation “to those who have been at the receiving end of those colonialist categories that have transmogrified their experiences, translated them into lacks, or simply rendered them utterly illegible and invisible” (Escobar 2016:41). This kind of advocacy is essential for the environmental justice emphasis, centred on empowering coal communities in the Just Transition through inclusive and meaningful participation and consideration in the transition agenda. This prompts an alternative way of thinking, which in turn prompts a shift from exclusion to inclusion, recognition and meaningful participation, which are vital environmental justice considerations and constitute the focus of the next chapter.

3.4.5 *The limitations of Political Ecology*

Political Ecology presented the study with a significant lens through which to deconstruct power dynamics in the Just Transition. Through its pluralist approach to conceptualising power, it offered the study multifaceted lenses through which to conceptualise power and identify the different locations of power. Notwithstanding these significant traits, Political Ecology is characterised by some methodological limitations. These methodological limitations have been articulated by Batterbury and Rodriguez (2023), who claim that despite Political Ecology’s explanatory power, the methodological orientation of Political Ecology remains underdeveloped. Hence, “there is no standardised way of doing political ecology” (Batterbury & Rodriguez 2023:0).

However, over time, there have been important strides in the efforts to develop methodologies that are suited to the ever-evolving context of Political Ecology. An example is seen in the emphasis on deploying methodological approaches that produce transformational research that empowers and benefits communities (Sultana 2023). These methodologies include storytelling, counter-mapping, participatory research, and public engagements, which produce the kind of research that helps advance the justice goals of communities. In addition to the methodological development, there is an orientation towards praxis. Sultana (2023) and Batterbury and Rodriguez (2023) argue that political ecologists have been exploring new alternatives towards refining their praxis and making Political

Ecology research more relevant and beneficial for communities rather than merely academic research outputs.

Moreover, there are two key foci in the study that Political Ecology provides a conceptualisation and vocabulary for. These are the actor-oriented power and the emancipatory attribute of Political Ecology. In the context of this study, actor-oriented power provides an important conceptualisation for the agency of coal communities in the Just Transition, while the emancipatory attributes speak to the essential epistemological deconstruction and reconstruction that is necessitated by Political Ecology. A strong complementary strength and constructive collaboration are necessary for this study, which Political Ecology neglects. To expand on this, I use an example of the close relationship that exists in the quest for actor agency and emancipation. A cultivated emphasis in this regard would present an important framework for the context of coal communities who exercise agency in the Just Transition with the ambition for emancipation (from past injustices that have rendered them powerless and voiceless), towards a new posture of being seen and considered important stakeholders in the Just Transition.

3.5 Conclusion

The chapter has discussed the comprehensive theoretical frameworks for this study, along with interdisciplinary and comprehensive theoretical lenses to navigate the research question. Dependency Theory gives the study a theoretical lens through which to consider the current coal context and landscape. This grounds the current coal landscape and inherent inequalities theoretically within the unequal power and exploitive relations that exist between the global North and the global South. The MLP gives the study a theoretical and analytical lens through which to consider and explain the complex dynamics underpinning the Just Transition and the complexities tied to its multi-actor and inherent power dynamics. To further explore the subject of power, Political Ecology offers the study a theoretical lens through which these power dynamics can be deconstructed, and modes of thinking can be changed towards epistemological deconstruction and reconstruction.

The next chapter seeks to augment the current theoretical framing through the deployment of environmental justice as a theoretical and analytical framework to explore the current injustices of the coal mining populations, and provide rich insights by drawing on its complementarity with Political Ecology. The next chapter also frames an environmental justice framework that can underpin a transition that is truly just.

CHAPTER 4: TOWARDS A DECOLONIAL ENVIRONMENTAL JUSTICE FRAMEWORK

4.1 Introduction

The literature review in Chapter 2 highlighted the complex nature of socio-technical transitions, and the non-linearity and complex power dynamics that underpin them. The theoretical framework in Chapter 3 constructed an interdisciplinary theoretical lens which includes Dependency Theory, the Socio-technical Transitions Theory, with a particular focus on the Multi-Level Perspective, and Political Ecology. These theoretical lenses establish a theoretical vocabulary for understanding and analysing the Just Transition, its complexities and that of the landscape around it. Chapter 3 also highlighted the relevance and suitability of these interdisciplinary theoretical lenses as critical lenses through which to consider the non-linearity and complex power dynamics of a Just Transition, as already discussed in Chapter 2. The study argues that in order to achieve an inclusive and wide-reaching societal transformation, the Just Transition must be underpinned by environmental justice. The interdisciplinary theoretical framework in Chapter 3 offers a further foundation for this argument.

Chapter 4 therefore seeks to conceptualise an environmental justice framework to serve as an analytical and theoretical framework to augment the theoretical frameworks set out in Chapter 3, and to establish a foundation for the argument about an inclusive and wide-reaching societal transformative Just Transition. This chapter achieves this aim by conceptualising an environmental justice framework that is grounded in decolonial epistemologies. It considers the contemporary framing of environmental justice, drawing theoretical and analytical insights from Political Ecology, and borrowing conceptual insights from social justice and cognitive justice.

4.2 Environmental justice

A consideration of the opportunities and challenges of a Just Transition raises the question of fairness and justice, especially considering the long-standing patterns of exclusion, imposition and subjugation which dominate most development

agendas in South Africa. Although the Just Transition to a low-carbon and climate-resilient economy seeks to achieve a transformative agenda in an inclusive and fair manner, there is a historical pattern of developmental agendas whose outcomes translated into the opposite: the exclusion of affected populations and an unequal distribution of benefits and costs. In such instances, poor populations are rendered powerless and voiceless in the processes, decisions and actions that promise to empower them through the envisaged transformative change. Reflecting on how affected populations are often excluded and disempowered in their own development, Chomsky (1998:1-2) uses expressions such as “spectators but not participants” and points to the lack of representation by “countrymen like themselves who know the people’s sores, but by responsible men who could be trusted to defend privilege”. This kind of situation creates a reality where the affected populations end up bearing the brunt of the costs and exclusion from benefits.

These concerns are relevant for a socio-technical transformation such as the Just Transition, where communities stand to have their lives changed radically. As explored in the previous chapters, the injustices inherent in the current energy model and coal landscape do not occur in a vacuum, but unfolded in complex colonial, capitalist, and apartheid political economies. Considering these injustices from a reductionist perspective which focuses on the parts or components of a system rather than their systemic and integrated nature, would limit the analysis of the current context and the unfolding future context. Moreover, failure to consider these injustices within the real context in which they unfold would limit our ability to demonstrate how the inherently systemic injustices may be reproduced in the quest to address them.

By contrast, environmental justice provides the study with a critical lens with an integrated systems thinking and approach through which to consider the injustices historically suffered by coal communities. Such a lens will also reveal how these injustices translate to or inform the injustices in the current energy model and coal landscape. In addition to enabling the study to frame current injustices, environmental justice enables the study to frame a Just Transition Framework which can underpin a transition that is truly just and translates into more opportunities than challenges for coal communities.

4.3 Environmental justice: a historical and empirical analysis

The concept of environmental justice has a long history rooted in activism, which can be traced back to the 1980s. Environmental justice first emerged as a critique of “environmental racism” (Martinez-Alier et al. 2014). The concept of “environmental racism” encapsulates the unequal and unfair treatment of low-income and non-white communities (people of colour) in the United States. This form of racism commonly resulted in the bad treatment and the suffering that people of colour and low-income populations endured, due to pollution and other social and environmental costs associated with resource extraction (Martinez-Alier et al. 2014; Malin et al. 2019).

The primary tenets of environmental justice focused on social stratification and spatial segregation, which played a key role in compounding exclusion with imposition, and put non-white low-income communities in the United States at the receiving end of injustices associated with the environmental costs and externalities. According to Martinez-Alier et al. (2014), environmental justice came about as an activist response to the struggle against pollution that affected people of colour and low-income populations. The response came through a Latin American movement that sought to confront the systematic injustices perpetuated through segregation, racism and class. Along similar lines, Alvarez and Coolsaet (2018) trace the origins of environmental justice in opposition to the inequalities of power and their role in the distribution of environmental degradation. The conceptualisation of environmental justice draws attention to an essential aspect of inequality and power, and their role in marginalising and impoverishing certain classes, races and population groups.

Thus, environmental justice seeks to address elements of an unequal world that manifest in the unequal and unfair treatment and marginalisation of some populations because of their race and class. These elements result in subjugation, marginalisation and disregard for people’s well-being. These are dominant mechanisms within the broader framing of an unequal world (as discussed in Chapter 2). Cock and Munnik (2006) argue that in the South African context of environmental racism, polluting industries have been purposefully or negligently placed near black communities because of town planning under apartheid along

strict racial lines. This context dominates the complex history of South Africa's separate development, which perpetuated poverty and inequalities in South Africa.

Malin et al. (2019) maintain that, although the systematic and structural inequalities that emanate from extractive industries and the environmental risks and costs imposed on socially marginalised communities by these extractive industries are known, there has been only relatively limited conceptual and empirical analysis of this influence. There may be grounds for their argument, given the limited scope of the literature on the injustices suffered by socially marginalised communities, especially as a result of the extractivist agenda. Nevertheless, there is a growing literature on environmental justice and environmental justice activism, as well as movements that deepen the analysis of environmental justice. Sikor and Newell (2014) note that environmental justice is increasingly a crucial rallying platform for activism and resistance beyond the global North, specifically the United States, in Latin America, Asia and South Africa. Therefore, this study acknowledges the significant contribution that the environmental justice literature and movement have made to development literature and the significant context it provides for this study.

4.4 South Africa's environmental injustice context: conceptualising the three Es – exclusion, enclosure and externalisation of costs

A specifically South African analysis of environmental injustice that has been developed and used by the NGO GroundWork points to three mechanisms, also known as the three Es (EEE) – exclusion from decision-making, the enclosure of resources, and the imposition of externalities (Hallowes & Butler 2002; Munnik 2012). To move beyond the conception and understanding of environmental justice through examples of environmental injustices, and to formulate instruments of analysis, Hallowes and Butler (2002) define aspirational environmental justice as fair and equal relations among people. This provides a basis for the definition and achievement of aspirations without the imposition of unfair, excessive, or irreparable burdens on each other or nature. This definition encapsulates the principle of fairness, equality and due consideration towards those population groups that are considered less powerful.

4.4.1 Exclusion

In unpacking the three mechanisms, Munnik (2012) considers exclusion in relation to the fact that interested and affected parties often do not have access to information pertaining to their environment and well-being. Decisions that could potentially have a negative impact on these communities are deliberately made in their absence, and important information is either withheld from them or made available in a manner that makes it impossible for these communities to access and use the information effectively. As with many mechanisms in the context of inequity, power plays a large role.

In this regard, Hall, Hirsch and Li (2011) link exclusion to the subject of power and actors. They argue that exclusion is not a random process but an intentional process that occurs in a playing field that is not level, as it has been structured by historical or prevailing power relations. They base their analysis of exclusion on four mechanisms. The first mechanism of exclusion is regulation, where exclusion is enforced through a set of rules, legal instruments and conditions. The second is exclusion by violence or threat of violence. In the third instance, the market can produce exclusion through prices and incentives. Finally, legitimation by an established “moral” basis for exclusive claims may constitute an ostensibly acceptable basis for exclusion. Hall et al. (2011) describe the complex nature of exclusions, demonstrating how exclusions are often structured through these mechanisms, and how they constitute complex dynamics and do not simply occur by chance.

Linked to the mechanism of exclusion is a lack of participation by and recognition of those people that suffer, because of actions and decisions that have been defined for them and imposed on them. In view of this, the current study considers participation based on the involvement of coal communities in the planning, debates and outcomes of the Just Transition to be crucial. It must be noted that seeing affected communities as the “subject” or “unit of analysis” and reducing them to those roles in transition debates, and excluding them from meaningful participation in planning and implementation, undermines real environmental justice for these communities. Therefore, recognition as an integral part of environmental justice is a point of departure for this study: communities are

regarded as competent actors whose voices are worthy of integrating into the plans and actions towards a Just Transition. The exclusion of these communities could perpetuate injustice, which would leave them worse off, when good intentions turn to bad outcomes.

4.4.2 Enclosure

Another mechanism that produces environmental injustice is enclosing resources, where communities are refused access to or are dispossessed of resources from which they could derive benefits, including a livelihood, to the benefit of a minority. South African mining offers a typical example of enclosed resources. Mining has an inherently colonial history of forceful removal of black people from their land to give multinational companies access to mineral resources. In a recent article, Skosana (2021:4) connects the subject of land dispossession to coal mining. She reframes dispossession as a “perpetual post-apartheid experience” to express the continuing and multi-layered nature of dispossession in the mining landscape. In her reframing of this unjust practice, Skosana (2021) adds spiritual insecurity to the list of negative outcomes of land dispossession. She asserts that when dispossessions occur, communities lose not only their ancestral lands and graves, but also their ancestral connections. As a result, they are exposed to spiritual insecurity, a state in which the living have to contend with anxiety about their standing with their ancestors, and how that, in turn, translates into a disruption of the social fabric (Skosana 2021). Such spiritual insecurity adds to the vicious cycle of perpetual social injustices through perpetual loss, brokenness and the disruption of the fabric of life faced by these communities.

Munnik (2019) examines the notion of enclosure, arguing that, in some cases, local mines dominate the landscape to the point that the imagination of a life without the mining sector is itself enclosed (it is no longer available to people). This perspective raises questions about the extent and depth of the injustices imposed on communities in mining towns, since the impact of this unjust “enclosure” cuts so deep that affected communities may not even desire to imagine a life after coal. This renders the conversation about a transition away from coal more complex to navigate.

4.4.3 *The imposition of externalities*

The last mechanism of environmental injustice is the imposition of externalities, which means that local communities bear the costs of (and only in some instances receive benefits from) resource extraction, production, or manufacturing activities. Hallowes and Butler (2002) describe externalities as social and environmental impacts associated with development that are not accounted for or valued, but that can occur either as free benefits or as uncompensated costs carried by the environment, the government or local communities. In the context of the current discussion, I focus on the negative externalities, which are costs directly borne by poor local communities in the form of contaminated air and water (because of acid mine drainage), sinkholes, underground fires and many other challenges associated with both active and abandoned mines. Beyond the direct impact, many of these costs are borne by the government and the public (as state revenue) must be directed towards their remediation. The abandonment of exhausted or non-viable mines across the country has imposed additional costs that directly affect the public through contaminated environments that continue to pose adverse health risks for local communities. This poses a double-edged sword for the public because state revenue has to be directed towards addressing these negative externalities.

The three Es – exclusion, enclosure and externalities – pinpoint the injustices constituting the reality of coal communities. These injustices relate to the unequal world debate explored in Chapter 2, because of their inherent colonial attributes and the apartheid laws and policies that created an enabling environment for these issues. Moreover, the three Es also provide a good basis for the conception of environmental justice and for framing this study, as they highlight some direct questions that can be asked.

4.5 Environmental justice: a paradigm shift from traditional framings to contemporary theories of justice

Over the years, the environmental justice literature has expanded beyond just telling stories of injustice to shaping pathways of emancipation and activism. Traditional environmental justice framings have evolved to contemporary radical framings. Traditional framings were premised on the concept of distributive

justice. This rested on Rawls's theory of justice which defines justice on the basis of the distribution of goods and bads in a society, the principles which best undergird that distribution and an assessment standard for the distributive aspects of the basic structure of society (cited in Schlosberg 2004, 2007). Rawls's work on justice shaped the environmental justice literature and vocabulary on justice. Although Rawls's justice framework centred on distributive justice, and although procedural justice laid a crucial foundation in environmental justice framings, these approaches were later debated, based on flaws in Rawls's conceptualisation and associated inadequacies (Wan 2014). The conceptual limitation was argued from different standpoints, which led to a more comprehensive conception of environmental justice. One of the essential critiques centres around the limited conception of the real injustices on the ground. Schlosberg draws on the work of theorists such as Young, Fraser, Sen, Nussbaum and others, who built on Rawls's work, critiqued it and made significant contributions towards additional ways of thinking about justice. These scholars have posed critical questions that go beyond just the distribution of goods and bads, as they identify the processes that underpin maldistribution. Young (1990) called for a conception of justice that starts from a place of domination and oppression of social groups instead of distribution. Fraser (1995) noted the importance of struggles for recognition and the distribution and recognition dilemma. These expansions of the theory resulted in the "radical environmental justice framework" (Schlosberg 2007), which centres on three elements which were later expanded to include another element. These elements are distributive justice, procedural justice, justice as recognition, and capabilities (Schlosberg 2007; Svarstad and Benjaminsen 2020; Walker 2012).

In "Defining environmental justice", Schlosberg (2007) goes beyond the justice literature in political theory to include the definition of environmental justice from the perspective of social movements and activists: it must acknowledge misrecognition, exclusion, and a decimation of capabilities (Schlosberg 2007). This conception builds on Young's (1990) argument for framing justice, which is centred on contemporary emancipatory social movements. In his argument, Young (1990) deconstructs the concept of oppression into issues of marginalisation, exploitation, powerlessness, cultural imperialism and violence,

which constitute the basis for Schlosberg's (2007) environmental justice framing. This represents a shift beyond the distributive paradigm towards an environmental justice paradigm that is locally grounded, theoretically broad and plural, paying attention to theories about participation, recognition and how people function.

Schlosberg's (2007) radical justice framework reveals the neglected and often overshadowed sociological aspects which can seem insignificant in the broader political and academic debate. However, these aspects really bring into focus the real practical injustices suffered by those on the ground. Sikor and Newell (2014) build on Schlosberg's argument by emphasising that the injustice claims of poor populations go beyond the distribution of goods and bads to encompass the question of whose vision of the environment is recognised, and who participates in environmental decision-making and democracy. Williams and Mawdsley (2006) have also argued for broadening environmental justice beyond an examination of the goods and bads to an examination of the complex relationships between exposure, risk and vulnerability, and to an exposure of the procedural structures, constraints and opportunities that claim to reflect the reality of others and their ability to participate and influence decisions affecting them. These contemporary framings of environmental justice seek to encompass the issues that constitute real injustices that are historically and geographically specific. These include a lack of participation, recognition, inclusion and representation, and they go beyond the risk exposure of communities to their vision of what constitutes environmental justice, to advocate for their attaining an empowered position to influence their current context and define their own future.

The framings that underpin the radical environmental justice conceptualisation thus put the spotlight on the relevant practical (in)justices confronting communities, and as a result, they make available a vocabulary for justice and set a trajectory towards real justice. As Schlosberg (2004:522) points out, an environmental perspective from the ground, expressed in the voices of environmental justice activists, calls for "policy-making procedures that encourage active community participation, institutionalise public participation, recognise community knowledge, and utilise cross-cultural formats and exchanges to enable the participation of as much diversity as exists in a

community”. This reinforces a shift towards an environmental justice defined by the people on the ground, based on their experiences and aspirations.

4.6 The relevance of Schlosberg's conception of environmental justice: a radical environmental justice framework for coal communities

Schlosberg (2007:2) contributes “additional ways”, as he puts it, of understanding the process of justice. Schlosberg’s definition of environmental justice provides an analytical lens through which the injustices suffered by coal communities can be considered. Thus, it gives the study a useful focus, because it allows the injustices that coal communities suffer in the current coal landscape to be probed, as well as how these injustices and a quest for justice may play out in the quest for a Just Transition and in a post-coal landscape. The question of the opportunities and challenges that the Just Transition will bring for these communities is critical and requires an interrogation of how justice is packaged for these communities in the Just Transition agenda. What kind of justice is the Just Transition bringing for these communities? What do distributive justice, participation, recognition and capabilities look like for coal communities?

Over the years, the topic of participation has received extensive attention, as is evident in the academic literature and policy debates (Hickey & Mohan 2004; Stiglitz 2002). The literature deals with the concept of participation as a prerequisite for development, especially since Schlosberg’s framing of environmental justice has shown that without participation, injustice can be perpetuated. Along similar lines, Conde and Le Billon (2017) argue that participation, when it is informed by the environmental justice paradigm, is linked to recognition; as with distributive justice, therefore, a lack of participation could potentially impede justice.

The justice aspect of participation focuses attention on new ways of thinking about mechanisms that have been used and continue to be used to exclude and marginalise populations from meaningful participation. For coal communities, this relates to their conditioned voicelessness and powerlessness, which reduces them to subjects in the developments that concern them. This is attributable to the multiple layers that shape their current condition (discussed in Section 2.3). Malin et al. (2019) also explore the participatory justice element by arguing for a

definition of procedural justice that includes authentic participation by members of the public in decision-making, including decisions relating to environmental risks or the negative effects of industry, policy and transitions. Effective participation must recognise affected communities as important stakeholders and actors in all decisions and actions with a bearing on them.

An essential element in the participation debate is recognition justice, as described by Fraser (1995) and Young (1990). They emphasise the need to unmask the processes underlying maldistribution and the recognition of the position of social classes that are considered less significant in distribution schemes. In line with this, Schlosberg's (2007) argument goes beyond advocating for fair distribution to questioning the position of the poor and marginalised communities in the distribution framework. Essentially, recognition justice calls for recognising the poor and marginalised as rightful stakeholders in developments that concern them. Building on these arguments, Malin et al. (2019) argue that recognition justice needs to identify historical and structural patterns which elevate certain groups, worldviews and cultural systems over others. Recognition justice challenges these patterns and encourages inclusion and acknowledgement of other worldviews, cultural systems and groups (Malin et al. 2019). Recognition justice endeavours to bring about equality, fair treatment and inclusion of all, regardless of social class. It forces environmental justice to recognise the voices of previously disregarded or marginalised populations. However, recognition may facilitate another injustice if it is only considered at face value. A more radical recognition must thoroughly interrogate the conditions underlying the injustice faced by marginalised populations. This, therefore, calls for a justice that does not neglect the various neo-colonial mechanisms that underlie and continue to shape the thinking processes of marginalised populations such as coal communities.

Environmental justice further requires restoring the dignity of population groups that have been unjustly dealt with. One mechanism to pursue an extractivist agenda was dispossessions, an aspect of enclosure, in which indigenous people and local communities were forcefully removed from their land. This process imposed great injustices on the affected populations, resulting in a disruption of their livelihood and way of life. Borrowing from the work of Skosana (2021, already

discussed in Section 4.4.2) on the altered social fabric, perpetual loss, brokenness and other social injustices emanating from dispossessions, the question then arises what does a restoration of dignity and life look like for these populations. Malin et al.'s (2019) perspective is similar to Skosana's, highlighting the historical exclusion and displacement of indigenous peoples whose relationship with the land has been altered or redefined through co-option, industrialisation and destruction. The environmental justice school of thought thus embraces this subject to include it in the restorative justice discourse. According to these scholars, recognition justice is needed to repair the disruption and to empower the affected populations to define their own justice. However, Van Ness and Strong (2014) present a different emphasis regarding restorative justice in the criminal justice context, which addresses reparation and restitution. This perspective acknowledges the criminal aspect of dispossession and disruption, and directs efforts towards restoring lost dignity and identity. All these emphases highlight the seriousness of the injustices inherent in the "development" models (such as capitalist models of development), which disregarded and further marginalised poor populations.

The growth and expansion of the environmental justice vocabulary and framings allow interrogation of these past injustices, but also of how they might be perpetuated and masked by the non-linearity and complexity of socio-technical transitions such as the Just Transition. As Alvarez and Coolsaet (2018) point out, environmental justice has moved beyond its original political and geographic framing: it has developed into a dynamic object of scientific enquiry over the years. This is evident in the growth and intensity of environmental justice movements worldwide. Sikor and Newell (2014) maintain that the analysis of environmental injustices is increasingly deployed across diverse spaces; this paradigm shift is necessary to achieve a transformation of the dynamics of inequality by questioning forms of inequality in order to pursue justice.

The significance and comprehensiveness of these contemporary approaches, particularly of Schlosberg's environmental justice, are evident from Montmasson-Clair's (2021) significant contribution to the policy primers for a South African Just Transition Framework (JT Framework). Like Robins and Rydge (2019), Montmasson-Clair's (2021) policy primers stress the human element of the Just

Transition, with a clear emphasis on forms of justice that consider the legacy of exclusion and oppression that was shaped and perpetuated by the capitalist mode of accumulation, which was strongly extractive (Montmasson-Clair 2021). Moreover, a practical and evidence-based consideration of injustice(s) which the Just Transition has to consider to be truly just emerges in Montmasson-Clair's analysis of the three justice dimensions (procedural, distributive and restorative). According to Montmasson-Clair's (2021) definition, procedural justice considers the voice and dignity of, and respect for, all actors; distributive justice speaks to the distribution of costs and benefits, especially in the labour sector and among vulnerable stakeholders; and restorative justice is premised on empowerment, socio-cultural restoration, and environmental restoration. These policy primers offer a holistic perspective for a truly just transition. Similarly, Robins and Rydge (2019) address the human dimensions relating to workers, communities, consumers, and citizens, who are solidly interlocked in human relationships. They argue that the policy-makers and investors in the Just Transition should consider all four dimensions

Despite the growth of environmental justice beyond its original political and geographic framing and development into a dynamic object of scientific enquiry, as discussed in the paragraphs above, an analysis of environmental injustice can benefit from a more explicit theoretical framework. Hence, in the next section, I consider the convergence of environmental justice and Political Ecology to achieve this purpose.

4.7 Mutually strengthening theoretical insights: the convergence of environmental justice and Political Ecology

One of the pillars of this study is conceptualising an environmental justice framework that can inform a Just Transition. This study argues that the Just Transition is truly just only if it ensures wide-reaching societal welfare for communities in the coalfields, and the study maintains that such a transition has to be underpinned by environmental justice. The societal welfare of communities in the coalfields is essential as the transition away from coal threatens their employment and livelihoods. A truly Just Transition should therefore be underpinned by a commitment to ensure that these communities are not left worse off. This commitment can be realised through a Just Transition that is underpinned by environmental Justice.

Therefore, the growth of environmental justice beyond its original political and geographic framing is acknowledged in this study, but the limitations of environmental justice as an analytical and theoretical tool are also considered. Hence, I leveraged the complementary strengths of Political Ecology and environmental justice to draw some insights from their convergence. In their article “Reading environmental justice through a Political Ecology Lens”, Svarstad and Benjaminsen (2020) consider the radical environmental justice framework (Schlosberg’s environmental justice framings) through the lens of Political Ecology. These scholars explore the potential synergies and cross-fertilisations between Political Ecology and environmental justice by zooming in on the radical environmental justice framework. This provides the study with rich insights for building a strong environmental justice framework that can position coal communities as beneficiaries in their Just Transition.

I thus drew analytical insights from Svarstad and Benjaminsen (2020), who investigated the interface between the two approaches by means of an application of the Political Ecology lens to radical environmental justice. These scholars looked at the potential cross-fertilisation, thematic overlaps and synergies between Political Ecology and environmental justice. I also found useful Leonard’s (2018) view on the mutual benefits that can arise from a convergence of environmental justice and Political Ecology, given that they share a commitment

to justice. The core value of justice is clear from the way in which Political Ecology explores power relations (Leonard 2018); its deconstructive strength is that it can unmask concealed environmental injustices shaped by the dynamics of unequal power relations (Lee 2009; Nightingale 2019; Tetreault 2017). Moreover, Political Ecology contains a decolonial emphasis, noting how modes of thinking can be decolonised and dominant (power) strategies can be confronted (Leff 2015). All these attributes are crucial in applying a Political Ecology lens to environmental justice, as is seen in the arguments of Leonard (2018), and Svarstad and Benjaminsen (2020).

These scholars make an important contribution by responding to the critiques that environmental justice has a narrow theoretical basis, compared to Political Ecology's broad theoretical basis, and that environmental justice is unable to connect the processes entrenching environmental injustices to the functioning of a capitalist political-economic system (Swyngedouw & Heynen 2003). Environmental justice's lack of an adequate theoretical basis has been attributed to its origins in and emphasis on activism (Chitewere 2010). Other criticisms of environmental justice are directed towards its lack of power theorisation and relations (Pulido & De Lara 2018). Although I do not claim that cross-fertilisation will overcome all these limitations, I argue that cross-fertilisation (convergence) between Political Ecology and the environmental justice framework will strengthen the justice emphasis adopted in this study.

Leonard (2018) argues that cross-fertilisation is necessary for a re-evaluation of the geographies of scale and inclusivity for both environmental justice and Political Ecology. In the case of environmental justice, the re-evaluation of scales speaks to an expansion of the current context and framing of environmental justice to link local struggles to the larger political-economic framework (Leonard 2018). This cross-fertilisation presents a significant shift which enables what Temper, Del Bene and Marinez-Alier (2015:255) regard as "going beyond the isolated case study approach to offer a wider systematic evidence-based enquiry into politics, power relations and socio-metabolic processes surrounding environmental justice struggles locally and globally". The study benefits from this expansion because the environmental justice struggles of coal communities are linked to a long colonial and capitalist history that have shaped and continue to

shape the coal landscape. The expansion also allows a consideration in a broader framework of how to prevent the shift triggered by the global phenomenon of climate change from further undermining justice and the well-being of these communities.

I first consider Svarstad and Benjaminsen's (2020) critique of the principle of equity, which they debate on the basis of the inherent inequalities which the principle undermines. Svarstad and Benjaminsen (2020) therefore argue that distributive justice should consider the variations within the distributive discourse. The degree of affectedness always varies, with some people and groups being more vulnerable than others and possessing less capacity to recover (San 1979; Svarstad & Benjaminsen 2020; Walker 2012). Regarding equality, Walker (2012) argues that one has to consider the dimensions of vulnerability, need and responsibility, which imply that the levels of impact are inequitable, and that the extent of and capacity for recovery differ accordingly. Essentially, Walker's argument problematises the concept of equality in an unequal context. The considerations of these scholars prompt an interrogation of the equity emphasis embedded in distributive justice. I therefore go back to the questions posed by Frank (1991:9): "What then is the measure of equity in an unequal world? And if unequals should receive equal?" Is there justice in pursuing a distributive equity agenda in an unequal context? Bringing in a Political Ecology lens allows for an interrogation of the unequal power relations inherent in the distributive justice agenda. This offers a significant shift beyond merely advocating for equity: it interrogates prospective injustices that the equity discourse may potentially perpetuate, given the inherent power relations.

Svarstad and Benjaminsen (2020) go beyond criticising distributive justice to consider the potential pitfalls for recognition justice which may result from paternalism and domination. These scholars argue that activists and scholars can potentially dominate affected populations, because, instead of listening to these populations and allowing them to articulate their own injustices, activists and scholars may claim to speak for them (Svarstad & Benjaminsen 2020). This is a common practice where interested groups such academics, activists and NGOs assume the position of a voice for those deemed voiceless and powerless. Svarstad and Benjaminsen (2020) caution against these pitfalls of misrecognition,

calling for decolonial epistemologies, which focus on senses of justice and critical knowledge production. These scholars define senses of justice as “ways in which affected people subjectively perceive, evaluate and narrate an issue, such as their perspectives on an environmental intervention” (Svarstad & Benjaminsen 2020:8). Critical knowledge production refers to opportunities for affected populations to produce their own critical knowledge outside the influences of the discourses and narratives of dominant actors (Svarstad & Benjaminsen 2020). I consider these discourses and narratives in light of an analysis by Osunmuyiwa et al. (2018), who link discourses and narratives to discursive capabilities, which they argue are “aimed at reinforcing and steering public sentiments of indigenous claims to fossil forms of energy” in Nigeria’s energy transition. Osunmuyiwa et al.’s (2018) analysis shows how powerful actors can influence affected populations in favour of their own agendas.

Svarstad and Benjaminsen (2020) also explore the topic of power in environmental justice through the lens of procedural justice. They maintain that, although environmental justice is centred on power struggles among affected populations, the field is marked by a limited theorisation of power. The emphasis on “authentic participation” of affected stakeholders, for example, reflects the inherently unequal power relations and dynamics that underlie the quest for justice and how these may play out even in the justice discourse itself, thus undermining the pursuit of justice. Malin et al. (2019) have explored how these power dynamics and imbalances in environmental justice are embedded in structural inequities that, in some instances, have perpetuated exclusions. Svarstad and Benjaminsen (2020) build on the work of Malin et al. (2019) by critiquing the omission of a consideration of the complexities of power in participation and procedural justice. Svarstad and Benjaminsen (2020) thus propose that environmental justice may learn from Political Ecology’s critical and theoretical approaches to power through the three main theoretical perspectives of Political Ecology: actor-oriented power theories, structural power perspectives (Marxist political economy) and discursive power perspectives. This suggestion responds to Pulido and De Lara’s (2018) concerns regarding the lack of theorisation of environmental justice.

Finally, Svarstad and Benjaminsen (2020) highlight two shortcomings of capabilities theory. The first is the manner in which capabilities theory is used in the radical environmental justice literature, where the diversity of communities is ignored. The second is its lack of focus on the actors and structures that enable and then perpetuate injustice. This emphasis is in line with Political Ecology's actor-oriented power focus and the deconstructive approach of Political Ecology, through which the actors and power structures underpinning environmental injustices can be deconstructed. Moreover, it calls for the kind of important analysis that is key in the Multi-actor Perspective (discussed in Section 3.3.6), which seeks to respond to the lack of precision that transition research displays by clearly distinguishing between the different types and levels of actors (Avelino & Wittmayer 2017).

The work of Svarstad and Benjaminsen (2020), and Leonard (2018) contributes to the theoretical and analytical strengthening of environmental through the convergence and cross-fertilisation between Political Ecology and environmental justice. This is clear in how the topics of equity and power play, dynamics and relations that underpin environmental injustices and the quest for justice are deconstructed through Political Ecology's broader theoretical and analytical focus. My study therefore anchors its environmental justice framework in the theoretical and analytical insights drawn from the convergence between environmental justice and Political Ecology. I argue that this achieves a conceptualisation that is suited to addressing the justice question in the Just Transition. The study therefore also explores the analytical strength that can arise from the deployment of decolonial epistemologies in environmental justice. The next section explores the decolonial emphasis and analysis and its consideration as a significant anchor in an environment justice framework that can ensure an inclusive Just Transition for communities in the coalfields.

4.8 Rethinking environmental justice: towards a decolonial environmental justice framework

This study argues that an inclusive Just Transition that offers wide-reaching improvements in the societal welfare of communities in the coalfields requires an environmental justice framework that draws theoretical, analytical and

epistemological insights from related fields, with a commitment to justice for the marginalised. This can be achieved by an environmental justice framework that is sufficiently comprehensive to break through the original geographical, social, political and theoretical framing and boundaries to identify the realities of coal communities. The study undertook to define such an environmental justice framework, drawing on decolonial epistemologies, social justice and cognitive justice. For the conceptual purposes of this study, I refer to this framework as “a decolonial environmental justice framework”.

A decolonial analysis brings in an important consideration to ground environmental justice in the realities and lived experiences of populations affected by injustices. To conceptualise this better, I borrow from the article by Alvarez and Coolsaet (2018), “Decolonizing environmental justice studies: A Latin American perspective”. These scholars argue for a conceptualisation and grounding of environmental justice in the lived experiences, thinking and locations of populations affected by the injustices. Their position informed the approach taken in this study, which calls for a Just Transition that considers the lived experiences and realities of coal mining communities. Such place-specific environmental injustice struggles reflect the realities of the affected populations and should be prioritised in planning and decision-making.

These arguments are premised on the recognition that environmental justice scholarship is still geographically and politically entrenched in hegemonic Western ideas of modernity and Western-inspired political ideas. Acknowledging this, therefore, gives context to the call to decolonise environmental justice, which argues for reducing environmental injustice from what Sikor and Newell (2014:151) have termed “global environmental justice” to a more post-colonial environmental justice. A post-colonial environmental justice is a concept argued by Williams and Mawdsley (2006), based on the geographical and historically specific relevance of issues and claims which constitute environmental injustice, and which do not discount the post-colonial landscape within which they occur.

To analyse decolonial epistemologies further, I draw on the seminal work by Maldonado-Torres (2007:234) on decoloniality, in which he explains that “coloniality refers to long-standing patterns of power that emerged as a result of

colonialism, but that define culture, labour, inter-subjective relations, and knowledge production”. I also consider the analysis of coloniality by Ndlovu-Gatsheni (2015:488), who emphasises that coloniality denotes “invisible power structures” and an epistemological design guided by the global North. He argues that coloniality represents the “darker side” of modernity, which contains an embedded logic that facilitates the enforcement of control, domination, and exploitation, but masquerades as progress and something good and beneficial for all (Ndlovu-Gatsheni 2015).

What, then, is the relevance of these analyses in the context of the current debate? Perhaps in responding to this question, a good place to start is by re-emphasising how the question of (in)justice presents an evolving crisis, deeply rooted in past development models and structures shaped by coloniality and neo-coloniality. Although the contemporary framing of environmental justice provides significant pathways to escape the injustices entrenched in the colonial structures of extractivism and capitalism, a decolonial emphasis can augment the relevance of environmental justice in the context of coal communities.

Although these issues are to some extent considered in the contemporary framings of environmental justice, some scholars have debated the epistemological design of environmental justice and the significance of deploying decolonial epistemologies. In their argument for a decolonial approach to environmental justice, Alvarez and Coolsaet (2018) point out the epistemic limitations of environmental justice, which can potentially marginalise some conceptual formations and, as a result, produce new injustices or perpetuate existing ones (Alvarez & Coolsaet 2018). They warn that environmental justice is characterised by Western conceptions and epistemologies which are transposed to the global South – they believe that such conceptions and epistemologies “run the risk of being ineffective and of producing additional injustices” (Alvarez & Coolsaet 2018:1). They caution that “failing to explicitly include a decolonial analysis, environmental justice scholarship not only risks undermining its emancipatory power but may also deepen some of the injustices it claims to address” (Alvarez & Coolsaet 2018:2).

My study supports the argument of Alvarez and Coolsaet (2018), which I consider alongside Svarstad and Benjaminsen's (2020) assertion/perspective on the need to deploy a decolonial approach and its epistemologies to decolonise environmental justice's recognition (recognition justice) and environmental justice more broadly. Thus, I agree that failure to consider a decolonial analysis in environmental justice can perpetuate injustices or produce new ones. This is especially true for the marginalised coal communities in the context of the Just Transition.

Decolonial scholarship is extensive, with strong linkages to African epistemological frameworks and Indigenous Knowledge Systems. This study therefore deals only with some of the basic emphases in decolonial scholarship. An important aspect drawn from the decolonial emphasis is alternative and critical ways of arguing the context of the research problem and relevant solutions to it. This is seen, for example, in Maseko's (2021:110) analysis, which connects the experiences of being a black mine worker to colonialism, capitalism, subjugation and what he considers a "realm of sub-human". Maseko (2021:111) deploys

an epistemic method of 'shifting the geography of reason' in order to read the experience of mineworkers in South Africa from the locus of enunciation of the oppressed subject, within the scheme of a colonial power differential based on a hierarchy of humanity.

Maseko's (2021) geography of reasoning looks at experiences in the mining landscape through decolonial epistemologies and takes into account the colonial template in which mining, even in post-apartheid South Africa, remains entangled. Maseko's (2021) analysis and conception of a mine worker as "disposable and dispensable" provides an interesting lens through which the ongoing debate on coal phase-out which has resulted in sudden mine closures and retrenchment of workers (Semelane, Nwulu, Kambule & Tazvinga 2021), can be considered and critiqued on the basis of what it means for coal miners who have built their lives around the coal economy.

Therefore, based on his account, I re-emphasise that the nature of injustices suffered by coal communities denotes deep entrenchment in colonial structures. This makes it doubly important to unmask the colonial context that underpins these injustices and to find alternative ways to imagine an escape from these injustices. Ndlovu-Gatsheni (2015:488) posits that decoloniality is "setting afoot a

new humanity free from racial hierarchization and asymmetric power relations”, epitomised by a sense of breaking through, renewal and alternative ways of being, which are all encapsulated in decoloniality or decolonial thinking. In view of his argument, I see the significance of the recognition justice debate to lie in the call to repair the disruption and empower affected populations to define their own justice.

Alvarez and Coolsaet (2018:3) argue the need for achieving a decolonial environmental justice on the basis of the conceptualisation and grounding of environmental justice to the “lived experiences, thinking, and locations” of the populations affected by the injustices. This position constitutes an important pathway towards repairing the disruption and empowering affected populations. The lived experiences of coal communities provide a good context for understanding the real injustices, and a relevant context from which justice can be defined. This thinking is also seen in Malin et al. (2019:111), who bring an “indigenous people” perspective to the justice debate. These scholars highlight the historical exclusion and displacement of native and indigenous peoples whose relationship with the land has been altered or redefined through co-option, industrialisation, and defilement. Malin et al’s (2019) perspective is further emphasised by Gilio-Whitaker in an interview reported by Leung (2021). She argues that in decolonising environmental justice, it is important to recognise past and present colonial structures and acknowledge indigenous people’s distinctive relationship with their land.

The keyword in Malin et al. (2019) and Gilio-Whitaker’s analysis is “recognition” (Leung 2021). Recognising the unjust context from which the current injustices of coal communities emanate – the complex history, their current unjust context and the potential unjust future (unjust post-coal landscape) – constitutes a critical location to think about and define justice. Misrecognition and disregard for this context and location detract from a justice definition that can offer restitution, redress and empowerment. Justice that undermines recognition perpetuates injustice by forgetting, dismembering and disregarding the colonial and post-colonial legacy (including the apartheid system) and its inherent injustices. In the context of this study, this unjust legacy is entrenched in the Minerals Energy Complex, which thrived on a cheap labour system, cramped compound

conditions, and wretched working conditions, and has caused massive environmental damage (Hallowes & Munnik 2016; Maseko 2021).

To further ground the recognition debate, I borrow the metaphor of “dismemberment” from the work of decolonial scholars such as Ngũgĩ wa Thiong’o (2009), Ndlovu-Gatsheni (2016) and Tyali (2019). Ngũgĩ wa Thiong’o (2009) considers dismemberment through what he calls the “division of African personhood” which was central to the slavery and capitalist project. Building on the work of Ngũgĩ wa Thiong’o, Tyali (2019) refers to the dismemberment of indigenous communities as part of the project of Western Modernity. For Ndlovu-Gatsheni (2016), dismemberment constitutes the core of the colonial, slavery, settler, administrative, apartheid and colonialism projects. Therefore, misrecognition has deep implications for dismemberment. For coal communities, this issue speaks to a disregard for the rich but damaging history that shapes their current landscape, and to a further disregard for how that history can influence the Just Transition and position them as the people who may have to bear the brunt of a transition that is not just to them.

Coolsaet and Neron’s (2020) argument about misrecognition focuses on a dismemberment of and disregard for the mechanisms used in perpetuating the injustices that have shaped the current context of coal communities, while expecting them to forget past injustices, and align and embrace alternatives which may themselves potentially undermine these communities’ well-being. According to Coolsaet and Neron (2020), misrecognition in the context of the environment broadly constitutes two opposing ways. In the first, people are systematically treated differently because of who they are. In the second, the source of injustice is reversed, as the differences are rendered invisible when supposedly universal solutions are applied in the name of the environment (Coolsaet & Neron 2020). These scholars argue that environmental policy initiatives tend to disregard the created inequalities and differences by expecting people who are not responsible for the problem in the first place to halt longstanding cultural practices and renounce their ways of life (Coolsaet & Neron 2020).

4.9 Towards a comprehensive decolonial environmental justice framework

Beyond just constructing a decolonial environmental justice framework, the study seeks to construct a comprehensive and decolonial environmental justice framework that brings together decolonial epistemologies, Schlosberg's (2007) radical environmental justice framework, political ecology, social justice, and cognitive justice. The radical environmental justice framework forms the basis of the comprehensive and decolonial environmental justice framework that the study conceptualises, considering Schlosberg's work, and the theoretical and analytical insights drawn from Svarstad and Benjaminsen (2020) who read radical environmental justice through a political ecology lens and Leonard (2018) on the convergence of environmental justice and political ecology.

One of the dominant emphases in the comprehensive and decolonial environmental justice framework that the study conceptualises is the equity question, which has been explored in Section 4.7. When a decolonial analysis is brought to bear on the equity question, more interesting questions emerge. This includes questions such as how we can move from an inherently unequal context towards a just state. Hence, again drawing on Walker's (2012) and Frank's (1991) problematisation of the concept of equity, the study argues that in the quest to correct the environmental injustices produced by a system which was shaped by colonial and apartheid structures, the notion of equity should be considered or its inherent potential to undermine the very justice that the environmental justice project seeks to address. Referring back to the distributive justice debate, I posit that when unequals receive "equal justice", injustice is in fact perpetuated. This is because there are prevalent conditions or existential conditions that define the marginalised which are likely to reduce the value of the equal share and render it unequal. As Alvarez and Coolsaet (2018) also argue, the notion of "environmental equity" in the distributive justice framework provides a more generalised approach to justice, thus undermining modes of life, which in this study have been argued to represent the complex web of injustices. Moreover, it potentially disregards the fact that the request for equality by those affected may be an "expression of a desire shaped by coloniality" (Alvarez & Coolsaet 2018:7).

I consider this in the context of what equity constitutes for coal communities in the context of the injustices that the study explored. Thus, drawing from the positions of Frank (1991), Walker (2012), Alvarez and Coolsaet (2018), I argue that in framing an environmental justice that is suited for coal communities in the Just Transition, the concept of equity should therefore be reconsidered. Essentially, the study, through the decolonial environmental justice framework, challenges and rethinks the concept of equality in the context of coal communities in the Just Transition. Effectively, the study advocates for a just distribution rather than an equitable distribution. A just distribution factors in the social justice demands for fairness and redress in a distribution model.

Other significant questions in the decolonial framework are the following: “What constitutes a decolonial environmental justice for the populations who have contended with injustices for a long time? And how would these populations define their justice?” Therefore, when these questions are considered through a decolonial lens, environmental justice redirects the focus towards multiple ways in which people experience injustice and how they envision their justice. As Svarstad and Benjaminsen (2020) have shown, an emphasis on decolonial epistemologies through a focus on senses of justice and critical knowledge production remains crucial. I add to the senses of justice and critical knowledge production also Alvarez and Coolsaet’s (2018) analysis, which draws on the work of decolonial scholars such as Fanon, Escobar and Coulthard. They argue for a deeper consideration of recognition through the expansion of recognition beyond state-based solutions, by including the dimension of self-recognition and acknowledgement of the role played by psychological processes in the misrecognition of marginalised communities.

The framings of environmental justice which underpin this study and the decolonial perspective offer alternative and more localised ways of thinking about justice. This includes an environmental justice emphasis that does not discount or undermine the realities and lived experiences of poor local communities, especially those who are seemingly trapped in the disadvantages of voicelessness and powerlessness. Using Grosfoguel’s (2007:213) “locus of enunciation”, which he explains as “the geo-political and body-political location of the subject that speaks”, the study places an emphasis on geography and

context-specific injustices of coal communities. Therefore, within the Just Transition debate, these alternative ways reposition society, especially coal communities, at the centre of the Just Transition agenda.

A decolonial perspective prompts an engagement with environmental justice from a position of recognising that the injustices on the ground go beyond what can be seen at face value. Often, these injustices are so deep that they even shape the responses of the affected populations. Therefore, a critical analysis is essential in dealing with environmental justice for these populations. I argue that this augmented focus that draws on related justice approaches strengthens the justice vocabulary and emphasises real justice for coal communities. The study draws that approach from social justice.

The social justice debate is critical even in the Just Transition debate, where coal communities have borne the brunt of an unsustainable extractive system shaped by colonial and apartheid history. These communities now find themselves faced with a transition that can potentially have an unfavourable impact on them. As Govender (2016) shows, the inherent contradictions in South Africa's development commitment, coupled with the continuity of deep social and economic crises, have prompted questions about social justice. Failure to pursue the social justice project forces some social groups to suffer because of the decisions and actions of others. In this context, I adopt Madonsela and Lourens's (2021) conceptualisation of social justice as the just, fair and equal distribution of all opportunities, resources, benefits, and privileges. Policies and legislative frameworks are instrumental in perpetuating social injustice through the unjust and unfair distribution of opportunities, resources, benefits and privileges. As Madonsela and Lourens (2021:3) emphasise, "[s]ocial injustice is perpetuated when one-size-fits-all and impact-unconscious policies disadvantage those whose lives are divergent from the paradigm informing such policies".

Coal communities are one population whose paradigm of well-being and livelihoods is entangled in the global climate change agenda. In advocating for a transition that is just for coal communities, I consider the social injustices that coal communities have to navigate in the quest for a transition that is truly just for them. I expand the decolonial environmental justice framework by emphasising what

Madonsela and Lourens (2021:4) consider “remedial or restitutive measures undertaken to level the playing field to ensure that disadvantage is mitigated, and generational inequality does not pose an artificial barrier to inclusion”. As Leonard (2018) suggests, such an emphasis takes into account the common exclusion of communities, especially those in mineral-rich contexts, from planning and decisions, affecting them.

Another justice approach that is an important component of the comprehensive and decolonial environmental justice framework which this study uses is Visvanathan's (2005) construct of cognitive justice. At the heart of Visvanathan's (2005) cognitive justice concept lies the diversity and plurality of knowledge and the demand that these different forms of knowledge be recognised and allowed to co-exist as equals. Fundamentally, this presents a shift from indigenous (host) populations being reduced to units of analysis, to their becoming central to debates, planning and decision-making as the custodians of local knowledge. Visvanathan (2005) claims that cognitive justice also sensitises us to diverse problem-solving strategies and a more democratic imagination, where conversations, reciprocity and translation are integral to the creation of knowledge (Visvanathan 2005:2). Essentially, embracing the plurality of knowledge, and allowing this knowledge to co-exist and to be equally considered and empowered to influence planning, fosters social justice. Social justice and cognitive justice together then provide an emancipatory and empowerment justice emphasis.

The justice dimension is derived from a combined emphasis that draws on environmental justice, social justice and cognitive justice. It challenges a narrative of powerlessness and voicelessness by positioning coal communities as actors with vested interests in the transition. This opposes the kind of “participation” that may reduce the realities and aspirations of these communities to a tick-box exercise to satisfy planning requirements and bureaucratic obligations. This presents a shift towards real participation that is guided by the principles of open dialogue, and the coexistence of different forms of knowledge (Visvanathan 2005) without any marginalisation (where all knowledge is allowed to co-exist). It also opens “invited and invented spaces” (Kersting 2013; Miraftaab 2004:1) which emphasise the need to have critical engagements in spaces where coal communities are invited, and equally in spaces that they invent themselves.

Significantly, this presents a shift from what the multi-actors in the Just Transition define and consider to be a Just Transition, to a definition and description of a Just Transition by the populations which are affected and dependent on coal, and who are then empowered to define their own Just Transition.

4.10 Conclusion

In conclusion, this chapter has shown how the framings and ideas around justice have evolved over time. Moreover, it presents an analysis of how contemporary framings can be seen as compatible and comprehensive in identifying the realities on the ground and responding to the justice demands of social groups. The chapter has argued for a decolonial analysis that emphasises the geographical and historically specific relevance of issues around what in fact constitutes environmental injustice, and that does not discount the post-colonial landscape in which they occur. The chapter shows why the study deploys justice vocabulary borrowed from social justice and cognitive justice to achieve a more inclusive and comprehensive conceptualisation of environmental justice. Thus, an augmented emphasis on environmental justice provides this study with a critical lens to navigate the justice question in the context of coal communities in the Just Transition agenda.

I argue as my concluding remark here that the decolonial environmental justice framework that this study defines, by borrowing theoretical insights from Political Ecology and decolonial epistemologies, and analytical insights from social justice and cognitive justice, presents a comprehensive framework that can inform a Just Transition that will ensure an inclusive and wide-reaching societal transformation for coal communities through the Just Transition. The next chapter therefore presents the practical processes undertaken to gather the data needed to respond to the research question and to analyse those data.

CHAPTER 5: METHODOLOGY

5.1 Introduction

In responding to the research question regarding the opportunities and challenges for coal communities in the Just Transition, the study has, up to this point, outlined the theoretical underpinnings of this research in a theoretical framework built on four interdisciplinary theories. The first of these is Dependency Theory, which seeks to frame the unequal context that shapes the current coal landscape and coal communities. The second is the Socio-technical Transition Theory, with a specific focus on the Multi-Level Perspective, which addresses the nature and characterisation of socio-technical transitions. The third, Political Ecology, is an interdisciplinary theory lens which is deployed to navigate the complex power dynamics inherent in transitions and deconstruct the power manoeuvres that underpin the Just Transition. Finally, environmental justice offers an environmental justice framework which draws on the theoretical positions and analytical insights through cross-fertilisation between Political Ecology and the construct of environmental justice incorporating a decolonial perspective, social justice and cognitive justice.

This chapter on the methodology used in the study outlines the processes that unfolded in the acquisition of the data and other evidence needed to respond to the research question. The key components covered in this chapter are the research design, the philosophical paradigm underpinning the methodological approach, the data collection techniques used, data organisation and interpretation, triangulation, the researcher's positionality and issues of trustworthiness.

5.1 Defining the data sets

The choice of research design and methodological approach were influenced by the scope, non-linearity, complex and multi-stakeholder nature of the Just Transition. The involvement of multiple stakeholders with vested and competing interests in a Just Transition plays out in dialogue and engagement at the international, national, provincial, and local levels. The dialogue reflects multi-

stakeholder engagement to debate the transition policies, strategies, frameworks and trajectory. Stakeholder engagement has produced significant content, which constitutes important sets of data for understanding the non-linear and complex nature of the Just Transition, and also of the complex context in which it is unfolding. These interactions and their outcomes provide a broad landscape of evidence for this study. The data were gathered over a period of three years, from 2020 to 2023, through participation by the researcher in and observation of multiple platforms at the national level, the provincial level, and the ground-level community level.

5.2 Research design

The Just Transition, which is characterised as a shift from a high-emission economy to a low-carbon and climate-resilient economy, presents one of the most significant transitions in the history of South Africa. Although the primary focus of the study is the opportunities and challenges of the transition for coal communities, the scope of the data required to respond adequately to how this shift is to be achieved goes beyond these communities. There are complex debates at the national and international levels that shape how the transition is unfolding and how different stakeholders will be affected. These complex debates provide the context within which opportunities and challenges for the Just Transition can be mapped out.

To achieve an in-depth and rich insight into the empirical data available on the subject of the Just Transition, the study adopted a qualitative design to allow for an in-depth analysis of the diverse data available on the ground. This research design enabled me to go beyond a literature review to engage with the different debates, the perspectives, and analyses by different stakeholders in the Just Transition through different platforms. Some scholars have examined what a qualitative research design is, to determine the reasons for choosing and the characteristics of qualitative research. Some reasons for pursuing such a design include the need to gain a complex and detailed understanding of an issue by listening to the stories and realities of people, and the contexts or settings in which participants deal with an issue (Creswell 2007). The voices of the people under study and their contexts, including their settings, are critical in a qualitative inquiry,

because qualitative research places the research subject at the centre of the research. Aspers and Corte (2021) point out the human-centredness of qualitative research, noting that qualitative research is an interactive process in which an improved understanding of a community is achieved through close contact with the community and the phenomenon that is being studied. The lived experiences and perspectives of the research subjects constitute significant empirical data in a qualitative research design. Such data are therefore an important consideration in this study.

Although there is an emphasis on the human element, qualitative research requires an organised and structured inquiry. Creswell (2007:37), describes this structuredness as follows:

Qualitative research begins with assumptions, a worldview, the possible use of a theoretical lens, and the study of research problems inquiring into the meaning individuals or groups ascribe to a social or human problem. To study this problem, qualitative researchers use an emerging qualitative approach to inquiry, the collection of data in the natural setting sensitive to the people and places under study, and data analysis that is inductive and establishes patterns or themes. The final written report includes the voices of the participants, the reflexivity of the researcher and complex description and interpretation of the problem.

In their definition of qualitative research, Babbie and Mouton (2001) describe detailed engagement with the object of the study. Some avenues that can be adopted are a case study approach, a multi-method approach in which multiple sources of data can be used, and a flexible design that allows for adaptations and changes when necessary.

This study chose a case study research design through which communities in the Mpumalanga coalfields were studied in the context of the Just Transition. This context includes the natural setting of the communities and participants, in which their lived experiences were considered, including the “invited, invented and instrumental” spaces (Bisong 2022:2951; Miraftaab 2004:1) where debates about the Just Transition take place. I borrow the concepts of invited, invented and instrumental spaces from Miraftaab (2004) and Bisong (2022). The invented space represents a space created and occupied by grassroots stakeholders to pursue their own shared interests and facilitate governance from below (Miraftaab 2004; Bisong 2022). The invited space is a space for engagement between

grassroots stakeholders and other multi-stakeholders such as state actors, the private sector and others (Miraftaab 2004; Bisong 2022). Lastly, the instrumental space is created by state actors or private sector to further their legitimacy through cooperation (Miraftaab 2004; Bisong 2022). These constitute the multi-context within which the case study research was undertaken.

According to Babbie and Mouton (2001), a case study approach is a common approach in qualitative research. Yin (2014:17) provides a two-fold definition of a case study as

[a]n empirical inquiry that investigates a contemporary phenomenon in depth and within its real-world context.... A case study inquiry copes with the technically distinctive situation in which there will be many more variables of interest than data points...and relies on multiple sources of evidence, with data needing to converge in a triangulation fashion, and as another result, benefits from prior development of theoretical propositions to guide data collection and analysis.

Coal communities in the Mpumalanga coalfields offer a real-world context in which the question of opportunities and challenges of the Just Transition can be posed. The position of these communities in their real-world context is characterised by environmental injustices tied to the current fossil economy (as explored in Chapters 2 and 4). In this study, this real-world context is considered in view of the current landscape and the changes that the Just Transition is expected to bring.

The Mpumalanga coalfields cover a significant geographical space with numerous communities and towns. Hence, I reflect on the difficulty of delimiting the scope of the unit of analysis for the study. At the outset of the study, I envisaged a clear demarcation through a selection of a few communities that would form the units of analysis. Areas such as Emalahleni, Middelburg and Ermelo and Kriel were initially considered the study areas for the research. However, the dialogue processes and stakeholder engagements which formed a significant portion of the empirical evidence for this study attracted a bigger audience, namely multiple communities from different towns in the coalfields. For example, the Presidential Climate Commission (PCC) stakeholder engagement in Emalahleni attracted community members from Middelburg and other neighbouring mining towns. Therefore, the voices I recorded in the dialogues and engagements represented

different communities in the coalfields, beyond the envisaged scope. Using Chilvers and Longhurst's (2016) work on public engagements in energy transitions, I refer to what they have termed "deliberative citizens" which includes stakeholders who are deliberately involved in energy transitions and are intentional about voicing out their opinions/perspectives in an effort to influence decision making. In the case of the Just Transition dialogues and stakeholder engagements, these deliberate citizens included community activists, civil society organisations and other stakeholders with vested interests in the Just Transition. These stakeholders were actively involved in different dialogues and engagements, sharing their perspectives and raising important questions to influence the planning and decision-making processes in the Just Transition. Other voices were recorded through the GroundWork and Life After Coal Coalition multi-year project on "Strengthening Community Voices", supported by the Friedrich-Ebert Stiftung (FES), which formed a significant part of my fieldwork, also brought together community activists from different parts of the Mpumalanga coalfields.

This approach to data collection resulted in the redefinition of what was initially envisaged as the fieldwork process. It posed some challenges in clearly delimiting the scope and study area. However, these changes were enriching when considered in the context of what Creswell (2007) terms an emerging qualitative approach of inquiry, as they prompted a redefinition of the demarcation and scope that I initially envisaged.

5.3 Philosophical paradigm

At the core of the research endeavour is the question of what constitutes reality (ontology), how we know what we know about the reality (epistemology), and, putting the two together, the processes undertaken to know the reality (methodology) and what the researcher deems ethical (axiology). This constitutes the research paradigm, which has been defined as the basic system and theoretical framework with assumptions about ontology (what is reality), epistemology (how we know reality), and methodology (approach/process) (Joslin 2019; Rehman & Alharthi 2016) and axiology, which refers to issues of ethics in research (Killam 2013). In addition to the theoretical perspectives that they use to

provide different kinds of explanations for social life, researchers need ontological and epistemological assumptions, which in turn they need to select and argue for the appropriateness of these assumptions for investigating the problem at hand (Blaikie & Priest 2017). There are different paradigms which are used in research. The most common ones used in the social sciences include positivism, interpretivism, post-positivism and critical realism. The most appropriate paradigm for this study is critical realism.

Critical realism is a philosophy of science which originated as an alternative to both positivism and constructivism (Fletcher 2017). Critical realist scholars seek to overcome the objectivism/subjectivism dualism through a unique focus on ontology and epistemology (Vincent & O'Mahoney 2016). As a philosophy of science, critical realism grew from the work of Ram Roy Bhaskar, a British philosopher, through what is considered a switch from epistemology to ontology and, within ontology, a switch from understanding events to understanding the mechanisms that cause the events (Danermark, Ekstrom, Jakobsen & Karlsson 2002; Fletcher 2017). The emphasis is on what is real (ontology), before focusing on how we know what we know (epistemology), because, from a critical realist position, what is "real" or reality is more complex and deeper than is observable or takes place as events (Danermark et al. 2002). Blaikie and Priest (2017:168-169) describe the core of critical realism as the

...ontological assumption that reality is external to and independent of the ideas, experiences and perceptions human beings have of it, or what they imagine it to be...and it adopts the view that observed regularities are eventually explainable in terms of underlying 'real' causal structures and/or mechanisms.

The ontological emphasis of critical realism is epitomised by what has been termed "the Iceberg metaphor" (Hoyer 2010:168; Fletcher 2016:183), which illustrates the different domains of reality, "visualised as an iceberg". The Iceberg metaphor suggests that reality operates in three different domains. The first domain is the *empirical domain*, where we observe and experience events as they unfold i.e. the tip of the iceberg. In this domain, observation, experience and common sense are important tools for determining what is real. Bhaskar (1978) has criticised the kind of science that limits reality or what is regarded as real to the empirical domain. He argues that the reduction of reality to what we know

about it is an “epistemic fallacy” (Bhaskar 1978). Bhaskar’s criticism emphasises a reality that transcends what we can observe or experience to a much more multi-layered reality. This, therefore, exposes and stresses the limitedness of the human filter or even theories as a way to grasp reality adequately. The second domain is the *actual domain*, where the human filter is severely constrained in its ability to grasp reality. The insight that underpins this domain is that events occur in time and space, independent of human experience. Sturgiss and Clark (2020) describe this as a true occurrence that is often different from what is observed at an empirical level. In line with this argument, Danermark et al. (2002) show the relevance of theory in the actual domain by positing that in this domain, data are influenced by theory rather than by any direct observation. The last domain is the *real domain*, which is the most important domain for critical realism, as it emphasises the causal structures and causal mechanisms that act as causal forces to produce events as they occur in both the actual and empirical domains i.e. the large and heavy volume of the ice beneath the sea level (Hoyer 2010). These three layers reflect a complex reality – one which is much deeper than we can observe or experience.

Given the complexity of critical realism, what makes it an appropriate philosophical paradigm for this study? In responding to this question, I refer to my research question: “What are the opportunities and challenges for coal communities in the Just Transition?” The Just Transition is unfolding as an ongoing non-linear and complex process. The literature has revealed the multi-actor and complex dynamics that characterise socio-technical transitions such as the Just Transition. In view of the fact that the Just Transition is still unfolding and of the critical realist view of reality, responding adequately to the research question remains difficult, because we cannot predict what the Just Transition will eventually entail over time. Therefore, our inability to predict the full trajectory of the Just Transition makes it difficult to state accurately what the opportunities and challenges of the Just Transition might be for coal communities. Critical realism deals with these complexities by engaging with reality as a dynamic, unfolding in an open system, characterised by emergent entities (Bhaskar 2010, 2012; Cornell & Parker 2010, Danermark et al. 2002). To further elaborate on this, Bhaskar (2010: 3-4) explains the emergent in terms of what is “causally irreducible” and

argues that “phenomena in an open system are generated by a multiplicity of structures, mechanisms, processes or fields”.

Elaborating on Bhaskar’s point, critical realists have argued that, unlike the natural sciences’ experimental (laboratory) work, which occurs in a controlled or closed environment, social sciences rather deal with unfolding phenomena in an open and uncontrolled society. In addition to the open and uncontrolled environment, the social sciences have to contend with a reality that is differentiated, structured and stratified, which makes it impossible to foretell how events will play out. From a critical realist perspective, we cannot predict the opportunities and challenges of coal communities in a transition based on the current context, the trends and the debates of a Just Transition.

In addition to the openness of the system, which precludes accurate predictions, there are various structures and mechanisms which add to the impossibility of making predictions of outcomes in an open system (Danermark et al. 2002). These emergent entities or mechanisms have been described by Sturgiss and Clark (2020) as the synergism that occurs between components of a complex process and that contributes to the unpredictability of the outcomes. However, and this is crucial, despite the complex context which prevents clear predictions, critical realism argues that we can identify the mechanisms that underlie observable reality, in other words, reality at the empirical level. These mechanisms are important in helping us understand the nature of the object in question, and can assist us in understanding what may happen in the future and why. In explaining this, I refer to the “[s]tructure, mechanisms and events” analogy by Danermark et al. (2002:58). They use this analogy to illustrate the complexity of human society and how these three aspects are compounded to determine the outcome of events. The “structure, events and mechanisms” analogy reminds us that mere knowledge of structural mechanisms remains inadequate to predict how an event will unfold. In an open system such as society, mechanisms can produce different outcomes at different times, depending on other phenomena that influence the mechanism.

Therefore, understanding the structure of the phenomenon or process, which in the context of the Just Transition is the nature of the transition (a socio-technical

transition), the inherent powers and tendencies, and the mechanisms inherent in the Just Transition, can enable us to understand the opportunities and challenges of the Just Transition for coal communities. However, the inherent non-linearity and complexities may play out and result in unanticipated events. We need to identify real mechanisms in the past and present, and explain how they create opportunities, constraints and challenges for how the Just Transition may unfold. However, our explanation remains open to changes in that these structures and different mechanisms may ultimately produce different and thus surprising outcomes. Therefore, critical realism positions us not to end at simply observing the regularities around us, but to go further to discover the underlying elements, describe their nature and show how they produce the observed regularities (Blaikie & Priest 2017). Moreover, Bhaskar encourages us to recognise the role of human agency in influencing outcomes (Bhaskar 1994).

5.4 Data collection

Extensive and diverse sets of data were collected through multiple platforms, namely dialogue processes and engagement with different stakeholders in the Just Transition. The Presidential Climate Commission, the Department of Mineral Resources and Energy (DMRE), Trade and Industry Policy Strategies (TIPS) and other stakeholders hosted dialogues, stakeholder engagements and forums to engage with the Just Transition. The aim of these engagements was to facilitate discussions/dialogues, gather stakeholders' inputs and explore different perspectives for the purpose of planning for the unfolding Just Transition. Different stakeholders participated in these dialogues and engagements. These included commissioners in the PCC, government officials, labour Unions, representatives from the coal industry, ESKOM officials, local communities, community activists affiliated with different NGOs/CBOs operating in the different parts of the coalfields and many other stakeholders.

During these engagements, strategic documents such as the Presidential Climate Commission Just Transition framework and others were developed while some were critically engaged with for improvements/amendments.

These strategic documents formed important secondary data sources for this study. Thus, the study used two data collection techniques to gather this extensive

evidence. From a critical realist perspective, reality is much more complex than is observable through events, and the domains of reality explained by the iceberg metaphor emphasise the complexity of reality. The Just Transition is a complex process involving multiple stakeholders. These stakeholders, as Geels et al. (2017) argue, have competing interests, resources and complex social relations. In view of this, the study sought to achieve epistemological plurality through the use of different data collection techniques and the collection of different spheres of evidence. The use of different data sources and points enabled me to derive evidence from different contexts of reality: the socio-economic and political reality at the national level, social reality at the community level, and reality embedded in the different agendas that underpin the multi-actor and multi-dimensionality nature of transitions.

To identify the different spheres of evidence, the study adopted a multi-level data collection approach, whereby data were collected at three defined levels. The first sphere of evidence covered an extensive body of knowledge from the literature on the history of the coal economy, and on how the coal economy is changing through the Just Transition. The next step involved an extensive literature review in order to gain a good understanding of the Just Transition process. Moreover, the dynamics and processes underlying the transition were explored through Socio-technical Transition Theory. The investigation then proceeded to the gathering of empirical evidence, which I acquired through multiple platforms, where I recorded different debates, the concerns and perspectives of different stakeholders with vested interests in the transition. These platforms are listed in Table 5.1.

Table 5.1: National Just Transition dialogues and engagements where data were collected

Event	Date	Venue
Dialogues:		
PCC – JT Framework: Dialogue on policy dynamics	14 September 2021	Virtual
PCC – JT Framework: Dialogue on the coal value chain	23 September 2021	Virtual
PCC – JT Framework: Dialogue on employment and Livelihoods	5 October 2021	Virtual
PCC – JT Framework: Financing the Just Transition	15 October 2021	Virtual
PCC – JT Framework: Governance for a Just Transition	5 November 2021	Virtual
Future of coal in the context of the JET: Dialogue with Department of Mineral Resources and Energy (DMRE) and the Nkangala District Municipality	10 December 2022	Kriel, Mpumalanga
Integrated Energy Transition dialogue – Organised labour information sharing	14 February 2023	Virtual
PCC Komati site visit and community engagement	7 July 2023	Virtual
Stakeholder Engagements:		
Towards the implementation of a JT Framework, Emalahleni consultation	12 October 2022	Emalahleni, Mpumalanga
Towards the implementation of a JT Framework, Carolina, Mpumalanga	21 April 2022	Carolina, Mpumalanga
Towards the implementation of a JT Framework, Secunda, Mpumalanga	22 April 2022	Virtual
Reflections on the energy transition: Youth energy engagement – DMRE and South African National Energy Association	16 March 2023	Virtual
PCC Komati site visit and community engagement	7 July 2023	Virtual
Multi-stakeholder consultation: PCC recommendations for Komati	27 October 2023	Komati, Blinkpan Village, Mpumalanga
Other Just Transition events		
JT Framework multi-stakeholder conference – PCC	5–6 May 2022	Midrand, Gauteng

Event	Date	Venue
Mpumalanga Energy Summit – Mpumalanga Green Cluster Agency	24–25 May 2022	Emalahleni, Mpumalanga
Trade and Industry Policy Strategies (TIPS) Forum 2022: Towards a Just Transition – the role of industrial policy	1–2 August 2022	Pretoria
Africa Energy Indaba: Solutions for Africa	5–7 March 2023	Cape Town

Source: Own compilation

These platforms afforded me an opportunity to be part of the dialogue where important discussions, planning and decisions unfolded regarding the different aspects of the Just Transition. The diverse content that was engaged with in the different platforms enabled me to gain insight into the plans, policies, strategies and related frameworks for achieving a Just Transition. In essence, I had an opportunity to sit among different stakeholders with vested interests in the transition as they debated the country’s Just Transition trajectory.

As mentioned earlier, these platforms facilitated the production of strategic documents and the making of the important decisions that these documents cover. For example, the Presidential Climate Commission JT Framework is a product of the consultation processes of the Presidential Climate Commission. Therefore, in addition to the empirical evidence that I gathered during the dialogues and engagements, I also drew insights from the following strategic documents which informed the discussions and decisions during the dialogues and engagements:

- *The Presidential Climate Commission JT Framework* (PCC 2022);
- *The Just Transition Investment Plan* (JETIP) (Presidency 2023);
- *The JT Framework* (DMRE 2021);
- *The 2019 Integrated Resource Plan* (DMRE 2019); and
- The Trade and Industry Policies and Strategies (TIPS) working paper *Policy primers for a South African JT Framework* (Montmasson-Clair 2021).

In addition to the dialogues happening at the national level, there were dialogues and engagements at the local level. These included dialogue processes, workshops and meetings involving NGOs, community activists and other stakeholders in the Just Transition, as set out in Table 5.2.

Table 5.2: Local Just Transition dialogues and engagements where data were collected

Dialogue/Workshops	Host	Date	Venue
Making (coal) mining related research work for communities	Friedrich Ebert Stiftung (FES) & Society, Work and Politics [SWOP],	5 September 2019	Sandton, Johannesburg
Voices of coal-affected communities under lockdown	Society, Work and Politics [SWOP], GroundWork, Earthlife Africa & FES	14 October 2020	Virtual
Climate Action Group Gathering	FES project and Climate Action Alliance group	18–21 July 2022	Observatory Gold Club, Johannesburg
Stakeholder engagement prep meeting (community activists)	GroundWork	11 October 2022	Middelburg
Mpumalanga Highveld: Community voices in South Africa’s Just Transition	Life After Coal Coalition	24 November 2022	Virtual
GroundWork report: Contested transitions launch	GroundWork	24 March 2023	WITS University, Johannesburg
Climate Action Group Gathering	FES project and Climate Action Alliance group	2–5 May 2023	Observatory Gold Club, Johannesburg

Source: Own compilation

These localised dialogues and engagements served as an important platform for gathering data on the voices of communities. Community activists from different parts of the coalfields around the country mobilised to engage and share their perspectives and experiences about their context and the Just transition. Facilitated by different NGOs, these activists debated the Just transition based on what it means to them and their communities. Through group discussion-based deliberations and individual feedback sessions, they provided details of the different contexts of their communities, the opportunities they envision and the challenges they anticipate from the Just Transition. Unlike the Just Transition dialogues and engagements outlined in Table 5.1, the engagements listed in Table 5.2 were structured so that only a few invited/selected community activists

affiliated with NGO/CBOs in their localities represented their organisations and their communities in these engagements and dialogues.

To gain access to these dialogue processes and workshops, I established close contact with GroundWork, a non-profit environmental justice organisation, whose primary mandate is improving the quality of life of South Africa's vulnerable populations. The relationship with GroundWork exposed me to the work it does with its partners: Earthlife Africa, the FES, the Centre for Environmental Rights, and the Society, Work and Politics Institute of the University of the Witwatersrand (WITS). This granted me access to their work in the Mpumalanga coalfields and a series of engagements they hosted concerning the Just Transition. Moreover, GroundWork, EarthLife Africa and the Centre for Environmental Rights through the Life After Coal Coalition in partnership with the FES coordinated the "Strengthening Community Voices" project. The project seeks to empower and strengthen community activists in the Mpumalanga coalfields and other coalfields of the Limpopo province (the Lephalale and Vhembe districts), the Vaal Triangle and KwaZulu Natal. Some of the aims of the project are:

- To enable community-based activists to interact with their communities on issues of coal, climate change, and the Just Transition.
- To empower communities through the community-based activists to engage with issues and arguments that affect them from the national debates (the national dialogues and engagements).
- To empower communities to formulate from their own experiences the best ways of interacting (mobilising); influence strategic documents like the Life After Coal Open Agenda, the Just Transition framework etc. (Munnik & Moeng 2021)

This project took place over a period of three years through Phases 1 to 3, from 2021 to 2023. I participated actively in all three phases, including the sense-making and analysis of community reports. There was a series of planning and feedback virtual and physical meetings, where all community-based activists reported on their experiences regarding the tasks they had to undertake. A WhatsApp group served as a communication tool among the activists, coordinator, and project leaders. I was privileged to be added to this WhatsApp group to enable further observations and engagements. Key meetings are listed in Table 5.3.

Table 5.3: FES Strengthening Community Voices Project Phases 1, 2 and 3 (2021-2023)

Meeting	Date	Venue
Report 1 discussion & preparation for report 2	3 September 2021	Virtual
Report 2 discussion & preparation for report 3	29 September 2021	Virtual
Report 3 discussion & preparation for report 4	12 October 2021	Virtual
Report 4 discussion & preparation for report 5	12 November 2021	Virtual
Closing Meeting/Workshop	17 November 2021	Middelburg
Phase 2		
Meeting	Date	Venue
Report 1 discussion & Preparation for Energy Summit	10 May 2022	Virtual
Prep meeting for the Mpumalanga Energy Summit	23 May 2023	Virtual
Report 2 discussion & preparation for report 3	1 June 2022	Virtual
Report 3 discussion, & preparation for report 4	6 July 2022	Virtual
Report 4 discussion, & preparation for report 5	6 September 2022	Virtual
Concluding discussion	24 November 2022	Virtual
Phase 3		
Meeting	Date	Venue
Community Based participatory monitoring and evaluation (Climate Action Group)	2-5 May 2023	Johannesburg
Report 1 discussion & preparation for report 2	01 June 2023	Virtual
Follow-up meeting	06 June 2023	Virtual
Report 2 discussion & preparation for report 3	04 July 2023	Virtual
Report 3 discussion & preparation for report 4	03 August 2023	Virtual
Report 4 discussion & preparation for Climate Action Group	05 September 2023	Virtual
Workshop	11-15 September 2023	Virtual

Source: Own compilation

I participated in all these meetings as a participant observer (see next section). These and the organised civil society engagements afforded me an opportunity to spend time with community activists from different parts of the Mpumalanga coalfields. The dialogue processes presented a more structured, but still informal multi-actor critical engagement where relevant actors on the ground, such as community activists, community members and civil societies, came together to discuss what the Just Transition means to them.

Through the series of dialogue and engagement processes, communities were empowered to participate in the compilation of the *Just Transition Open Agenda* (Life After Coal 2022). This document reports the voices of coal communities regarding the actions that need to be taken to ensure a Just Transition. The Life After Coal campaign facilitated the process of developing a shared open agenda on the Just Transition. The aspirations of coal communities regarding what would translate into a Just Transition in their context are summarised through the 12 demands set out in the *Just Transition Open Agenda*. Other important materials produced from these engagements include the GroundWork reports (see Hallowes & Munnik 2016, 2017, 2018, 2019, 2020, 2021, 2022), which constitute secondary resources for this study.

5.4.1 Participant observation

I used the participant observation method as my primary mode of data collection for gathering empirical data. Guest, Namey and Mitchell (2013) explain that participant observation is a natural but challenging qualitative data collection method that connects a researcher to the most basic human experiences and discoveries (in a case study) through immersion into the research setting and context. The use of participant observation as a primary data collection method connected me to the research setting and participants, and enabled me to spend time with them to gain a clearer sense of their experiences.

One of the most critical aspects of the participant observation method is the ethical considerations that a researcher has the responsibility to adhere to. Guest et al. (2013:75) call it “being a player in a particular social milieu but also fulfilling the role of researcher”. I carefully considered these aspects. Thus, in negotiating my access, especially in the GroundWork and Life After Coal Coalition projects on

Strengthening Community Voices, where I interacted directly with the community activists, I made my position as a PhD researcher clear from the first interaction. I explained the nature of my participation in the project and was upfront about the limitations that the participant observation method imposes on me (see below). The purpose of this disclosure was to enable everyone to understand my position clearly and also for me to manage their expectations. In each case, the project leader asked all participants whether they would give consent to my participation for ethical reasons, to ensure that everyone was comfortable with having a PhD researcher sit in on their discussions. They all agreed.

Participant observation is considered one of the most difficult qualitative data collection methods. According to Guest et al. (2013), the difficulty arises from negotiating access, immersing oneself in the research context, and connecting to the lived experiences and realities of one's research subject, but remaining cognizant of one's role as a researcher. Bachman and Schutt (2020) raise the issue of the position of participant-observers and how their role may influence the social setting of the research, emphasising the importance of participating fully with the group under study, but making the participant-observer's position as a researcher clear.

Another issue linked to participant observation as a data collection method is the question of how a researcher can gather data that reflect the true realities of the people being studied. Bryman (2008) argues that it is important for the participant-observer as a researcher to see through the eyes of the people being studied and to probe beneath surface appearances. This relates to an interesting perspective in critical realism which considers the limitedness of research tools and theories in capturing reality. Bryman (2008) suggests two approaches through which attempts can be made to solicit the real truths from the people studied using participant observation. The first approach is trying to think oneself into the situation of the subjects. The second is to try to grasp the meanings that social actors attach to their actions in order to understand social actions. Therefore, considering all these issues, I carefully observed the parameters of my involvement in the Strengthening Community Voices projects and all the other dialogues I participated in, to ensure that I did not influence or manipulate the processes or sway the discussion in any way to suit my own agenda.

The question of gathering data that reflects the true realities of the people being studied is very important, given the different settings and contexts from which data was collected. For example, the national dialogues and stakeholder engagements hosted by the PCC or the DMRE presented opportunities for communities to express their concerns and ask questions. However, the nature of these engagements and how they are structured can be intimidating to some extent as such communities may not be fully able to engage effectively. The localised engagements facilitated by NGOs such as Life After Coal, and GroundWork, presented a safe intimate space for these engagements; however, questions of the neutrality and objectivity of these engagements are important to consider. As a researcher, I had no control over these and there was no expectation from me to influence my research setting (to try and work out these potential biases). However, I did my best to probe beneath surface appearances and I maintained objectivity and neutrality during these engagements. I considered my responsibility as a researcher to avoid any biases and strive to remain objective throughout. For contexts/questions that required more than just observation, I engaged with them using semi-structured interviews as outlined in Section 5.4.2.

In striving to manage these parameters, I came to acknowledge that participant observation as a qualitative data collection method remains a Eurocentric research method that, to some extent, undermines engaged scholarship. Thus I agree with scholars such as Keikaname and Swartz (2019) on their position regarding the importance of scholars critically reflecting on their research approaches and challenge the Eurocentric research methods especially in the context of research involving marginalised populations. It was constantly difficult to navigate the reality of just observing without making any meaningful contribution to the discussions where coal communities were framing their agency. The Just Transition is unfolding as a process that will have an impact on the lives of the coal communities which I observed. These communities constitute a population that has been framed as voiceless and powerless, but are striving to redefine their agency in a life-changing transition. Therefore, the participant observation method presented me with an opportunity to immerse myself in the research context and investigate the empirical reality, but it also presented me

with some limitations, which include the defined restrictions for a researcher using this method.

I also recognise that additional data were necessary to “ground-proof” my observations. Therefore, in addition to the participant observation research method, I used semi-structured interviews. These interviews enabled me to probe the question of the position of communities regarding the Just Transition and to get responses to questions which participant observation could not answer.

5.4.2 *Semi-structured interviews*

I conducted semi-structured interviews with representatives from five community-based NGOs in the Mpumalanga coalfields. The five NGOs and CBOs were the following:

- the Khuthala Environmental Group (Ermelo),
- the Middelburg Social and Environmental Justice Alliance (Middelburg),
- the Vukani Environmental Justice Movement (Emalahleni),
- Nia Community Foundations (Komati), and
- WOMXNDLA (Carolina)

The purpose of these interviews was to engage civil society and community-activist groups outside the invited, invented and instrumental spaces. The perception and perspectives of these activists and civil society are crucial in further grounding the information on the position of coal communities in the Just Transition, in addition to the data gathered from formal dialogue and engagements.

I used a purposive sampling technique to identify the community-based organisations which I deemed suitable to participate in the semi-structured interviews. Daniel (2012) describes purposive sampling as a “nonprobability sampling procedure in which elements are selected from the target population based on their fit with the purposes of the study and specific inclusion and exclusion criteria”. There are numerous NGOs and CBOs operating in the Mpumalanga coalfields. However, for this study, only the CBO/NGOs that were visible during, and participated in the Just Transition dialogues and stakeholder engagements through their own mobilisation and/or Civil Society mobilisation

efforts (the Monitoring and evaluation working groups for example), were considered. Out of these, only five were selected for the semi-structured interviews. These were not necessarily representative but were adequate to respond to the research questions within the scope and time limitations.

The community-based organisations selected for this study were indeed fit for the purpose because they were engaged in the issues of the Just Transition and were visible during the different dialogues and stakeholder engagements, thus they constituted what Chilvers and Longhurst's (2016) call "deliberate citizens". Daniel (2012) further highlights purposive inclusion motivated by elements satisfying the inclusion criteria. The inclusion criteria in this case considered the nature and scope of the CBO and the visibility of these CBOs or their representation during the Just Transition dialogues and engagements. In addition to these, their location/jurisdiction (where they are based) constituted another important criterion for selection. Their willingness to participate in the study was another important factor.

There is some level of homogeneity in the locations, nature and scope of these CBOs, which speaks to their classification and their suitability for the study sample. The Vukani Environmental Justice Movement is a non-profit CBO concerned with environmental issues that the local community is faced with. This organisation is based in Emalahleni, a burgeoning coal mining town which inherited its name from the long and rich coal mining history and current landscape and economy (as explored in Chapter 1). The second organisation is the Middelburg Social and Environmental Justice Alliance, a CBO based in Middelburg, another significant coal mining town located close to Emalahleni, and home to a large number of coal mines. The third organisation is the Khuthala Environmental Care Group, a civil society organisation based in Ermelo, a coal mining town whose economy and landscape are constituted by a rich eco-tourism and agriculture, but also abandoned mine sites that have triggered ecological crisis and have facilitated illegal mining known as zama zama operations (Gert Sibande District Municipality 2018). The fourth organisation interviewed is Nia community Foundation, a Komati-based CBO. Komati is a coal mining town that has recently come into the spotlight following the decommissioning and repurposing of the Komati Power Station (which has become a pilot project for

renewables). The fifth organisation interviewed is the WOMXNDLA Community Development NPC, which is based in Carolina (Mpumalanga), and is concerned with the representation of women and children in the developmental agenda.

All the selected organisations were considered a rich knowledge base to answer the research question, because they are fenceline communities, in other words, communities living on the fence lines with polluting industries and mines (Hallowes & Munnik 2017). Creswell (2007) explains that purposive sampling is used in qualitative research where a researcher selects individuals because they can purposefully inform an understanding of the research problem. The subject knowledge possessed by these NGOs and CBOs constituted a significant rationale for the selection of these organisations. They formed a purposive expert sample to elicit the expertise and knowledge of this sampled population. I came to know about these organisations following their representation in the Just Transition dialogues and stakeholder engagements. I then enquired further about what they do and established some contact for further engagements. I also enquired about the availability of one representative from the organisation who would be willing to engage with me further as part of my data collection. Once I had established their willingness and availability, together, we established a time that would be conducive for an engagement. Then I contacted these participants and had a telephonic semi-structured interview with the representative available to engage with me.

5.4.3 Organising and analysing data

The vast amount of data I collected through the different dialogues, engagements and interviews were captured through audio recordings (recorded with the permission of the individuals and organisations concerned), extensive field notes, videos and photographs. These data were organised, analysed and interpreted in accordance with the primary research question and objectives of the study. As Denzin and Lincoln (2018) point out, after data collection, researchers do not use the data simply to write up findings: they have the responsibility to create narratives, braided compositions woven into and through their field experiences. I followed a three-step process for organising my data, as outlined in Figure 5.1.

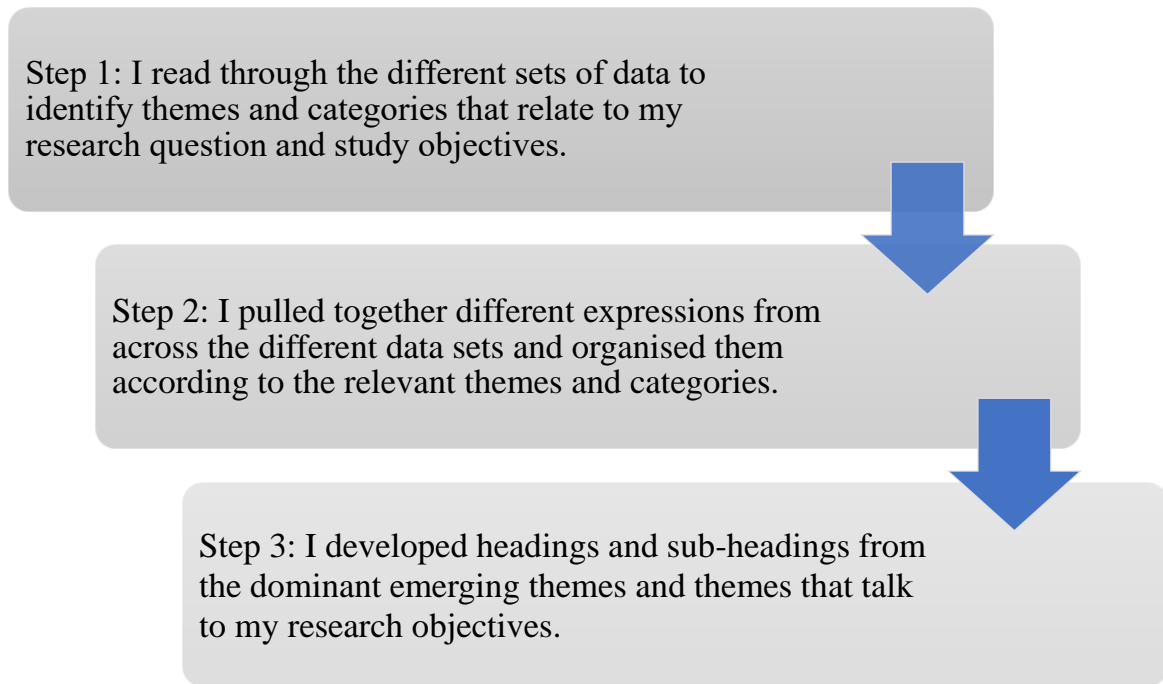


Figure 5.1: Steps followed in organising data

Source: Own compilation

In the process of organising and analysing my data, I sought to preserve the expression of the participants which represented their lived experiences, perceptions, observations and perspectives. I deliberately avoided generalising and possibly decontextualising what the participants said by using codes and labels. Thus, in organising the large chunks of data and deriving themes and sub-themes to guide my headings and sub-headings, I was careful to preserve the details in the utterances of my participants and their context. Moreover, in my quest to consider some of the expressions of justice in Chapter 4 by Chomsky (1998), and Svarstad and Benjaminsen (2020), regarding the position which external and influential stakeholders such as academics assume in talking on behalf of participants (the affected populations), I deliberately strove to preserve the voices of my participants, by presenting most data through verbatim quotes (see Chapters 6 and 7). I was careful to allow what my participants said and the contexts in which these utterances were made to be preserved. I also considered Gibson and Brown's (2011:4) assertion that from a phenomenological perspective, themes are considered "poor substitutes for the lived experiences to

which they refer” and the risk of a researcher’s loss of the “focus of the particularities of the cases being examined”.

Therefore, I identified very general themes which I unpack in the results chapter through the different responses and comments by the participants. Some of the broader themes and categories emerging from the data sets are listed in Table 5.4.

Table 5.4: Themes emerging from the data sets

Categories	Themes
A Just Transition	<ul style="list-style-type: none"> • Non-linearity • Complexity • Contestations • Multi-stakeholders • Low-carbon and climate-resilient economy • Alternative economy • Systems thinking
A JET	<ul style="list-style-type: none"> • Coal phase-out • Alternative energy model • Decentralised energy model • A post-coal landscape • Employment/labour • Capitalism
Justice (just)	<ul style="list-style-type: none"> • Inclusion (participation) • Fairness • Restorative justice • Distributive justice
Power and politics	<ul style="list-style-type: none"> • Empowerment • Discursive manoeuvres • Political economy

Source: Own compilation

The analysis and interpretation of these data were influenced by the theoretical framework and literature review set out in the preceding chapters. I undertook the analysis and interpretation process manually, using thematic analysis. This was an iterative and time-consuming process, but it allowed me to immerse myself in my data and revisit the recordings. In commenting on such a process, Guest et al. (2013:80) rightly remark that “as someone who has directly experienced the

social phenomena of interest, you are [then] capable of taking positions about the meaning of your data with confidence that you are getting it right.”

5.4.4 Triangulation

For the purposes of “ground-proofing” the different sets of data collected during the dialogues, engagements and the Strengthening Community Voices project, I used semi-structured interviews to achieve method and data triangulation. The use of multiple spheres of evidence (multiple sources data and methods in responding to a research question) is described by Carter, Bryant-Lukosius, DiCenso, Blythe, Neville (2014) as triangulation. According to Sarantakos (2005:145), “triangulation allows the researcher to view a particular point in research from more than one perspective, and hence to enhance knowledge and/or test validity”. Similarly, Babbie and Mouton (2001) maintain that the best way to elicit the various and divergent constructions of reality is through the collection of information regarding the phenomena from different points of view. Therefore, the study has achieved triangulation through the collection of different spheres of evidence from multiple sources. This includes the use of strategic documents such as the Presidential Climate Commission Just Transition Framework (PCC JT Framework), the Department of Mineral Resources and Energy’s framework (DMRE JET framework), the *Just Energy Transition Investment Plan* (JET IP), Trade and Industry Policies and Strategies – TIPS policy briefs, the 2019 and 2023 Integrated Resources Plan (IRP), The South African Renewable Energy Masterplan (SAREM), GroundWork reports and the Life After Coal Open Agenda. To triangulate the different data points, I looked for similarities in the themes and expressions which emerged during the dialogues, stakeholder engagements, and the community project(s) against the themes emerging from the interviews. I was interested in assessing whether the different expressions confirmed or contradicted each other.

5.5 Positionality

Denzin and Lincoln (2008) have previously reflected on the role of researcher’s personal history, biography, gender, social class, race, ethnicity, and those of the people in the setting in shaping the research process. Thus, in disclosing my positionality I also consider how my own research journey has been shaped and

influenced by these factors. I also considered the perspective of Smith, Blevins, Werse and Talbert (2021), who describe positionality as referring to the knowledge and beliefs of researchers about the world around them. Smith et al. (2021) also maintain that the positionality of researchers is shaped by their experiences in social and political contexts, and these, in turn, shape what has influenced them and their understanding and beliefs about their research. In view of this, I here disclose my positionality in respect of my personal and academic history, which shaped my research interest.

As a Development Studies graduate, with a rural background, I have always been passionate about issues of poverty and inequality. Over time, I became curious about the intersection of development and the environment. The coal mining landscape offered me a context to explore this intersection. I pursued my master's thesis on Acid Mine Drainage in Carolina, in the Mpumalanga coalfields, paying particular attention to the voices of the coal communities. The study revealed the injustices that these communities endure. Their voices are underrepresented and, in some cases, disregarded. The injustices that these populations face became what I have come to consider my academic project.

The current study through the participant observation method, which constitutes my primary research tool, has enabled me to observe, investigate and learn from the lived experiences and realities of my research subjects. I had an opportunity to spend a significant amount of time with the research participants in their different contexts. These include their natural settings and invited spaces, such as the dialogues and stakeholder engagements hosted by the PCC, the Department of Mineral Resources and Energy, GroundWork, Life After Coal and many others. I had an opportunity to observe their behaviour in their natural settings and in the different invited (and invented) spaces. All of these have shaped the justice lens through which I consider these communities.

Therefore, as an academic, this has challenged how I think about the academic research project and its typically extractive nature, whereby data is extracted from these communities to enhance our research outputs without influencing their context, environmental and social justice, and also enhancing their agency. Scholars such as Nadeau, Gaulin, Johnson-Lauffleur, Levesque and Fraser

(2022) warn against the extractive nature of research which has subjected indigenous communities to oppression by researchers who put them in a position of passive research subjects rather than agentive self-determining actors. This prompted me to consider a shift from this extractive tendency towards knowledge co-production with my research participants. I wish to explore this some more post my doctoral research towards achieving an engaged scholarship.

Barnes (2019) writes on the obligation of South African social scientists to consider how their research contributes to a fair, just and equal society. Barnes (2019) argues for a social justice orientation to be realised and to meet the researcher's moral obligation towards the marginalised, oppressed, and disempowered. I find Barnes's (2019) argument persuasive and inspiring. It prompted me to consider how my research would respond to the injustices characterised by the marginalisation, exclusion and disempowerment of coal communities in the agendas that have a significant effect on them. Therefore, the justice question for the poor and marginalised shaped my positionality as a researcher and academic. This is also implied in my research title, which argues for a Just Transition underpinned by environmental justice.

5.6 Issues of trustworthiness

I strove to maintain trustworthiness in my research processes and findings. To enhance the validity of my research findings I triangulated my data collection methods and results. To ensure and enhance the credibility of my findings, I spent a significant amount of time in the field, followed the dialogues, engagements and publications relating to the Just Transition over a period of three years, as this is a topical issue that is evolving quickly. Moreover, I preserved the voices of my respondents by reporting my findings using verbatim quotes, extracts from published Just Transition material, limited coding and labelling to guard against overly generalising and possibly decontextualising the expressions of the participants in order to enhance the credibility and dependability of my findings. Lastly, there is a clear audit trail of my data points, which include accessible recorded dialogues and stakeholder engagements. All field notes are clearly written and securely stored to enhance the confirmability of my findings.

I have also considered ethical issues that are key in the research of this nature. Therefore, I acquired Ethical Clearance from the College of Human Sciences Research Ethics Committee during my research proposal phase. I considered and adhered to all the issues prescribed in my ethical clearance. As part of negotiating access to the different contexts of my fieldwork, I sought and acquired the relevant permissions. The informed consent and Participant Information Sheet are attached Appendix A and B at the end of the Thesis.

5.7 Conclusion

In this chapter, I have explained my research design. I chose a qualitative research design that used a case study approach with a focus on the Mpumalanga coalfields. The chapter further described the different spheres of data and how the data were collected. These included the use of two data collection tools, namely participant observation during dialogue processes and stakeholder engagements that happened at the national, provincial and local levels, and semi-structured interviews with participants that were purposefully selected for the purpose of recording the voices on the ground in their natural setting; and the use of the strategic documents listed in Section 5.4 and 5.4.4 which enabled triangulation and ground-proofing. The chapter further outlined the philosophical position, which is a critical realist position, a philosophy of science which considers reality beyond what is observable, but is buried in layers of facts and truth beyond our influence. I have also disclosed my positionality for the purpose of being open and honest about my position as a researcher.

CHAPTER 6: A NON-LINEAR, COMPLEX AND CONTESTED TRANSITION

6.1 Introduction

This chapter reports on the findings in this study regarding the national trajectory of the Just Transition. Moreover, it seeks to ground the research question (what the opportunities and challenges for coal communities in the Just Transition are) in the Just Transition debates at the national level. The dynamics at the national level are crucially important because they enable and/or constrain what the opportunities and challenges for coal communities in the Just Transition are. Although these dynamics influence/shape these opportunities and challenges, they do not determine them, as coal communities are striving hard, together with other elements in the broad environmental justice movement, to influence the transition. The chapter does this by synthesising the evidence gathered from dialogues, stakeholder engagements, strategic documents, forums, summits, conferences, and indabas facilitated or hosted by key stakeholders in the Just Transition. These dialogues, engagements, strategic documents, and others constituted an important source of data for this study, as discussed in Chapter 5. My analysis was informed by my observations, the chosen theoretical framework, the literature review and the philosophical position of the study. The chapter presents a holistic overview of the findings, followed by a detailed presentation, interpretation and discussion of the key issues that influence and shape the national trajectory of the Just Transition in South Africa.

6.2 The national trajectory of the Just Transition: an overview

The evidence gathered in this study shows that the Just Transition trajectory at the national level is non-linear, complex, and contested. This non-linearity, complexity and contestation of the Just Transition arise from several complex factors, processes and mechanisms.

The Just Transition is complex because it is characterised by multiple stakeholders, all with competing vested interests, which translate into power struggles. Moreover, complexity arises from the disparities in South Africa's

political economy. These stakeholders range from powerful, and influential to ones with little power and influence. All these stakeholders envision and are advocating for a transition that will respond to their interests, or at least not leave them behind. The competing interests of stakeholders and quest for inclusivity have resulted in multiple definitions of the Just transition – different actors consider and envision the Just Transition differently. In this chapter, I argue that the lack of a single definition expresses these competing interests and constitutes the first obvious area of contestation in the Just transition.

The Just Energy Transition (JET) constitutes one complex process in the Just Transition, which is characterised by contestation. At the core of the Just Transition is the quest to achieve a low-carbon and climate-resilient economy. Complexity and contestation typify the project to phase out coal (the shift from the current fossil energy model towards a cleaner and renewable energy model), which has numerous socio-economic implications. The question of what this means for the economy, the employment of workers in the fossil energy value chain, and the coal communities which have built their lives and livelihoods around the coal economy remains an important and perplexing issue in the JET. In this chapter, I debate this topic based on the anticipated opportunities and challenges that the transition presents for these populations.

The chapter also explores the question of an “alternative economy”, which constitutes one of the most significant debates in the Just Transition. At the core of this debate lies the aspiration to redefine the existing economic system and respond to the climate injustices tied to the current coal landscape. There is no consensus on what an alternative economy should look like. There is further conflict around two of the specific strategies- among many- envisaged to build and bring about this alternative economy. The first of these strategies is the decentralised energy model (including decentralised energy ownership). The second is small-scale industrialisation. In a decentralised energy model, the focus is on de-monopolising and decentralising energy generation, distribution, and transmission. Small-scale industrialisation, on the other hand, is centred around a localised renewable energy value chain. The question of an alternative economy is important in the Just Transition debate with regard to what the opportunities and challenges of the alternative economy would look like for coal communities-

and these two strategies are directly relevant to the challenges and opportunities for communities. The chapter also explores the green development agenda as one of the agendas in the Just Transition, and whether it offers an inclusive development path, or one that undermines Africa's development.

In addition to these broad and specific debates, contestation and competing interests among stakeholders, there are also competing agendas between national government ministries. In the context of this study, I consider such competition as an inconsistency in the national government, reflecting the absence of a shared vision for the Just Transition. Inconsistency and competition are problematic in this context, with negative implications for the national trajectory of the Just Transition, such as confusion and delay. The contestation and inconsistencies also play out in what I consider power agendas in the Just Transition debate. I consider these in the context of competing interests among powerful stakeholders and structures that underlie the transition. The study identifies these competing interests as frames for discursive manoeuvres that underlie the transition. Some of these take the form of constitutive power structures (they are very powerful and influential in the transition agenda, but not easily definable, identifiable, or classifiable). Some of these discursive manoeuvres take the form of resistant agendas, where powerful stakeholders seek to resist and redefine the transition to align with their interests.

Given this complex picture, I ask what the transition trajectory is at the national level. I argue that the transition trajectory is chaotic and uncertain, and the debates around it are also evolving rapidly. The non-linearity, complexity and contestation that typify the trajectory alter what looked like a purposive, well-coordinated transition to an emergent transformation transition that is characterised by poorly coordinated processes, and is shaped and influenced by multiple actors, capitalist agendas, and political power through discursive strategies. What then is the position of coal communities? I respond to this question by looking at the position of these communities in the Just Transition debate, and at whether the "just" in the Just Transition promises a transition that is truly just for these communities.

6.3 Many stakeholders in and multiple definitions of the Just Transition

The Just Transition is a process with many stakeholders who define that process in different ways. The sections below explore the implications of multiple stakeholders and varied definitions of the Just Transition in the context of the national trajectory.

6.3.1 A “just” transition that is variously defined

One of the most significant debates about the national Just Transition trajectory is how to achieve a transition that is “just”. The question of what precisely constitutes a “just” transition dominates dialogues and engagements on the topic. I consider the significance of this question both in the national debate, and in this study.

Although the Just Transition as a concept and process has gained significance over time, there is no single universally accepted definition for a Just Transition. There are multiple definitions, each of which reflects the aspirations of the different stakeholders. These actors define the Just Transition on the basis of what they consider or envision as just in their respective contexts.

The Presidential Climate Commission’s Just Transition Framework (hereafter referred to as the PCC JT framework) expresses the shared vision of the different stakeholders in the transition in its definitions:

A just transition aims to achieve a quality life for all South Africans in the context of increasing the ability to adapt to the adverse impacts of climate, fostering climate resilience, and reaching net-zero greenhouse gas emissions by 2050, in line with best available science (PCC 2022:7)

A just transition contributes to the goals of decent work for all, social inclusion, and the eradication of poverty (PCC 2022:7)

A just transition puts people at the centre of decision-making, especially those most impacted, the poor, women, people with disabilities, and the youth—empowering and equipping them for new opportunities of the future (PCC 2022:7)

A just transition builds the resilience of the economy and people through affordable, decentralised, diversely owned renewable energy systems; conservation of natural resources; equitable access of water resources; an environment that is not harmful to one’s health and well-being; and

sustainable, equitable, inclusive land use for all, especially for the most vulnerable. (PCC 2022:7)

These definitions provide a multi-faceted view of the Just Transition, and reflect the commitment to not leave anyone behind in that transition. The wordings express an important emphasis on ensuring a transition that can bring about significant improvements in the lives and well-being of South Africans. This includes achieving a good quality of life for all South Africans, providing decent employment opportunities, putting people at the centre of the transition, and building a resilient economy that will empower the poor through access to affordable energy, water and a healthy environment. Moreover, there is an emphasis on a decentralised, diversely owned renewable energy system. These emphases envisage a transition that is both socially and economically just. These definitions further emphasise the transition pathway to net-zero emissions, job creation, social inclusion, people-centredness, and economic, social and environmental resilience, among other things.

The different definitions present the divergent concerns and visions of stakeholders and seek to achieve inclusivity, but the absence of one clear definition makes clear the scope of the transition, which is broader than can be encapsulated in a single definition. In addition, it points to the contestation around what a Just Transition is, what it should look like and how it ultimately unfolds. As Morena et al. (2019:14) rightly put it:

The growing references to just transition undoubtedly signal a desire to further root social and equity concerns into the climate debate. While this is to be welcomed, it also complicates the task of identifying what just transition stands for, who is behind it, what are the underlying politics, and who it is for. Instead of leading to an alignment of views, the concept's growing popularity has actually turned it into a contested concept.

In modern democratic South Africa, the Just Transition presents one of the most important transitions. Its significance to the global climate change agenda and scope renders it an open-ended process with multiple visions. This then opens it up to misuse by stakeholders such as politicians and businesses to attain prominence and pursue their own agendas. For example, powerful stakeholders can label their own capitalist and political agendas a “just” transition. According to Sovacool et al. (2019), multiplicity in this regard has the potential to render the concept of the Just Transition vague and lose.

I also note the warning against the potential misuse of important concepts that are subject to open-endedness and ambiguity – in this regard, Hopwood et al. (2005) point out the looseness, ambiguity, and openness to misuse in policy and practice relating to the concepts such as sustainable development and sustainability, which are deployed to justify and legitimate policies and practices. These concepts can become meaningless catchphrases used by insincere politicians and business leaders. The Just Transition, because of its significance in the current debates, is indeed becoming a catchphrase around the country's economic, political, social, and environmental debates, where it is applied to suit different contexts and agendas. The lack of consensus around the definition of the Just Transition has opened it up to diverse misinterpretations, which ultimately undermine the “just” aspect of it.

6.3.2 The Just Transition as a multi-stakeholder process

There are different stakeholders in transitions. There are some powerful and influential stakeholders in the Just Transition, but also some stakeholders with little power or influence. Stakeholders in the transition range from powerful and influential stakeholders to the least powerful and least influential. These stakeholders include the government, regulatory bodies such as the Minerals Council of South Africa, the state-owned energy entity ESKOM, big corporations (such as Anglo-American, Sasol, and big coal mine corporates such as Thungela among others), coal communities, NGOs, Labour Unions, and many others. Each of these actors has a vested interest in the processes and outcomes of the transition. To coordinate and achieve some level of consensus among the actors and multiple vested interests, the President of the Republic of South Africa, Mr Cyril Ramaphosa, has established an independent, statutory, multi-stakeholder body called the Presidential Climate Commission (PCC), to advise on the country's climate change response and support a Just Transition to a low-carbon climate-resilient economy and society. The PCC brings together commissioners and representatives from different sectors.

The PCC facilitates dialogue and engagement between the various stakeholders to debate the Just Transition, what it should look like and how it should unfold.

Based on such interactions, a strategic document, the *PCC JT Framework*, was produced. According to the PCC (2022:2), the framework

[b]rings coordination and coherence to just transition planning in South Africa. The just transition framework sets out a shared vision for the just transition, principles to guide the transition, and policies and governance arrangements to give effect to the transition.

The framework is considered to represent the “shared vision” of the different stakeholders, even though the stakeholders in the Just Transition hold different ideas on what constitutes a Just Transition. Some stakeholders argue for a transition that is premised on a total transformative agenda that will alter the current socio-economic and political systems, while others argue and advocate for a transition agenda that will only transform some spheres of the economy and leave the socio-political system unaltered. This has sparked debate around the kind of transition that will yield a sustainable transformation and one that will only change the energy sector and related industries.

The involvement of multiple stakeholders in the Just Transition reflects the reality of multiple actors which tends to characterise socio-technical transitions. This trait is reflected in the Socio-technical Transition Theory, as discussed by scholars such as Kohler et al. (2019), who explain that the agency of different actors complicates the transition process. The divergent visions and vested interests of the different stakeholders in the transition make the Just Transition more difficult to achieve. These multiple visions also reflect what Cock (2016) considers three broad approaches to the Just Transition: an extreme version of the green economy, a moderate version (shallow reformist), and an alternative notion. All these versions have a different end-goal.

The PCC claims to express a “shared vision” held by the various stakeholders in its JT Framework. I would dispute this claim on the basis of the exclusion observed during the consultation processes attended in the course of this study, as part of my fieldwork. Some key stakeholders have been excluded from the PCC dialogues and engagements, in particular, the most affected poor stakeholders, such as remote coal communities that could not participate in the stakeholder engagements and dialogues. They were excluded because they lacked access (inconvenient times and distance), there was insufficient knowledge regarding the transition among the most affected stakeholders, and

they lacked the confidence to express their concerns in the setting of an invited space with different stakeholders, among other factors.

Some cases that substantiate my point are the Emalahleni PCC stakeholder engagement on 12 October 2022, and the DMRE and Nkangala District Municipality dialogue in Kriel on 10 December 2022. The Emalahleni stakeholder engagement took place on a weekday, during working hours, in a municipal hall in town. The most affected poor communities do not reside in town, but in remote areas close to the local mines and power stations. The chosen location for the stakeholder engagement required communities to make their own transport arrangements to access the venue. This raises financial access as another factor preventing inclusion – this is critical considering the general poverty of fenceline communities. Moreover, the time chosen (a weekday from 09h00) prevented community members employed in the local fossil fuels sector from participating, as they mostly work from 08h00 to 16h00, and some work in extended shifts. These community members stand to have their lives altered significantly by the transition, but their inclusion was not provided for in respect of the location and timing of the engagement. Only stakeholders who had the means to attend the engagement, and possessed some knowledge of the Just Transition were able to join in the conversation and influence the process. These mostly included civil society organisations and other interested parties. Therefore “shared” in this context is not accurate – the process excluded the most affected stakeholders. In the case of the DMRE and Nkangala Municipality dialogue, the venue was inaccessible, and the community was not aware of the dialogue. The venue was the EXXARO Matla Mine hall, located a few kilometres away from the community, with no accessible public transport to the venue. Only delegates from the DMRE, the municipality, and a handful of community activists attended the dialogue. The venue selection in both examples facilitated the exclusion of the local communities who are important stakeholders in the Just Transition dialogues taking place.

These two examples reflect the complexity of exclusion. Such issues call for critical consideration, especially because the Just Transition is life-changing for these communities. The exclusion of the affected population in this regard reflects what Hall et al. (2011:4) refer to as “legitimation”, whereby exclusion can be

facilitated through an established “moral basis” for exclusive claims, which may constitute an “acceptable” basis for exclusion. Thus, whatever reasoning underpinned the exclusion of these communities in the dialogues, it has resulted in these communities who are important stakeholders in the Just Transition being unable to be part of a dialogue and possibly influencing a conversation about their lives, employment, and livelihoods. This situation epitomises the kind of misrecognition that Schlossberg (2007) and Malin et al. (2019) refer to. In his framing of justice, Schlosberg (2007) posits that misrecognition, exclusion and decimation of capabilities constitute real injustice on the ground. This further reflects Svarstad and Benjaminsen’s (2020:4) point on the misrecognition pitfalls that arise from the disempowerment of stakeholders through what they consider “paternalism and domination” of stakeholders deemed powerless and voiceless.

In view of these cases, I maintain that justice considerations at the level of coal communities should consider the legacies of exclusion that these communities have contended with in the past, and should guard against perpetuating these injustices through such exclusive actions. This would be an important first step towards building a Just Transition that seeks to leave nobody behind.

6.4 Transitioning towards a low-carbon and climate-resilient economy

6.4.1 *The Just Energy Transition (JET)*

South Africa’s decarbonisation journey is premised on the reduction of its greenhouse gas emissions. In order to achieve a low-carbon and climate-resilient economy, there must be a shift away from the current fossil energy model towards a low-carbon energy model (a sustainable and clean energy model). This process is called the JET. The DFFE and the PCC’s emphasis is on a JET centred on a move away from the coal energy (fossil energy) model towards a renewable and low-carbon energy model by 2050. As expressed in the definition of the Just Transition provided in the PCC’s JT Framework, the aim is “reaching net-zero greenhouse gas emissions by 2050, in line with best available science” (PCC 2022:6).

The quest for net-zero emission via the JET involves more than merely shifting from one energy system to another. There are some opportunities and challenges

it present for coal communities. Some of the challenges are expressed in the PCC JT Framework as the disruption anticipated in the coal value chain, which faces the earliest and most significant alterations. The framework stipulates that downstream coal users such as Eskom, Sasol, and other related industries need to be positioned to develop alternative non-fossil energy sources and transition to low-carbon emission models in order to reduce operations and employment risks. The PCC framework further stipulates that there are limited alternatives for coal mines, as they are bound to face disruptions that will see them downsizing from around 2025. These downsizing prospects are tied to the projected reduction in global coal demands. The PCC JT Framework claims that strategies to reskill and upskill labour in these sectors are being put in place; however, coal miners with inadequate education backgrounds are likely to be negatively affected, as they may be excluded from such opportunities.

Therefore, in the broader context of the research question, the following critical question has to be asked: “What does the anticipated disruption from these shifts mean for coal communities?” Loorbach et al. (2017) draw attention to the fact that the shifts required to enable real transitions go beyond merely technological modifications – these shifts engender power struggles and may inflict socio-economic changes which have a severe effect on existing institutions’ systems and operations. Socio-technical transition thus encompasses a series of technological and non-technological innovations which not only change the structure of existing systems, but affect the societal domain (Markard et al. 2012). These shifts are complex, and they position coal communities on both the winning and losing ends of the transition. On the one hand, the reskilling and upskilling programmes stipulated in the PCC JT Framework present new opportunities for coal communities to participate in the new economy. Unemployed youths, women and people living with disability may also find new ways to enter the local economy. However, there is a strong prospect of exclusion for others. The complex new skills required in the new energy model, and the sophisticated upskilling and reskilling programmes are likely to exclude a significant portion of the current mine labour force, in particular those who are older, and possess poor or no formal education. Moreover, locals who have built livelihoods that depended on the coal economy are likely to lose their source of income, for example, women

who have for decades depended on selling food to coal truck drivers. It remains unclear whether there will be livelihood alternatives for these members of the population, and relevant programmes to upskill them to empower them to acquire new livelihoods that will ensure that they are not left behind.

The PCC's (2022) JT Framework emphasises the need for alternative but equivalent livelihoods for most mine workers with low education levels, who should be assisted in building alternative but equivalent livelihoods. This applies specifically to unschooled miners who have spent decades of their lives mining. What appropriate systems can be built to equip these miners for alternative livelihoods? Reflecting on this, I argue that this situation presents yet another shift from secure employment opportunities to livelihood opportunities whose sustainability can only be determined over time. The question of sustainability is crucial, because a transition that is truly just cannot base its justice emphasis only on the creation of alternative livelihoods: it should also include the creation of sustainable livelihoods that will change the lives of these communities for the better. As Brown and Spiegel (2019:161) write: "A coal phase-out constitutes only one aspect of the socio-technical transition underway, and for communities whose lives are entangled with the hydrocarbon economy, a crucial concern is what will follow in its wake."

There are many uncertainties that coal communities have to navigate in the Just Transition, although this shift is intended to bring about better opportunities. The question of how to address these uncertainties presents a challenge for these communities, especially given the complex political economy and capitalist agendas involved in the Just Transition. The open-endedness, contestation, and disagreements which are characteristic of socio-technical transitions (Kohler et al. 2019) make the picture even more complex. The uncertainties associated with the Just Transition have severe implications for the post-coal landscape. If the Just Transition is not able to provide sustainable employment and livelihood options for these populations, the prospect of illegal activities becomes very high. Former mine workers who are left out of the alternative economy, as a result of a lack of sustainable livelihood options, are likely to find alternative illegal ways to survive. The goldfields of South Africa are a sad testimony to the reality of dangerous illegal mining activities in the wake of the abandonment by mining

companies of disused gold mines, retrenchment and other factors in the gold sector. Some former skilled mine workers who lost their jobs in the sector have come back to disused gold mines to “zama zama” (to try their luck). These illegal “zama zama” activities pose a danger to the people participating in them, and expose local communities to acts of violence. These facts bear out Maseko’s (2021) conception of a mine worker as “disposable and dispensable” and relegated to the “realm of sub-human”. A failed just transition is likely to perpetuate this reality especially in areas such as Ermelo in the Mpumalanga coalfields where former coal miners have become zama zamas, operating in abandoned coal mines.

Therefore, when considered through the lens of the comprehensive and decolonial environmental justice framework developed in Chapter 4, issues of environmental justice, social justice and decoloniality which are core to the framework come to the fore. For example, restorative justice which is important in facilitating adequate rehabilitation of abandoned and active mine sites is expressed through the radical environmental justice component of the framework. Restorative justice is crucial for remedying the environmental injustices that coal communities may be exposed to in a post-coal landscape. In addition to the restorative justice, there is a social justice emphasis which in this context speaks to the societal well-being of coal communities in the post-coal landscape. This talks to issues of redress in the form of access to land and resources such as water to which local communities were denied access in order to keep the mining sector afloat, and access to sustainable employment and livelihood options for these communities to ensure that the just transition does not leave them worse-off. Moreover, the decolonial components of framework offer a significant lens through which to consider and understand the historical influences that shaped the current context characterised by challenges of zama zamas in areas such as Ermelo, and offer critical ways to ensure that these are not repeated in the just transition.

6.4.2 A transition towards building an alternative economy

One of the most significant emphases in a Just Transition is building an alternative economy. This is envisaged through a shift from a high-emission fossil economy

to a low-carbon, climate-resilient economy. The various stakeholders in the Just Transition have explored different transition pathways which they believe can facilitate and build an alternative economy.

As with many other areas of the transition that are contested, I observed some contestation around the topic of building an alternative economy through the Just Transition. The first area of contestation is a lack of agreement among the different stakeholders as to what constitutes an alternative economy. The total transformative agenda vs an economic transformative agenda (as explained in Section 6.4.3) dominates the conversation about an alternative economy. In the light of this contestation, I pose the following questions: What does an alternative economy look like (how it has been described by different stakeholders)? How are coal communities positioned in this alternative economy?

One of the perspectives that emerged from the dialogues and stakeholder engagements that I attended during this study is building an alternative economy through a “green developmental path”. This emphasis is expressed in comments such as the following:

The Just Transition is not just about reducing our carbon emissions to meet international standards, but placing South Africa on a new green industrial path which simultaneously addresses growth, jobs and transformation. (Mr Mcebisi Jona, former Finance Minister, during the PCC Just Transition Framework: Dialogue on policy dynamics)

Mr Mcebisi Jonas’s point about an alternative economy centres on a green industrial path that will address issues of growth, jobs and transformation. The “green industrial path” holds the prospect of correcting the wrongs of an economy that thrived on a “boom and bust” (Hallowes & Munnik 2018) industrial model. However, it equally holds the prospect of producing a “green capitalist model” where efforts to green the economy are integrated into the current capitalist structures, producing what Cock (2014:18) refers to as the “corporate capture of the green economy discourse” or Bond’s (2011:1) “climate-crisis capitalism”. Thus, I argue that although a commitment to a green industrial path will make significant contributions towards reducing the high carbon footprint, it has the potential to perpetuate some of the inherent exclusions, inequalities and injustices in the current economy. Efforts to reduce the carbon footprint and environmental impact require more radical economic and cultural changes (Scales 2017).

However, these are not possible within a capitalist framework. Therefore, if radical economic and cultural (political) changes do not occur, corporates will continue to position themselves strategically within the new shift, while maintaining their corporate framework. This is already evident in how big corporates are redefining their niche markets in order to take up space in emerging niche spaces such as renewable energy, green hydrogen, etc as seen in Kalt et al.'s (2022) competing initiatives and agendas in South Africa's hydrogen transition (discussed in Section 2.5.4). The repositioning of big corporates will see them benefiting the most from the Just Transition and leaving poor populations behind. Thus, a Just Transition anchored in a deep transformative agenda will confront the current capitalist models to achieve a more inclusive model.

The idea of a deep transformative agenda was further emphasised by one of the PCC Commissioners, Melissa Fourie (a justice advocate and environmental lawyer), during the PCC stakeholder engagement at Embalenhle, where she claimed that "[t]he Just Transition presents an opportunity to embark on a different path". Similarly, Commissioner Mbulaheni Mbodi (a commissioner in the PCC and National Secretary: NUMSA – Eskom), during the same engagement, argued that "[t]he workers and society must not be worse off... the Just Transition should present a shift towards an alternative economy that seeks to reset and correct the status quo".

These comments point towards a deep transformative agenda that will correct and alter the status quo. Resetting and correcting is necessary, given the current socio-economic and political structures that undermine the well-being of the economy, society and the environment. This would be a significant shift from the current economy characterised and underpinned by strong political powers and capitalist structures that have built an unsustainable economy based on unjust capitalist political models. Resetting and correcting are essential to create more sustainable opportunities for coal communities. Conversely, a transition that will alter only the energy economy and leave all other systems (capitalist, political, socio-economic) unaltered is likely to turn the transition agenda into an enabling environment for exacerbated corruption, and rampant capitalism, which will, in turn, perpetuate the continued entrapment of poor communities in poverty and inequality.

At this point, issues of sustainability and an alternative path that seeks to reset and correct the status quo are emerging strongly. This reflects Hjorth and Bagheri's (2006) argument that linear and mechanistic thinking must give way to non-linear and organic thinking, commonly known as systems thinking. The shift away from a high-emission fossil economy towards a low-carbon and climate-resilient economy depends on a systems approach, including holistic thinking, rather than a reductionist perspective, to attain sustainable solutions to modern-day challenges (Hjorth & Bagheri 2006). Systems thinking in the context of the Just Transition has implications for the political and capitalist power structures that make up the political economy. Swilling et al. (2015:11) refer to a "substantial, radical shift in the power relations within the socio-political regime to significantly reduce the policy leverage of the powerful mining and energy companies" towards a post-extractivist state. A post-extractivist state implies a radical economic transformation, and for a rentier state such as South Africa, it represents a total socio-political and economic transformation. Therefore, an alternative Just Transition path that is built on a systems approach and that involves substantial, radical economic transformation will facilitate the inclusion of populations that are currently excluded from the economy.

6.4.3 An alternative inclusive economy or an alternative capitalist model?

The question of an alternative economy is not simply a matter of "out with the old and in with the new" to place our economy on an alternative industrialisation path – it confronts the realities of communities in the coalfields and holds different promises for many. Therefore, as I have indicated in Section 6.3.2, a shift from the current economy should confront the current capitalist models to move towards a more inclusive model. Below, I explore the two strategies that have been emphasised in the alternative economy debate. The first is the decentralised energy model (including decentralised energy ownership), which focuses on de-monopolising and decentralising energy generation, distribution, and transmission. The second is small-scale industrialisation, which is considered in the context of a localised renewable energy value chain.

6.4.3.1 The decentralised energy model

The decentralised energy model is anchored in the Independent Power Producers (hereafter referred to as IPP) Renewables model. IPPs are facilitated through a procurement model called the Renewable Energy Independent Power Producers Program (REIPPP), a competitive tender process designed to procure renewable energy. This bid windows process aims to bring renewable energy into the grid through private sector investments. In the context of the IPP model, I focus on the procurement model, the REIPPP, and I explore some of the debates around energy access and security for poor populations by asking whether this model truly holds any promise for an alternative economy that can bring about transformation and societal improvement, especially in respect of the well-being of current coal communities.

As a renewable energy procurement process, the REIPPP was a catalyst in the procurement of over 6000 megawatts of renewable energy, after a stringent tender process which included a non-refundable documentation fee of ZAR 25 000 per prospective project and the completion of an electronic registration form (DMRE 2021). So, can this model indeed achieve an alternative economy that will bring about transformation and societal improvement, especially for coal communities? Given the tender requirements, the current structure of the REIPPP and its processes effectively exclude the poor, who do not have access to the resources required to engage in the tender process. The REIPPP presents a one-size-fits-all renewable energy model which disadvantages under-resourced populations. This potentially perpetuates social injustices through the implementation of one-sits-fits-all policies which Madonsela and Lourens (2021) have debated with regard to how these undermine social justice.

One of the key emphases made in the Just Transition dialogues and the stakeholder engagements that I attended was the inclusion of affected communities in the decentralised energy model by means of a social or community ownership model that empowers such communities to participate in the energy economy. Such a model is envisaged to empower communities, especially affected communities, to participate in a decentralised energy model by owning renewable energy. However, the current procurement model, the

REIPPP, excludes poor coal-dependent and affected populations, which are already bearing the brunt of the transition, but do not have access to these resources. These communities include, for example, the poor communities near the Komati power station who lost their jobs and livelihoods as a result of the decommissioning and repurposing of the Komati power station in the Mpumalanga coalfields. The REIPPP model undermines the prospects of empowering these communities by integrating them into the decentralised energy model.

Coal communities are well aware of the exclusions imposed by the REIPPP model. During a stakeholder engagement, local communities raised concern about and expressed frustration with the exclusion that is already visible through the REIPPP model. During the dialogue between the DMRE and the Nkangala District Municipality, one of the councillors asked the following questions regarding the REIPPP:

Within the current economy, the ownership of the means of production is in the hands of a few. Does this mean that the new renewable energy model will follow the same capitalist approach where a few will benefit to the exclusion of others?

One community activist also expressed the view that “[w]e don’t want an alternative energy model that will just promote capitalism, which will then perpetuate poverty and inequality on the ground.”

The model of privately owned energy, facilitated through the REIPPP, will widen the gap between the rich and the poor, and effectively undermine the social ownership model that has been presented during dialogues as an opportunity for coal communities to participate in the renewable energy space. This example shows how structures that perpetuate inequality are often crafted and justified, as Hall et al. (2011) explain in their description of “legitimation”. This trajectory entrenches the inequalities inherent in the current system and undermines efforts to empower poor populations that stand to lose most in the shift to an alternative energy model.

I refer back to the question posed by Frank (1991:9), “Should unequals receive equal?” In other words, should poor populations which have always been at the receiving end of the highly extractive capitalist model that engineered the current

unsustainable emission footprint have to compete on the same playing field as well-resourced elites? The lens of Dependency Theory reveals that the logic of the periphery and core is reproduced by a shift that is intended to bring about positive change to affected populations, but instead creates an opportunity to widen the gap between resourced and under-resourced. This perpetuates the inequalities in the current system, but this time with a green tag. The poor will remain poor while the well-resourced become richer, thus reproducing the periphery and the core logic.

I consider Frank's analogy of "equals and unequals" in the context of what is referred to as "colonialism of a special type" which is characterised by a unique situation where the coloniser and the colonised share one country (African National Congress 1997). In explaining the "colonialism of a special type", O'Malley (2004) reflects on the "system of capitalism" which facilitated the creation of class and strata, the exploitation of black populations, their forceful removal from their Indigenous lands and disruption of their livelihoods. In the context of building an alternative economy, the coloniality of a special type and its features present an important area of consideration as it captures the logic of equals and unequals within the context of South Africa. Thus, we cannot build an alternative economy on the basis or patterns of the same structures that sustain the current economy, so there must be a deliberate effort to confront and dismantle the underlying structures of the current economic model. If such efforts are not prioritised, the Just Transition can potentially become merely another model that perpetuates the ills on the ground and leaves the poor, especially coal communities more desolate.

In addition to the question of the inclusion or exclusion of poor coal populations in the new energy model, another contestation relates to the question of energy access and security, especially for the poor given the current poverty challenges on the ground. Although renewable energy is presented as easily accessible, compared to fossil energy, the question of access and affordability among poor populations presents an area of contestation. Energy access remains one of the most significant challenges for poor populations in the current economy. Communities in the coalfields, who happen to be the hosts by virtue of their location, do not have adequate access to the energy produced from the coal that

has left them in degraded landscapes and subjected them to harsh working conditions. Thus, the contestation is around whether these populations will have adequate access to energy in a privatised energy model given their current affordability challenges.

Therefore, efforts to address climate concerns and South Africa's ongoing energy crisis should factor these populations into the planning processes. They need to be empowered through capacity building, skills transfer and beneficial strategic partnerships to participate in the energy model and economy. Clear policy efforts should spell out how this will be achieved and implemented. It should also be made clear how policy enforcement and accountability among stakeholders will be facilitated and managed.

6.4.3.2 Small-scale industrialisation

The second strategy that was emphasised for building an alternative economy is small-scale industrialisation. At the Africa Energy Indaba, the topic of small-scale industrialisation dominated the conversation. One key emphasis was the importance of political will and private investment towards building energy access and a resilient society through small-scale industrialisation. Small-scale industrialisation is envisaged as creating new manufacturing opportunities in close proximity to communities to create employment. During the engagements at the Indaba, small-scale industrialisation was presented as the backbone for affordable and reliable energy access, offering potential job creation of over 40 million quality jobs in cities and rural contexts, including employment opportunities for women, youth, and people with disabilities, as well as localisation of the value chain.

This model presents significant opportunities for coal communities. If it is implemented correctly, this will address the job losses and missed employment opportunities in the current energy economy, and the perpetual employment crisis. However, the logic of anchoring small-scale industrialisation in political will and private investment can be argued to be very problematic, given the current political and capitalist context. I consider political will in terms of current political interests, capacity and willingness, and the political power that can be harnessed for successful achievement of the small-scale industrialisation model. Private

investment relates to the willingness and commitment of the private sector to direct funds towards building a successful renewable energy value chain. These are important expectations, and if harnessed appropriately can result into a successful model, but this is not always feasible. Both political interests and capitalist interests have a specific end goal which may not align with the needs and well-being of poor coal communities. Moreover, these opportunities have to be navigated against the realities of corruption, erosion of accountability, a lack of good governance, state capture and the many factors inherent in the South African government and political economy. My argument reflects the fact that past development models and strategies that promised better prospects for the poor and the economy have repeatedly yielded the opposite. These models created positive expectations among affected populations, but their implementation did not deliver on their promises. This, in turn, exacerbated poor populations' levels of inequality, poverty, and other developmental ills. Hence, a successful transition requires the current political and capitalist structures to be confronted and redefined. In addition to that, the Just Transition should be anchored in a model that draws on the multi-stakeholder nature of the transition and leverages different knowledge systems to build an inclusive model that considers the real social, economic, environmental and political aspects of society on the ground.

6.4.3.3 What do these alternatives mean for coal communities?

The question of building an alternative economy is characterised by opportunities and challenges for coal communities depending on whether the alternative economy model is based on an inclusive model or a capitalist model. The inclusive alternative model promises the inclusion of coal communities into the energy economy through social ownership models. Through this model, coal communities have the opportunity to participate in the production and distribution of renewable energy through the “affordable, decentralised, diversely owned renewable energy systems” stipulated in the PCC JT framework (PCC 2022:7). Essentially, this presents a shift from communities only being suppliers of labour in the energy production, but to also participating in the new energy model as owners of means of production.

On the other hand, an alternative economy has prospects to exclude these communities if it is anchored in an “alternative capitalist model” which may take the form of green capitalism or what Cock (2014:18) refers to as “corporate capture of the green economy discourse” or “climate-crisis capitalism” (Bond 2011:1). Unlike with the inclusive alternative economy model, this model has the potential to reproduce structures that perpetuate inequalities and exacerbate injustices among the poor coal communities. Therefore, I argue that, in building an alternative economy, the injustices of the current economy must be well documented and should be duly considered to ensure that these injustices are not repeated intentionally or unintentionally through structured discursive exclusion mechanisms.

Given the complexity of these issues, the significance of the environmental justice model conceptualised in Chapter 4, which incorporates justice insights from social justice, cognitive justice and the decolonial epistemologies is re-iterated. As Swilling et al. (2015) point out, the failure to confront and dismantle the basic power structures of the apartheid socio-political regime lies at the core of South Africa’s development failure in the post-apartheid dispensation. It is thus crucial to confront and dismantle the capitalist and political structures that underpin the current economy. A truly Just Transition will consider the injustices of the current energy and economic model and confront the underlying power structures in order to bring about deep structural transformation.

6.5 Inconsistencies in the national government

At the national level, the Just Transition agenda is coordinated under three national ministries. These are the Presidency, the DFFE and the DMRE. There are inconsistencies within and between all these departments regarding the Just Transition agenda. The Presidency is coordinating the Just Transition agenda via the PCC. The DFFE has been responsible for facilitating the process relating to the Nationally Determined Commitments to Climate Change, the Climate Change Bill and related activities. The DMRE is responsible for coordinating the decarbonisation processes that should unfold in the minerals and energy sector. However, these key ministries do not seem to share a common vision for the Just Transition.

The DMRE is pursuing an agenda which seeks to redefine the Just Transition and counter the net-zero emission target. Under the leadership of Minister Gwede Mantashe, the DMRE has been very vocal in its position on the transition pathway that the country should take. In its JET framework, the DMRE speaks about the decarbonisation of minerals and energy through a JET that is aligned with the *2019 Integrated Resources Plan* (IRP). The 2019 and the 2023 IRP stipulate an energy plan that does not align with the DFFE's nationally determined commitments.

The DMRE's decarbonisation pathway, which is also reflected in the DMRE JET framework, specifies delaying the decommissioning of old power stations reaching the end of their life span, a diversified energy mix which includes "clean" coal, renewable energy, gas, and nuclear energy. The decision to expand the life span of some existing coal power stations, as seen in the 2023 IRP, despite the country's commitment through the DFFE's nationally determined commitments to cut emissions and adapt to reduce climate change, contradicts the DFFE's efforts to reduce fossil emissions towards the (2050) net-zero emission target which is central in the PCC transition pathway. The 2019 IRP stipulates "current annual build limits on renewable energy" (Department of Energy 2019:46) which caps the procurement of renewable energy. This reflects the constraints around the amount of renewable energy that can be added into the energy mix. This presents further inconsistencies in language and action in as far as the plans to procure renewables and transmit clean and renewable energy are concerned.

The above contradictions in approach show that the Presidency's multi-stakeholder body, the PCC, and the DMRE under the leadership of Minister Gwede Mantashe are pursuing divergent transition pathways and maintain different standpoints. These bodies hold different views on how the JET should unfold. The PCC is adamant about moving away from the current fossil energy model towards a renewable energy model by 2050. The emphasis is a shift away from coal (a coal phase-out) to meet the country's climate targets and commitments within the stipulated time frames. By contrast, the DMRE is talking about a JET from the perspective of a decarbonisation journey that seeks to achieve a diversified energy mix which includes "clean" coal, renewable energy, gas, and nuclear energy. The language of phasing out coal to meet the country's

carbon targets is almost non-existent in the DMRE's discourse; instead, it speaks about the abundance of coal and the need for investment towards more efficient (and clean) coal technologies and nuclear power. Thus, the PCC, which was established to advise on the country's Just Transition, and DMRE, which is the policy-maker in the area of energy and minerals, hold mutually exclusive standpoints, and consequently, espouse different transition pathways. The lack of a shared vision for the Just Transition, especially at this level, has implications for the national trajectory of the Just Transition. Coordination of efforts and coherence is necessary at all tiers of government to effectively drive the Just Transition efforts (Jacobs, Helgenberger & Nagel 2022). In addition to this resulting in an uncoordinated transition trajectory; this can also aid the misuse of the concept of the Just Transition, while also facilitating the flow of inaccurate and inconsistent information regarding the Just Transition.

Amid these inconsistencies, I observed that stakeholders in the fossil energy regime support the transition pathway pursued by the DMRE, while stakeholders in the renewable energy space support the transition pathway envisaged by the PCC. For obvious reasons, actors in the fossil regime space support the views of the DMRE and Minister Gwede Mantashe, which protect coal or fossil energy, thus emphasising Kalt et al.'s (2023) competing initiatives expressed through green extractivist, green developmentalist, fossilist and socio-ecological. The position that the minister assumes in this context reflects that powerful actors in the regime are shaping and informing the power and politics in energy transition as is in the case in Poland (Brauers & Oei 2020). This powerful position is also reflected by Swilling (2023) in his argument that during the year 2021, the President of the Republic of South Africa and his cabinet were in agreement that the only option towards addressing the country's energy crisis depended on a rapid large-scale renewables build programme. However, the only cabinet minister who was in disagreement was Minister Gwede Mantashe.

This tension reflects the complex nature of the Just Transition, which is characterised by competing interests among powerful stakeholders, and structured resistance. The MLP predicts that structured resistance can occur at the regime level. This is referred to as "socio-technical regime lock-ins", which are well-organised and structured to protect the regime. There are rules that underlie

and account for these lock-ins, which represent the forces that keep the dominant regime stable, and regulations that reinforce the stability of the socio-technical regime (Geels 2020; Geels & Schot 2010). In addition to this kind of resistance, there are discursive resistance narratives in transitions, as detailed in Section 2.5.4.

Borrowing from Osunmuyiwa et al.'s (2018) analysis of resistance narrative in the context of Nigeria, I consider two strategies, namely "discursive capabilities", where discourses and media frames are used to steer indigenous claims to fossil, and the use of "structural or institutional resources", where existing technology is presented as superior to the proposed alternatives. In the context of South Africa's Just Transition, these take the form of "indigenous claims to coal", which is a strategy that is being used to defend the coal economy. The use of structural or institutional resources is also visible in claims that renewable energy cannot meet the baseload requirement for industries, in comparison to fossil energy.

Efforts to resist the transition are also visible in how stakeholders in the fossil energy economy, which the MLP regards as "regime actors", resist or push back efforts to move away from the fossil energy model. This resistance takes the form of a "regime lock-in", which essentially undermines or openly resists the efforts of stakeholders who pursue a net-zero carbon emission transition target. Although the climate change and geo-political pressures (which the MLP regards as the landscape) are pushing for a cleaner and low-carbon renewable energy model that will see the country meet its net zero targets, there is resistance from the regime. The niche (the renewable energy space) has to navigate the hostility generated towards renewable energy by regime lock-ins. According to Arranz (2017:126), such resistance can be broken through by means of "regime destabilisation". In the context of South Africa, regime destabilisation is already visible through the destabilised coal economy and the ongoing energy crisis (load shedding), which has subjected poor populations to further energy insecurity and disruption of livelihoods.

To further engage this context, I reflect on Osunmuyiwa et al.'s (2018:145) "politico-economic regime matrix", an analytical framework that brings in the political economy regime in the MLP (which I used to supplement the MLP in

Chapter 3). Osunmuyiwa et al. (2018) use the politico-economic regime matrix to show how actors interact and share 'spaces' through resource appropriation, patronage network and the alignment of political interests. These scholars further show how these factors are central in pursuing defensive strategies such as state capture, reformulation of rules and norms and corruption to defend the regime. Osunmuyiwa et al.'s (2018) concept of "patronage networks" applies in the context of corrupt political relationships which strategically position some actors as beneficiaries of resources meant for societal good. As a result of such patronage networks, coal communities may find themselves bearing the brunt of an unjust transition that actually leaves them worse off.

This matrix captures the reality of South Africa's Just Transition, where in addition to competing interests and agendas, there are matrices of capitalist and political power that protect the status quo (i.e., the fossil energy regime). Corruption, patronage networks, and reformulation of rules and norms are among the factors that not only drive wealth transfer and (re)distribution in a supposedly democratic South Africa but influence the transition trajectory at the national level. These factors underpin regime lock-ins, contestations, and the lack of clear coordination in the Just Transition agenda. As in the case of Nigeria, corruption plays an important role in protecting the interests of the regime actors in South Africa's context. However, in the case of South Africa, it also destabilises the regime from within. Corruption has been implicated in the collapse of the country's monopoly energy producer, the state-owned entity ESKOM. The issue of corruption is complex and multi-faceted and has over many years constituted a topic of concern in media publications, among political parties and commissions of enquiry mandated to investigate allegations of government corruption.

In South Africa's Just Transition, corruption, erosion of accountability, state capture, a lack of good governance, political power play, capitalism and other factors constitute some of the mechanisms and structures which may result in a transition that is unjust for coal communities, but beneficial for strategically positioned elites and politicians. Thus, I agree with Swilling et al. (2015) who maintain that the South African picture is highly complex. This complexity is visible even in the Just Transition.

6.6 The coal phase-out: implications for the Mpumalanga coalfields

This section looks at the implications of a coal phase-out in the Mpumalanga coalfields. One of the key strategies emphasised in the Just Transition is the phasing out of coal from the current energy mix. The disruption of the coal economy, which is a significant employer for many in the Mpumalanga coalfields and a source of livelihood for many, will have a negative impact on the population in the region. However, for those who relate to the coal economy differently, the coal phase-out is seen as an opportunity for redress regarding the negative externalities that they have contended with for years.

I use the conception of “a paradox of dependence and affectedness” which I have conceptualised to contextualise the positive relationship (dependence) and the negative relationship (affectedness) between the population in the Mpumalanga coalfields and the coal economy. This paradox is in line with Cock’s (2019:866) “captive imaginary”, which she uses to explain the complex relationship between coal communities and their local current landscape. She argues that contradictory patterns range from confrontation to dependence. I explore this paradox from an employment perspective and the resistance to the Just Transition which is prominent in the pro-coal agenda.

6.6.1 *The employment question*

The employment question asks how the Just Transition (and the JET) will affect issues of employment on the ground. According to the 2019 Integrated Resources Plan (IRP), approximately 35 gigawatts of coal power will be decommissioned over the period between 2030 and 2050. The IRP also admits that the socio-economic impact of this decommissioning of coal power has not been quantified (Department of Energy 2019). In response to this uncertainty, concerns have been raised regarding the achievement of a socially and economically JET.

In several PCC dialogues, labour unions have registered concern over the employment displacement which is likely to arise from the anticipated reforms in the coal sector. Some of the issues raised include loss of unemployment, a situation which has been recently exacerbated by the COVID-19 pandemic. The questions of how the implementation of the JET can be just and ensure that there

are no further job losses and wage reductions were among the many questions posed. At the PCC Emalahleni stakeholder engagement, a labour representative expressed concern regarding employment in the context of ongoing and anticipated job losses vis-à-vis hypothetical jobs that the Just Transition is promising to create, saying: “*We are concerned about the gap between hypothetical job creation vs practical job losses.*” She articulated the difficulty this situation poses for the labour sector and called for evidence that the necessary planning was already taking place.

The labour unions thus argue that “justice” in the context of labour entails maintaining and creating decent jobs, while an “unjust” transition would involve job losses, which would worsen unemployment and wage reductions. The labour sector envisions a Just Transition that aligns with the International Labour Organisation’s (ILO’s) definition of a Just Transition as a

[c]ountry-specific mix of macroeconomic, industrial, sectoral and labour policies that create an enabling environment for sustainable enterprises to prosper and create decent work opportunities by mobilizing and directing public and private investment towards environmentally sustainable activities. The aim should be to generate decent jobs all along the supply chain, in dynamic, high value-added sectors which stimulate the upgrading of jobs and skills as well as job creation and improved productivity in more labour-intensive industries that offer employment opportunities on a wide scale. (ILO 2015:6)

The transition model that the labour sector envisions and aims to achieve constitutes another area of contestation in the Just Transition debate at the national level. Although the Just Transition is envisaged to offer more and better employment opportunities, as reflected in the South African Renewable Energy Masterplan, there is no detailed and approved plan that shows how the anticipated job losses from the fossil value chain will be responded to and how poor coal communities will be fully integrated into the renewable energy economy. In responding to concerns over possible job losses, participants in the PCC dialogues and stakeholder engagements, therefore, demanded detailed job plans, job guarantee plans, the expansion of existing structures to make them fit for purpose, and community energy ownership (through a decentralised energy model) which will empower communities in the Just Transition.

The concern around job losses was further articulated by Commissioner Lebogang Mulaisi (a former labour market policy coordinator at COSATU, commissioner and newly appointed chief operating officer in the PCC) during the PCC dialogue on the coal value chain. The commissioner noted concern regarding early retirements which are likely to result from the anticipated job reforms, thus raising issues of inadequate social security. She argued that employment plans in the JET should aim for a 1:4 jobs strategy, which means that for every one job loss, four new jobs must be created. Commissioner Mulaisi maintains that such a strategy reflects a commitment to change the status quo and the creation of a different, and a more resilient economy.

Aside from these demands, the question of loss of employment remains ongoing and contentious, dominating almost every dialogue on the Just Transition. Similar concerns were raised during the stakeholder engagements in Emalahleni, where these comments were documented:

The government should provide clear and detailed response strategy(s) outlining the skills gap, employment creation, reskilling, upskilling and possible retrenchments as part of the JET. (Attendee 1)

The government has a tendency to deploy skills from other places instead of empowering local communities and the current labour force, thus we demand a clear and transparent response strategy that clearly outlines the skills gap, employment creation and requalification at learning institutions to cater for the green economy. (Attendee 2)

Although prospects for more job creation are anticipated in the alternative economy as promised during dialogues and are expressed through 13 catalytic interventions of the Renewable Energy Masterplan, there should be clear, approved plans that guarantee populations of employment security and proper policies that are in place to implement such guarantees.

In this context, I would like to refer to the employment concerns and significant job losses that resulted from the decommissioning and repurposing of the Komati power station in 2022. This is not a hypothetical issue, but the reality of a mining town that is starting to look and feel like a ghost town, with young people sitting under trees, hopelessly, empty car wash establishments, and men retrenched from the local mines that closed recently due to the decommissioning of the Komati power station idling and gambling in the shade of trees, some consuming

alcohol even on weekdays. The concerns over an unjust transition have become a reality in the Komati coal power station decommissioning and repurposing, resulting in job losses, the termination of contracts and a severe disruption of local livelihoods tied to the former coal power station. The Premier of the Mpumalanga Province, Refilwe Mtshweni-Tsipane, spoke about these devastating job losses in her address at the tenth meeting of the PCC held on 9 June 2023.

Such realities undermine the 2019 IRP commitment “to put in place the plans and interventions that mitigate against adverse impacts of the plant retirement programme on people and local economies” (Department of Energy 2019:41). The disruptive effects witnessed after the decommissioning of the Komati coal power station have sparked severe anxiety around the “justness” of the Just Transition. Some of these concerns were clear in the dialogue between the DMRE and the Nkangala District Municipality. A young black entrepreneur directed some of these concerns to Minister Gwede Mantashe:

During the Junior Mining Indaba, the Minister encouraged young black people to penetrate the coal industry. We responded by investing in the industry. Today black entrepreneurs have been affected by the closure of the Komati power stations. The termination of contracts and loss of income from services previously rendered directly and indirectly to the power station is plunging us into debt and is affecting many of our business interests. I have had to make reforms in my business and reduce the workforce. Poor planning on the JET is imposing a lot of discomfort on the ground. We fear this bad planning and evident loss of income by many will lead our communities back to severe poverty, consequently worsening crime among communities in the coal mining towns of Mpumalanga.

The displacement arising from the decommissioning of the Komati power station is a cause for concern as it has undermined the well-being and livelihood of workers and communities in the Komati area. The decommissioning of such power stations and mine closures can potentially displace workers and affect local communities whose livelihoods are tied to this economy as already seen in Komati. The effects of a shift of this magnitude do not merely disrupt livelihoods – they completely alter the societal safety nets and perpetuate the poverty conditions of the local communities. As Sovacool et al. (2019) caution, without vigilance, low carbon transitions can create new injustices and vulnerabilities, while simultaneously failing to address the structural drivers behind current injustices. Therefore, significant planning and well-coordinated processes are

necessary to ensure that the quest for a low-carbon and climate-resilient economy does not perpetuate injustices on already affected populations.

The employment question is broad and has a direct impact on coal communities. Communities and workers do not want to lose their jobs and livelihoods in the name of a transition to a low-carbon economy. Instead, they need a transition that is based on a model that will not leave them behind but will create alternative, safer working opportunities to address their current socio-economic ills, their health and well-being. However, some do not even want to consider the possibility of a transition because of their fear of the unknown.

The Just Transition is unfolding in a difficult economic context characterised by a long history of poverty, inequalities, social injustices, and environmental injustices entrenched in a corrupt political economy. There is a lack of trust from the South African community towards the South African government at all levels. This is attributable to rising levels of corruption and incompetency, among other things, which have undermined good governance in the government sphere.

6.6.2 A pro-coal agenda and the Just Transition

Actors in the fossil and minerals sector have also advanced concerns over the anticipated disruption of the coal value chain. Some of these concerns were articulated by Roger Baxter (CEO of the Mineral Council of South Africa) in a presentation at a PCC dialogue on the coal value chain. Baxter emphasised the deep embeddedness of the coal value chain in South Africa and its contribution of around R80 billion to South Africa's GDP, of R65 billion to Mpumalanga's economy, and a further R45 billion to the national economy through upstream linkages. Similarly, during the Energy Summit hosted by the Mpumalanga provincial government, Mr Henk Langenhoven of the Mineral Council of South Africa highlighted the critical role that coal plays in the country's economy and the Mpumalanga province in particular. Langenhoven reiterated Baxter's sentiments, adding that a further R31 billion is injected into the economy in the form of income for employees across the sector. Many other actors have warned that enormous losses will result from a shift away from a coal economy.

In addition, concerns have been raised regarding the post-coal landscape: there are fears that the mining towns of South Africa will become ghost towns if the country stops using coal. The Minister of the DMRE, Mr Gwede Mantashe, holds firmly to this thinking and has emphasised it in a number of his speeches. The Minister also highlighted this point during his keynote address at the Africa Energy Indaba 2023, warning that more than ten towns in the Mpumalanga coalfields (notably Belfast, Carolina, Ermelo, Middelburg, Emalahleni, Ogies, Kriel, Lesley, and Delmas) will become ghost towns as a result of the move away from coal. This argument was echoed in the dialogue between the DMRE and the Nkangala District Municipality, where community activists in attendance expressed discomfort about what would become of their towns and communities in a post-coal landscape. In a song and dance demonstration, they carried placards with wording such as “Hands off our jobs” and “Don’t take our dignity”, among many other grievances. A sense of being on the receiving end of changes related to the JET was expressed by several voices represented in the dialogue. Some of the statements made during the dialogue included the following:

The plans of the government do not serve the community... these mines will continue to operate, but on our terms and conditions. (Community activist at the DMRE and Nkangala District Municipality dialogue)

The clear lack of coordination is causing parallel actions on the ground and this is confusing for us. Moreover, the loss of employment and livelihoods which will come as a result of the decommissioning of power stations coupled with the speed at which this transition is happening will cause problems for the people of Mpumalanga. (Local councillor at the DMRE and Nkangala District Municipality dialogue)

In response to these concerns and the many other questions posed, Minister Gwede Mantashe agreed with the sentiments of the community that there is a lack of coordination on the JET. He alluded to the many vested interests in the JET, which could consequently affect proper coordination.

The issues raised in the context of the coal phase-out and pro-coal debate confirm the complex nature of the Just Transition, which Geels et al. (2017) describe as “disruptive”, “contested”, and “non-linear”. This description reflects the reality of the presence of multiple actors, the diversity, vested and competing interests, entrenched beliefs, unequal resources and complex social relations which are inherent in the transition. The South African Just Transition includes all these

characteristics, particularly in relation to the disruption of livelihoods and job losses, as in the case of the Komati power station, the contestation emanating from the multiple visions and parallel transition pathways, and non-linearity as a result of the absence of a clear sequential pattern according to which the transition unfolds or should unfold.

Although an argument can be made for a transition that is just and does not leave anybody behind, the actual dynamics present a different picture that undermines the promise not to leave anyone behind. Coal communities in the Komati area have already been left behind and are currently dealing with the injustices of poor planning and proper coordination. The shift that has taken place in their context has not addressed the injustices they have had to contend with for years; instead, new kinds of injustice have been introduced, exacerbating their unjust reality. This undermines the justice emphasis that should underpin the Just Transition and perpetuate a sense of powerlessness among the affected communities. According to Kohler et al. (2016:6), these realities prompt an understanding of the politics that determine “who gets what, when and how... and who are the winners or losses when innovation emerge and gets implemented”. This therefore justifies the lack of trust that these communities express towards the government, because from where they stand, the government has enabled their perpetual entrapment in injustice. Hence, I maintain that it is important to pursue a Just Transition premised on the comprehensive and decolonial environmental justice framework explained in Chapter 4, especially for coal communities who will mostly bear the brunt of the transition. A transition that emanates from such an environmental justice framework will consider the well-being of populations that will be worse off if the transition processes do not yield the expected outcomes.

6.7 A green developmental path – an inclusive development path that undermines Africa’s current development?

As already indicated, contestation at the national level is multi-faceted and complex. At the Africa Energy Indaba, where African leaders in the energy sector, various ministries, local and international energy stakeholders and other stakeholders met to deliberate on the future of Africa’s energy, Minister Gwede Mantashe proclaimed: “We can only transition if the transition is affordable to us.”

This statement holds many implications and conveys a nuanced, but strong, resistance to what is perceived as the imposition of a global North developmental pathway on the broader context of climate change. The Minister thus problematises Africa's current context within the global transition agenda by implying the complex developing status of Africa and the basic developmental issues that Africa is grappling with, and raising the issue that access to reliable energy through an energy mix is an important consideration. During the Energy Indaba, a Minister from the energy sector in Malawi added: "If the North wants Africa to transition, they must understand where Africa is currently at".

The debates around South Africa's green development were supported by consensus among some African leaders at the Africa Energy Indaba that Africa must take a pragmatic position vis-a-vis the Just Transition agenda, given Africa's development priorities and its relatively insignificant contribution to greenhouse gases compared to its industrialised counterparts. This perspective was emphasised by some of the leaders present, who remarked that Africa must be alert to the imposition of unfavourable development paths and a transition model which can undermine Africa's developing state and the goals of addressing poverty and inequality, energy poverty and other crises. This topic was hotly debated during the Indaba, raising the issues of imperialism and the attributes of colonialism and traces of coloniality visible in the definition and imposition of a transition model which may not have favourable outcomes for South Africa (and other African countries). Thus, there was consensus during the Indaba that Africa (and South Africa) should leverage the minerals and energy it is endowed with for a sustainable future.

In my analysis, I deploy an important question posed by Dercon (2014:1), namely whether green growth is good for the poor. At the heart of this question is the relevance of an alternative (green) development path for economies struggling to meet their basic developmental needs. This question underpins the thinking and position of some actors about the Just Transition and the Just Energy Transition. As a developing state, South Africa's core developmental trajectory rests on addressing issues of poverty, inequality, unemployment, energy insecurity and other related social ills on the ground. A shift to an alternative (green) developmental agenda is considered by these actors in terms of the disruption it

will have on the current energy system and landscape, thus undermining Africa's current state and development aspirations.

The position of the global North as the front-runner and most vocal voice in the climate debate then creates some resistance among stakeholders who do not see the green developmental path as beneficial to Africa, given its current poverty and developing context. The story becomes even more complicated when considered through the views expressed by Kalt et al. (2023:7) regarding the green extractivist initiative, which they argue "strives to develop Africa into an export economy for supplying Europe with green hydrogen and related low value-added products". These scholars add that this process is envisaged through the "re-primarisation of the economy towards low value-added products, an unequal division of labour, and communities being dispossessed of their land" (Kalt et al. 2023:9). This model replicates the periphery and core logic, but this time with a green tag. When considered through the Dependency Theory lens, this reflects what Rodney (1982) argues regarding economic underdevelopment that is facilitated through the exploitation project which saw African wealth being drained, systems being manipulated, and capitalist strategies being used to exploit Africa for the benefit of Europe and the United States.

In navigating this complex picture, I take into account Swilling et al.'s (2015) argument that a "just" transition is only possible if the overall goal is human well-being in a sustainable world that is decarbonised, with resource efficiency and ecosystem restoration. I agree that a decarbonisation path holds some promise of correcting the wrongs of the current "boom or bust model" and bring about a Just Transition. However, for such "justness" to be achieved a transition must ask what the changes will mean to populations on the receiving end of the injustices of the current energy and economic model. Essentially, it must seek more pathways to ensure that the transition agenda does not perpetuate poverty and inequality and thus widen the gap between the rich and the poor.

Although some of these debates constitute resistance narratives, they also reflect the emerging position of power in South Africa (and Africa) where African voices are resisting a development model which they envisage as an imposition. Drawing on the work of decolonial scholars such as Ndlovu-Gatsheni (2015:487), who

oppose coloniality as “an embedded logic that enforces control, domination, and exploitation disguised in the language of salvation, progress, modernisation, and being good for everyone”, I regard South Africa’s resistance position as one that tries to overturn South Africa’s colonial role in the world economy. Thus, I would argue that the quest for a “transition model that is a more pragmatic response which will not undermine the developmental goals of South Africa” adds an interesting decolonial and agency angle to the Just Transition debate.

In Section 2.2.2 I used the work of Acosta (2013; 2017) and Villamar and Muroz (2018) to show how resource extraction in the global South is tied to a history of a mode of accumulation characterised by unsustainable extraction, looting and plundering, which were all strategies and mechanisms of colonialism and neo-colonialism. In the same section, I also discussed how this in turn played a central role in shaping the Industrial Revolution, which placed the global North at an advantage and the global South at a disadvantage. Therefore, the regime lock-in to protect the fossil regime (which, based on my analysis in Chapter 2, represents an extractivist colonial project), offers another interesting angle to the decolonial debate. Although the fossil regime has been sustained on an extractivist logic, over time, significant investment has been made, and energy and economic dependence have been built around it. Moreover, wealth transfer through capitalist and political means has also been facilitated through it. Thus, I argue that even in the quest to decolonise, totally dismantling colonial structures (or dealing with their legacies) remains a very difficult task, because coloniality is expressed in multiple ways, which include invisible and asymmetrical power structures (Ndlovu-Gatsheni 2012).

6.8 Power play and dynamics in the Just Transition

From the different debates at the national level on different platforms, it is evident that several power dynamics and strategies influence the Just Transition. The subject of the power manoeuvres (dynamics) that underpin the transition is not only a secondary objective for this study, but is an important consideration in the quest to understand the Just Transition as a complex process, unfolding in a complex political economy, and ultimately what this means for the country’s transition trajectory. To explore this topic further, I look at the power dynamics

among the different actors in the Just Transition and the discursive narratives and strategies they employ.

6.8.1 Power dynamics among vested actors

There are powerful actors in the Just Transition who deploy various discursive strategies to control the narrative and dictate or influence the transition trajectory. These include actors such as ESKOM, SASOL and others in the fossil energy regime. The position that Minister Gwede Mantashe maintains in the Just Transition debates provides a good example of how powerful actors deploy various discursive strategies to control the narrative and dictate or influence the transition trajectory. The concept of discursive manoeuvres is used in my analysis to contextualise these complex power dynamics and the strategies they deploy. Although the Just Transition claims to consider the well-being of affected populations such as coal communities and aspires to put them at the centre of planning and decision-making, I argue that these aspirations have to be navigated through the inherently complex power structures in the Just Transition. The involvement of multiple actors in the Just Transition makes complex power dynamics inevitable. Some of the actors and stakeholders in the Just Transition are powerful and influential, and control the narrative through strong political connections and resources, which can be considered in the context of the capitalist and political agendas that underlie them.

The question of power dynamics constitutes a very complex academic debate in the Just Transition and for this study. Power dynamics are usually not tangible or clearly visible and identifiable, even though they play a significant role in the Just Transition and its trajectory. A number of cases or incidents form the basis for my argument on power dynamics, some of which are invisible, but still very powerful.

I continue to explore the example of Minister Gwede Mantashe, who is one of the most powerful and influential stakeholders in South Africa's Just Transition. The Minister maintains a position which can counter or undermine the efforts of other stakeholders in the Just Transition to align with the nationally determined contributions and the net-zero target. The Minister presents a resistance agenda which he expresses through his speeches, in some of which he has suggested that the coal phase-out may result in ghost towns and may exacerbate the

ongoing energy crisis. Moreover, the Minister has indicated that “coal is going to be with us for a long time”, thus stressing the coal wealth of the country. The Minister’s sentiments regarding “coal being with us for a long time”, are further expressed in the 2023 IRP which states that “coal continues to play a significant role in energy generation in South Africa. Given the abundance of coal resources in the country, a consideration for investment in more efficient and cleaner coal technologies is necessary” (DMRE 2024:10).

Using Geels's (2014) forms of power, the position of the Minister expresses the instrumental form of power where influence in favour of a certain agenda is exerted by a powerful actor who assumes an influential political position. Furthermore, using Osunmuyiwa et al.'s (2018) politico-economic regime matrix as a lens, it is clear that the Minister, who is also a key regime actor, according to the MLP lens, engages in what Osunmuyiwa et al. (2018:146) refer to as a defensive strategy that

systematically weakens attempts at transitions by rendering formal decisions subordinate to regime interests... and through activities that are aimed at reinforcing and steering public sentiments of indigenous claims to fossil forms of energy.

In addition to Minister Gwede’s position, I consider the position of big corporates such as SASOL, which is strategically positioned in the JET. For example, SASOL has positioned itself as one of the front runners in the JET through its catalytic Green Hydrogen project. In the PCC Integrated Energy Transition Dialogue: Organised Labour Consultation, concerns were raised regarding the allocation of \$21.2 billion US dollars to the development of Green Hydrogen compared to the \$0.18 allocated to skills development, the \$8.5 earmarked for the New Energy Vehicle Sector, the \$47.2 allocated to electricity, and \$21.3 to municipal capacity in the South Africa’s JET Investment Plan (JET IP) 2023-2027. Sasol is also a regime actor, and it is strategically positioning itself as a significant player in the Just Transition. In the context of the capitalist model and the political economy that I have already discussed in the previous sections, it should be evident that a Just Transition that does not confront and dismantle these structures will reproduce injustice, just with a green tag.

The power play between such players and the power dynamics between them affect the outcomes of the Just Transition. This reflects Avelino and Wittmayer’s

(2017:516) “horizontal and qualitative typology of power relations and dynamics” which enable the assessment of power relations among actors. These power plays indicate that in transitions there are actors who have “power over” others (Avelino & Wittmayer 2017:516). Using the work of Kalt et al. (2023) in their reflection on the competing narratives, the parallel and competing interests of actors in the Just Transition become visible. These competing interests are backed by complex power dynamics. However, in most cases, these power dynamics are not easily identifiable or clear, with the result that they can be analysed or interpreted in different ways. Their discursive manoeuvres are also difficult to discern and often have undisclosed agendas, with significant effects on the national Just Transition trajectory. Here Allen’s (2014) and Rye’s (2014) description of “constitutive power”, which is a mode or type of power that actors may not be aware of, captures an elusive form of power that can also be considered a “web” or capillary power. Such complex power dynamics and power play can be very elusive. They manifest through discursive strategies to advance certain agendas. This is reminiscent of what Ndlovu-Gatsheni (2015:488) said about post-colonial power stance, which he refers to as “invisible power structures”, but which nevertheless influence the bigger picture.

Complex power dynamics or structures underpinned by capitalist and political agendas present challenges for coal communities that have to navigate towards a truly Just Transition. A capitalist agenda is typified by unsustainable modes of extraction, which, as Frank (1969), Rodney (1982) and Hout (1993) explain, enriches elites at the core while poor communities at the periphery become even more impoverished. This long-standing pattern has exacerbated the perpetual entrapment in poverty, inequality and multi-faceted environmental injustices for coal communities in the Mpumalanga coalfields. These coal communities have been rendered powerless and voiceless to influence planning and decisions affecting them. Therefore, for coal communities negotiating their position in a complex political and capitalist agenda requires confronting these structures and redefining their agency. For real change to happen, these structures should make available empowering possibilities for change (Howarth 2013) in a Just Transition premised on justice.

6.8.2 Power dynamics through narratives

Power play often takes the form of narratives, which can be analysed to identify the arguments and representations emerging in the transition debate. These narratives are expressed through strong positions that powerful stakeholders take in the Just Transition debates. During the DMRE and Nkangala District Municipality dialogue, Minister Gwede Mantashe claimed that renewable energy does not have baseload. This statement was repeated during his keynote address at the Africa Energy Indaba, where he again stated that “renewable energy does not have baseload, but coal energy has baseload”. In his opinion, various energy technologies must co-exist, in order to address the ongoing energy crisis and energy poverty. Thus, he called for more investment in the coal sector. The Minister advocates for “clean coal” technology, which he argues will simultaneously address the baseload and carbon issues. The clean coal argument is also made in the 2019 IRP and 2023 IRP, which advocates the High Efficiency, Low Emissions (HELE) coal technology, which includes underground coal gasification, carbon capture utilisation and storage, and other techniques for the use of South African coal.

I characterise this strong position as constituting a “baseload narrative” and an energy security narrative. Both these narratives play out in the spheres of the politics of energy access and security vis-à-vis decarbonisation, claiming that an energy mix with clean coal will meet South Africa’s baseload requirements, and thus address the energy access and security issues. The politics of energy access and security are a complex aspect of the decarbonisation debate and are an area of contestation in the Just Transition at the national level. South Africa’s perpetual energy crisis, typified by ongoing load shedding, has plunged the country into a socio-economic crisis which requires urgent solutions. Load shedding has become a national crisis amounting to a state of disaster, as the President of the Republic of South Africa has acknowledged, constituting an urgent and critical context within which energy debates unfold. The urgency of the energy crisis presents a good justification for the decision taken by the DMRE and other relevant stakeholders to increase the life span of coal power stations.

These debates represent an extension of the strategies in the politico-economic complex where rentier actors use structural or institutional resources to make existing technologies “appear superior to proposed transition alternatives” (Osunmuyiwa et al. 2017:147). These arguments are strategically positioned to delay or redefine the Just Transition and pathway from what was initially envisaged. Thus, in addition to the instrumental form of power which permits influential and powerful actors such as cabinet ministers to exert influence in favour of a certain agenda, these discursive strategies enable powerful actors to shape narratives that become dominant discourses (Geels 2014). Such discourses then influence what is discussed and the positions taken in the discussion. Finally, material strategies characterised by efforts to improve the technical capabilities of the regime in order to resist a transition are deployed to support the technical capabilities of the regime actors in order to resist a transition (Geels 2014).

In South Africa, there is further emerging contestation around increasing the life span of coal power stations, which has sparked serious debate around the time frames for meeting net-zero targets. The decision to increase the lifespan of power stations has now been gazetted in the 2023 IRP according to which the decision has “assisted in reducing the power shortages” (DMRE 2024:9).

This reflects Ting and Byrne’s (2020:14) “public policies dimension” where policy-makers favour the regime and protect it, and Geels’s (2014:34) “institutional and policy environment”, which refers to an enabling environment that favours the regime and facilitates its reproduction. This debate presents what appears to be a parallel transition pathway, where plans to meet net-zero targets are contradicted by efforts to increase the lifespan of power stations and to postpone significant emission reductions. Moreover, this contestation reflects the “technology and infrastructure” dimension in which existing standards and requirements tend to favour the regime incumbents, creating hostility to niche innovation that has become visible in the transition (Ting & Byrne 2020). This is exemplified in how renewable energy procured through the REIPPP bid windows remains unused or connected to the ESKOM grid, despite the ongoing energy crisis.

The question of unused procured energy typifies regime resistance (in an effort to maintain regime stability), and the complex power dynamics that play out in the Just Transition. Ting and Byrne (2020) argue that discursive strategies operate as prevailing ideologies and beliefs among powerful elites which then become accepted as norms that structure relevant discourses. In the South African context, the “clean coal” narrative as an ideology and belief is a dominant discourse which posits “clean coal” as a new and attractive approach to addressing the current energy crisis and reducing the country’s carbon emissions. It is proclaimed to be compatible with the green debate, offering a better alternative than renewables, because it maintains baseload and addresses high carbon concerns and energy challenges. Trencher et al. (2019) present a similar analysis in the context of Japan’s energy transition, where narratives such as “clean coal” have become dominant and powerful tools used to select and filter interpretations of reality, which may powerfully direct the trajectory of a transition. Regime actors in Japan refer to Japanese coal technology as highly efficient and clean, thus protecting the coal regime and promoting coal exportation to maximise coal revenue (Trencher et al. 2019). In the context of South Africa, these narratives are also redefining the Just Transition pathway and trajectory.

6.9 The Just Transition trajectory at the national level

The transition trajectory at the national level is non-linear, complex and contested. Contestation and inconsistencies at the national level and the complex political economy make it difficult to define South Africa’s Just Transition pathway and trajectory accurately. There has been a shift from what seemed like a clear purposive transition to what Geels and Schot (2010) consider mixing pathways, which refers to a transition pathway characterised by a non-deterministic sequence. Geels and Schot (2010) maintain that this pathway typology is characterised by an evolving sequence, triggered by the unfolding responses from the regime, landscape, and niches. Moreover, such a transition trajectory is chaotic and uncertain, and debates around it also shift rapidly. In South Africa’s case, such a sequence reveals a shift from what looked like a purposive transition that was well coordinated to an emergent transformation transition (Smith et al. 2005), characterised by uncoordinated processes, shaped and influenced by

multiple actors, capitalist agendas, and political power through discursive strategies.

Given this emergent transformation transition characterised by uncoordinated influences and discursive manoeuvres, what is the position of coal communities in the Just Transition? The non-linearity, multiple actors, complexity, power dynamics and structures in South Africa create a complex open system within which a Just Transition is supposed to unfold. The influences by the stakeholders through different discursive strategies constitute what Bhaskar (1978) describes as emergent entities or mechanisms. According to Danermark et al. (2002) and Sturgiss and Clark (2020), such circumstances contribute to the unpredictability of outcomes in an open system. This in turn makes it difficult to identify the opportunities and challenges of the Just Transition. Opportunities and challenges can in theory be documented through strategic documents and dialogue, but the Just Transition debates continuously shift, with many inconsistencies in language and action. The lens of critical realism reveals two key features of this situation. The first is the multi-layered nature of reality, which critical realists explain using the iceberg metaphor, and the second is the difficulty identified by Danermark et al. (2002) of making predictions in an open system. I respond to the question of the position of coal communities in the Just Transition by looking at where they stand in the Just Transition debate and whether the “just” in the Just Transition promises a transition that is just for these communities given the non-linear, complex, and contested, emergent transformation transition characterised by uncoordinated influences and discursive manoeuvres.

There is evidence of some effort at the national level in the PCC’s efforts not to leave coal communities behind in the Just Transition. The Just Transition strategic documents, the PCC JT Framework, the DMRE JET Framework and the JETIP all reflect a commitment to include coal communities in the transition. The PCC JT Framework and the DMRE JET Framework use phrases such as “workers and communities”, “communities that are dependent on carbon energy sources”, “affected stakeholders including communities”, “local communities that could be left worse off”, “local communities in coal areas”, “communities impacted by the shift away from fossil fuel-based economies”, “coal mining communities”, and “at-risk communities”. The JETIP mentions the “Mpumalanga coal communities”

directly, over and above other phrases referring to affected and dependent communities. Moreover, it clearly integrates these populations into the Just Transition planning. The impact of the transition to a low-carbon economy on these coal communities is also stipulated in the JETIP:

Coal fleet closure will directly impact about 90,000 coal workers in the mines and power plants of the poverty-stricken Mpumalanga Province where the sector is concentrated, having dire consequences for the extended number of livelihoods supported by workers in the sector, both in Mpumalanga and elsewhere in the country. The impact in the coal value chain is even greater, where coal-dependency exposures in the manufacturing, transport and agriculture sectors will threaten the livelihoods of many more families and communities. These social risks must be addressed for a successful energy transition to take place- The South African Transition Investment JETIP 2023-2027. (The Presidency 2023:23)

In addition to the priority areas reflected in the JETIP, coal communities, particularly in Mpumalanga, are also considered in the financial commitments towards a Just Transition. Various sections of the JETIP mention the intervention strategies envisaged for these communities. These include a commitment to addressing localised effects of the Just Transition in Mpumalanga to ensure restorative and distributive justice for coal communities. Moreover, the JETIP allocates ZAR60.4 billion towards Mpumalanga's Just Transition to build economic resilience, for rehabilitation, and the creation of better employment opportunities. The JETIP focuses on the opportunities that the transition to a low-carbon economy will have for coal communities. These commitments are envisaged to change the unjust realities that these communities have contended with under the Mineral Energy Complex system.

There is thus a stated and financial commitment towards ensuring that coal communities are not left behind. However, the various factors highlighted in this chapter, including inconsistencies at the national level, the complex political economy, and multiple actors with vested interests, make it difficult to pinpoint what the outcome will be for coal communities in the Just Transition. Furthermore, there are inconsistencies between the language in the strategic documents and action on the ground. The proclaimed efforts to include these communities and not leave them behind have not as yet translated to significant action. The transition is already underway; however, community members remain unsure of

their position in that transition. Issues of capacity at the local level hamper efforts to empower coal communities with education about the Just Transition. Skills transfers to offer livelihoods alternatives are lacking, even though they are being articulated in dialogues. The inconsistent language of the government, coupled with a lack of trust, and a knowledge gap between the affected stakeholders and interested parties that are well-versed in these debates, perpetuate what Hallows and Munnik (2022:83) regard as “distrust of a dysfunctional government”.

This situation also shows what Kohler et al. (2019) mean when they say that transition processes are non-linear and complex, entailing multiple interdependent developments. The open-endedness and uncertainty associated with transitions when multiple promising innovations and initiatives unfold at the same time make “it impossible to predict which ones will prevail” (Kohler et al. 2019:3). So, for example, although the JETIP clearly stipulates its financial allocation and commitment towards building economic resilience in the Mpumalanga coalfields, it is impossible to predict how this process will unfold. There is no certainty that the hoped-for outcomes will materialise, because of the non-linear and complex political dynamics inherent in the Just Transition and also because of issues of corruption, the erosion of accountability, and a lack of good governance. Given these realities, the question of a transition that is just for coal communities remains. I explore this in the next section by looking at how the justice question has been considered at the national level.

6.10 The justice question – what constitutes “just” in the Just Transition?

In addition to the question of what a Just Transition is, another critical question in the debate is what constitutes “justness” in such a transition. I intentionally consider this question at the end of this chapter to probe what justness looks like, given the national transition trajectory, which the study concludes is non-linear, complex and contested.

The stakeholders in the Just Transition consider the “just” aspect in terms of fairness, equity and justice, particularly the emphasis on “leaving nobody behind”. Earlier sections of this chapter have pointed to the vested interests and aspirations of different stakeholders in the process and how these influence the

definition of a Just Transition. I maintain that the manner within which different stakeholders conceptualise justness is shaped by their vested interests.

In the August 2021 TIPS policy brief to the PCC, Montmasson-Clair listed three dimensions of justice which were vital for fostering and achieving a Just Transition. These are procedural justice, distributive justice and restorative justice, which he considers policy primers for achieving a Just Transition. In 2022, the PCC incorporated these three pillars of justice in the PCC JT Framework, referring to them as “progressive principles” underpinning the just transition (PCC 2022:19).

Distributive justice as the first principle refers to the fair distribution of risks and opportunities arising from the transition, and the consideration of inequalities around gender, race and class:

The risks and opportunities resulting from the transition must be distributed fairly, cognisant of gender, race, and class inequalities. It is essential that impacted workers and communities do not carry the overall burden of the transition, and the costs of adjustment are borne by those historically responsible for the problem. (PCC 2022:9)

The framework further emphasises the issue of equipping South Africans, especially the poor, women, youth and people with disability with skills, assets and opportunities that will empower them to participate in the new economy, among other things. These are important priorities that seek to ensure that the Just Transition will correct some of the inequalities in the current system. This is in line with Svarstad and Benjaminsen’s (2020) assertion that distributive justice should consider variations in the distributive discourse. It is important to remain cognisant of the inherent inequities on the ground.

However, as my analysis has shown, there is unclear and inconsistent language in debates about the Just Transition. This is also visible in the descriptions of distributive justice in the context of the Just Transition, for example, in the aim of ensuring that the overall adjustments and burdens of the transition costs are carried by those “historically responsible for the problem” (PCC 2022:9). What does this mean in practical terms? As stipulated in the JETIP, the Just Transition depends on concessional loans to undertake its commitments. Such loans are a form of debt that the country will be liable for. This is in tension with the allocation

of the costs of adjustment to those who historically created the problem, as stipulated in the PCC JT Framework. Moreover, the statement that the JETIP depends on these concessional loans to carry out its commitment successfully implies that a lack of or inadequate concessional loans may affect the JETIP's implementation and justice commitments.

One of the arguments made in Section 4.9 is that there is a need to rethink “equitable” distribution in the context of the Just Transition, towards a “just” distribution. Unlike equitable distribution, a just distribution factors in the social justice demands for fairness and redress in a distribution model. A “just” distribution must consider the justice implications of the different processes and decisions made in the Just Transition distributive discourse. This includes, for example, the repayment of concessional loans and their implications for poor people in the short and the long run. The requirement of repayment will arguably undermine the achievement of sustainable development to protect the current and future generations and also undermines the very distributive justice agenda it seeks to attain. The reality that dimensions of vulnerability, need and responsibility, which imply that the levels of impact are inequitable and that the extent of and capacity for recovery differ accordingly (Svarstad & Benjaminsen 2020; Walker 2012; Williams & Mawdsley 2006) should underpin the distributive justice discourse. Therefore, I must stress the importance of rethinking the notion of equity in terms of distributive justice to address some of the potential social justice pitfalls.

The second principle, procedural justice, is concerned with issues of empowerment and support for affected populations in the transition by positioning them to define and develop their livelihoods. The emphasis is on open, active, transparent and inclusive relations among workers, community organisations and other stakeholders. According to the PCC JT Framework (PCC 2022:9), this can be achieved by empowering communities with knowledge on what constitutes the Just Transition, active participation in the policy-making process to enable them to influence the process and take advantage of opportunities, active collaborations through inclusive and participatory decision-making structures, and support for the design and implementation of Just Transition projects as proposed by individuals and communities in affected areas.

The PCC places significant emphasis on empowerment and support for affected populations to design and implement their own justice projects. In this context, I pose the question whether the Just Transition is empowering coal communities to effectively position themselves in the transition.

I argue that there has not been adequate empowerment at the community level to enable affected communities to position themselves strategically in the just Transition. Evidence from the study shows that there is little effort from the government to empower these communities to be strategically positioned in and influence the Just transition. Communities in the coalfields have indicated that they feel lost and confused about the processes unfolding on the ground. This signifies that they are already excluded from the design and implementation of the Just Transition amid the promise not to leave them behind. The empowerment required involves the kinds of justice highlighted by Montmasson-Clair (2021) to ensure ongoing participation and meaningful and long-term engagement on key decisions while enabling trust-building, capacity development, experiential learning and co-creation. Such empowerment would represent a shift from the historical exclusions which perpetuated injustice among the affected populations.

The question of power struggles and the limited power theorisation which Svarstad and Benjaminsen (2020) critique on the basis of procedural justice, through the Political Ecology lens, comes to the fore in this context. Malin et al.'s (2019) perspective on how power dynamics and imbalances in environmental justice are embedded in structural inequities that in some instances have perpetuated exclusions is also relevant here. Thus, I sum up the procedural justice debate as indicating that, given the multi-actor nature of the transition, and the inherent power dynamics, procedural justice needs to unfold as a deliberate process in the quest not to leave anyone behind.

In the last principle, that of restorative justice, the topic of historical damages is a central focus. The framework emphasises redress of historical damages for individuals, communities, and the environment through rectification or amelioration of the situation of disenfranchised communities. The PCC JT Framework (PCC 2022:9) unpacks restoration from a multi-faceted perspective which sees the achievement of restorative justice by acknowledging the health

and environmental impact of coal and other fossil fuels on communities, addressing energy poverty and the rehabilitation of degraded environments, addressing issues of inclusion through ownership and the participation of women and youth in a decarbonised economy, and remedying past harms by building on and enhancing existing mechanisms that promote equitable access.

Restorative justice's emphasis on rectification and amelioration is important, given the legacy issues that are a perpetual challenge for mining communities, such as acid mine drainage, sinkholes, polluted air and abandoned mine sites that host illegal mining (Hallowes & Munnik 2017). The PCC JT Framework envisages restorative justice through acknowledgement of the health and environmental impact of coal and other fossil fuels to communities. This statement is significant especially for coal communities that have contended with these realities. However, what does "acknowledging" mean within the current context characterised by tension and inconsistent language and action in the Just Transition? The inconsistencies in the language and actions of the government undermine the justice it seeks to achieve. The consequence may be the perpetuation of the injustices suffered by populations that have been given a false hope of salvation, if a chaotic transition pathway that undermines justice is pursued. In this context, it is worth remembering Svarstad and Benjaminsen's (2020) call for a sense of justice and critical knowledge production in the restorative justice discourse, and the importance of empowering affected populations to define their own restorative justice on the basis of what they subjectively perceive as adequate restoration. Critical knowledge production implies that these communities should produce and express their own knowledge of the nature and extent of historical damage that restorative justice should seek to address.

6.11 Conclusion

This chapter has synthesised and analysed the national transition trajectory through dialogues, engagements, and statements in strategic documents at the national level. The analysis captures the broad debates at the national level, which are characterised by multi-faceted contestation. The chapter has highlighted the broad scope of the Just Transition and the non-linearity,

complexity and contestation that characterise the transition. The character of the transition emanates from the multiple actors and complex power dynamics, and the political-economic context of the transition.

A central question in this chapter remains what this analysis means for the Just Transition trajectory at the national level. The non-linearity, complexity and contestation of the process make the transition difficult to grasp, and have led to a shift away from what looked like a purposive transition, characterised by well-coordinated and deliberately intended processes, towards an emergent transformation, characterised by uncoordinated pressures, contestation, inconsistencies, poor planning, with various discursive manoeuvres and strategies influencing the transition pathway. Moreover, the Just Transition is taking the shape of a mixing pathways transition, characterised by a non-deterministic sequence.

In the face of the non-linearity, complexity and contestation of the Just Transition in South Africa, the chapter has highlighted some of the key foci through which the question of the opportunities and challenges that the Just Transition presents for coal communities can be navigated. These include an alternative economy, which presents some opportunities and challenges for coal communities through the envisaged decentralised energy model and small-scale industrialisation. Other opportunities and challenges are reflected in the JETIP commitments.

In the next chapter, I explore the question of the position of coal communities in the Just Transition further by focusing on their voices, shaped by their lived experiences, perceptions and perspectives, and gathering from them what a Just Transition is and should look like.

CHAPTER 7: COMMUNITY PERSPECTIVES ON THE JUST TRANSITION

7.1 Introduction

So far, the study has established that the Just Transition is a non-linear and dynamic process underpinned by complex power and political processes. Therefore, responding to the question of what the opportunities and challenges are for coal communities in the Just Transition requires two analyses. The first is a comprehensive analysis of the processes at the national level, where the policies are made, frameworks are set up, and different engagements and dialogues among the multiple stakeholders in the transition take place. The second is an analysis at the local level to hear what coal communities say. Chapter 6 focused on the national level analysis, and sought to respond to the question of what the Just Transition trajectory at the national level is, or may become. The chapter provided a synthesis of the Just Transition trajectory and factors that influence it. Having considered the national transition trajectory, the current chapter now probes the question of the opportunities and challenges of the Just Transition for coal communities, focusing on the voices of the coal communities in the study area.

The study maintains that in order to achieve inclusive and wide-reaching societal transformation, the Just Transition must be underpinned by environmental justice. An appropriate justice framework is one that places affected communities at the centre of the Just Transition. Therefore, the voices of these communities, which have been shaped by their lived experiences, perceptions, observations and perspectives, constitute an important focus to ground the argument of this study regarding a transition underpinned by justice. Moreover, these voices are important for responding to the research question of what the opportunities and challenges for coal communities in the Just Transition are. Therefore, the current chapter, Chapter 7, tackles the analysis of data at the local level in order to understand the voices of the coal communities affected by this transition.

7.2 Overview: position of coal communities in the Just Transition

At the core of this chapter is the question of the position of the coal communities in the Just Transition. I begin my analysis with the secondary question, which is what the environmental justice struggles of coal communities in the current coal mining landscape are, in order to give a context to the issue of what opportunities and challenges arise from the Just Transition for these communities. I frame the current conditions by considering the perpetual and multifaceted injustice in which these communities are trapped. I argue that these injustices are perpetual because they can be traced over a long history of extractivism, imposition, and subjugation, tied to colonial, neo-colonial, and apartheid structures and the Minerals Energy Complex. They are multi-faceted because of the complexity with which they present themselves and the multiple layers of which they consist.

Given this complexity, I then ask what a Just Transition looks like for these communities. In responding to this question, I consider the voices of the coal communities, expressed in both invited spaces such as the PCC and DMRE dialogues, and other related platforms and invented spaces where engagements were initiated or led by community members or activists. I pay attention to how these community voices define and state what they envision as a Just Transition. For these populations, the question of what a Just Transition looks like to them proved to be a very difficult question to respond to, not because they do not know what they envision, but because the question carries a deeper and complex meaning for them. Some community members envision a Just Transition as an opportunity to bring about deep transformative change in their current socio-economic landscape, while others see an opportunity for redress. They see such a transition as a vehicle that could carry them out of the injustices they have perpetually endured in the current socio-economic and coal landscape.

However, they acknowledge that, like other developmental aspirations that promised better prospects but yielded the opposite by excluding them and rendering them voiceless and powerless, the Just Transition may potentially perpetuate such injustices. Thus, they are exercising significant agency to confront the current structures that keep them trapped in voicelessness and powerlessness and to break out of the perpetual cycle of injustice. Through their

agency, they want to advocate for real empowerment through meaningful inclusion and participation in the Just Transition.

On the other hand, there are coal communities that see the transition as posing a threat to their employment opportunities, their livelihoods, and the lives they have built. To position themselves in the ongoing Just Transition debate, these communities adopt a pro-coal agenda. This can be seen through an emerging agency in the form of resistance by some coal communities opposing the transition in defence of their employment, and of the lives and livelihoods they have built.

Chapter 7 reflects on the “justice” aspect of the transition in the context of coal communities. I argue that the quest for justice underscores the conflicting position of coal communities regarding the Just Transition. At the centre of the desire to break out of the current system, without losing employment and livelihoods, lies the justice question. Given all these complexities, what, then, is the position of these communities in the Just Transition debate? What opportunities and challenges does the Just Transition present to them? I argue that the justice emphasis in the Just Transition strengthens the prospects of a transition that will not leave these communities behind. However, the pursuit of these prospects has to navigate the non-linearity, contestation and complexities inherent in the Just Transition. Thus, I conclude the chapter by acknowledging that although these communities are empowered to some extent, and know the kind of transition they want, they may not get what they hope for from the transition.

7.3 Perpetual and multi-faceted injustices suffered by coal communities

In the quest to understand what a Just Transition means for coal communities, and the opportunities and challenges it presents, the realities of these communities in the current coal context constitute an important focus area. In exploring these realities, I consider one of the secondary objectives of the study, which seeks to analyse the environmental justice struggles of coal communities in the current coal landscape.

During the different engagements that took place over the three years of my fieldwork, I documented the realities of coal communities which, based on my

observation and interpretation, reflect the multi-faceted and perpetual injustice(s) which these communities contend with. I regard these injustices as multi-faceted because they take different forms. These include poverty, health crises, degraded environments, exclusion from decisions affecting these communities, and many other factors through which their injustices are experienced. These injustices are perpetual because they have a long history. They have persisted over time, and were exacerbated by apartheid, and some have been reproduced by newer systems in the post-apartheid era. I refer to these experiences as expressed by community activists.

During a gathering of community activists in Middelburg, a community activist said: "*Mines have taken away our livelihoods, altered our way of life and imposed a new livelihood system and way of life upon us. We have endured the results of this system for years now.*" The same sentiment was expressed by another activist during the semi-structured interviews with CBOs: "*... through the coal economy, people were given an opportunity to choose between their health and earning an income.*" These comments capture the reality of an unjust system (an extractivist and destructive system) which has been imposed on communities in the Mpumalanga coal belt. The landscape of the Mpumalanga coalfields is characterised by a deteriorating environment, as a result of local coal mining activities. The realities include poor water and soil quality, which have destroyed local agricultural activities; poor air quality, which has subjected these communities to respiratory health challenges; abandoned and unrehabilitated mine sites, which cause dangerous sink holes; acid mine drainage, underground fires, illegal mining and other challenges to which the mining industry has subjected coal communities (Hallowes & Munnik 2017; Moeng 2018).

In addition to the deteriorating physical environment, there are social disruptions. These manifest through new social ills and ways of life which have resulted from systems created by the mining industry and economy. This includes the migrant labour system, which drove the migrant labour influx into different parts of the Mpumalanga coalfields. This influx resulted in overcrowded hostels, and later in mushrooming of squatter settlements, which have not only altered the physical landscape of coal mining towns such as Emalahleni and Middelburg, and others, but have brought about more social challenges (Hallowes & Munnik 2016). During

the Strengthening Community Voices Project, activists pointed out that, in addition to the strain that the migrant influx with its large proportion of single males, imposes on basic service delivery and healthcare, communities have to deal with high levels of prostitution, HIV/AIDS, teenage pregnancies, and other social ills which they ascribe to the local mining economy.

The coal mining system has undermined the very development that it promises, through perpetual injustices which have created a vicious cycle of poverty. This mirrors the global picture of an unequal world in which an extractivist development model is imposed on resource-rich nations by the global North. In the context of coal communities, this was, and still is, a development model that promises significant improvement in the general living conditions through employment creation, new livelihood opportunities and significant changes that are supposed to build the local economy. However, these models remain capitalist and are profit-driven, thus subjecting these communities to a choice between employment and livelihoods and their health and well-being, exemplifying Cock's "Captive imaginary". Over time these communities find themselves facing changes that undermine their well-being and socio-economic development – thus subjecting them to an unjust situation.

This situation is also indicative of "the paradox of plenty", also called "the resource curse" or "resource plenty", which Acosta (2017) and Malin et al. (2019) articulate in terms of how resource-rich nations in the global South find themselves entangled in relations with countries in the global North which promised mutual beneficiation, but in fact delivered a one-sided benefit which leaves developing resource-rich countries poorer. According to Rodney (1982), this mechanism was used to drive the development of the global North while it accelerated widespread poverty and inequalities in the global South. This is the reality of coal communities in the Mpumalanga coalfields, where big corporates came in and promised development through the exploration and burning of coal, but left the communities with abandoned and disused coal mines, polluted air and water, diverse health problems and widespread poverty and inequality, while the big mining corporates amassed wealth.

This is an extractivist model which plunders the resources in resource-rich regions and leaves the regions in a vulnerable condition. Extractivist models affect the local environment and the daily reality of the affected populations, as they can turn normal (and ordinary) landscapes “into privileged spaces of war and death” which become unbearable for the local communities to live in (Mbembe 2003:33). In the context of these communities, Mbembe’s (2003:33) “privileged spaces of war and death” are characteristic of the capitalist interests which elites would do everything in their power to protect, and the result of which is disrupted physical environments that render the local environment a space of compromised safety, health and well-being for local communities.

These communities are further exposed to the “privileged spaces of war and death” in search of provisions. Bearing in mind Maseko’s (2021:110) characterisation of a mine worker as “disposable and dispensable, living and working in the shadow of death”, we can see how communities that participate in this economy are trapped in “spaces of death”. For coal communities, this is evident in how the extractive capitalist interests have turned indigenous resource-rich spaces into capitalist wells and the populations in these spaces into proletariats, and how lives are altered and disrupted, in some instances involving forced removals to make way for mineral extraction. In the process, livelihoods are disrupted, therefore forcing men to sell their labour to the capitalist extractive establishment. Big corporates build substantial wealth, while local populations are entrapped in injustice (Fine & Rustomjee 1996).

In the coalfields, injustice was also perpetuated through a system that disrupted the social cohesion, namely the housing of labourers in male-only hostels which disconnected labourers from their families for months. Maseko (2021) describes the single-sex compounds, with restricted movement and limited interaction with surrounding communities, as a prison-like system. His analysis deploys

an epistemic method of ‘shifting the geography of reason’ in order to read the experience of mineworkers in South Africa from the locus of enunciation of the oppressed subject, within the scheme of a colonial power differential based on a hierarchy of humanity (Maseko 2021:110).

Maseko’s (2021) analysis connects the experience of being a black mine worker to colonialism, capitalism, subjugation and what he considers a sub-human realm. A new social landscape arose from the migrant labour system, the history of a

prison-like compound system, and later the squatter system. This landscape is characterised by broken social and family networks, social ills such as extramarital affairs, prostitution, the easy spread of HIV and other health effects which make the mining fields vectors to the sending areas in an unfavourable way.

The colonial template on which mining in post-apartheid South Africa is still built has kept mining going. This is reflected in Skosana's (2021) article on dispossession and the desecration of ancestral graves by mining corporations in South Africa. Skosana's (2021:13) definition of dispossession as "the loss of incorporeal possessions such as history and belonging, and the dislocation of the memory attached to material things" links mining in post-apartheid South Africa to the apartheid era. She shows that for mining corporations such as Glencore and PGS, the houses and graves that are sacred and attached to the spiritual security of communities are reduced to commodities that stand in the way of profit-making. From this, we can identify the extractivist logic that underpins capitalism and that undermines the social well-being of local populations. This reflects the perpetual pattern of dispossession which in the apartheid era facilitated the large-scale forced removal of black populations from their indigenous lands for political reasons. In the democratic era after 1994, such forced removals and dispossessions continue because the supposedly democratic government allows companies to dispossess people for capitalist reasons. These dynamics reflect what Brown and Spiegel (2019) call "accumulation by dispossession", in which an extractivist agenda thrives on the displacement of local communities and enclosure of resources for the benefit of elites. This total disregard for the host communities underpins the system of accumulation which has perpetually entrapped host communities in a vicious cycle of injustice can be explored further in line with Rodney's (1982) views on the underdevelopment of Africa by Europe, where he links the current under-developed state of a nation to its relationship to developed nations. As he puts it, "the under-development with which the world is preoccupied with is a product of capitalist, imperialist and colonial exploitation" (Rodney 1982:16).

Beyond the colonial and capitalist history that has shaped the current coal mining landscape, there are current structures that perpetuate these injustices. For

example, many of the big mining corporates that operate in the Mpumalanga region are international conglomerates which, according to Hallowes and Munnik (2016), produce 80% of domestic coal and also dominate the export economy. Capitalism, bolstered by long-standing patterns of colonialism, characterises the coal economy. This model underpins all mineral extraction, which has seen mining communities becoming poorer amid significant domestic and international economic activity in their locality. A significant proportion of South Africa's high-grade quality coal is exported to European nations. This enables these developed nations to address their current energy needs, while South Africa is subject to an energy crisis. This example shows the global North and global South dynamic in the context of what Frank (1969) and Sonntag (2001) refer to as dependence or dependency, namely a pattern of resources moving from the periphery (South Africa) to the core (Europe) to sustain the core's economy. While communities in the Mpumalanga coalfields suffer dire energy crises which have prompted protests, powerful nations access high-grade coal to address their own energy needs. Frank (1969) thus rightly attributes contemporary under-development of a state such as South Africa to historical and continuing economic and other relations with developed nations. This is certainly true in the context and reality of South Africa regarding the energy and mineral economy.

This same logic underpins the green extractivist initiative which, according to Kalt et al. (2023:7), "strives to position South Africa as an export economy for supplying Europe with green hydrogen and other value-added products...facilitated through strategies that seek to position South Africa as a green hydrogen investment destination of choice". According to Kalt et al. (2023:9), although this sounds as a good model that will position South Africa strategically in the international market, this model is underpinned by an extractivist logic "reproducing neo-colonial patterns with the 're-primarisation' of the economy towards low value-added products, an unequal division of labour, and communities being dispossessed of their land". This, therefore, re-iterates the point made in Chapter 6 on the prospects of reproducing the periphery and core logic with a green tag and "corporate capture of the green economy discourse" (Cock 2014:18) or "climate-crisis capitalism" (Bond 2011:1). This pattern aligns with Hickel's (2017) writings regarding the exploitation of natural resources

intended for the development and prosperity of the global North at the disadvantage and widespread poverty of the global South; and Rodney's (1982:14) "relationship of exploitation".

I have presented this picture to demonstrate the nature of the multi-faceted injustices that coal communities have endured and still endure, and how these have unfolded in the complex historical and current political economy. The plundering of communities in resource-rich regions by the colonial, neo-colonial, apartheid and post-apartheid capitalist systems has subjected communities to very difficult conditions. Coal communities in the Mpumalanga coal mining regions reflect this reality. The effects are not just the observable physical damage to the environment, but layers of psychological, physiological, and mental disruption and spiritual insecurity. This presents a myriad of injustices that are deeply rooted in development models which have yielded negative effects. The current conditions of coal communities are entrenched in a long, twisting history with layers of extractivism, imposition, subjugation, which are all features of an unequal world.

Injustices do not occur in a vacuum, but are commonly shaped by complex layers in systems designed with a particular agenda. As Frank (1966) points out, past economic and social history are important to consider in order to understand current "underdevelopment" conditions. Hence, Rodney (1982) and Frank (1966, 1969, 1991) advocate undertaking a historical account of the economic and other relations between developed and underdeveloped nations, carefully considering the inherent capitalist systems. Therefore, from both Rodney's and Frank's perspectives, it is important to consider the current injustices in the coal mining regions' economic (imperialist and capitalist) and social histories.

7.4 Moving towards a "just" state

Given the complex reality of coal communities and the coal economy, the core question in the context of this study is "What does a Just Transition look like for coal communities?". In responding to this question, I consider the voices of the coal communities as expressed in both invited spaces such as the PCC and DMRE dialogues and on other related platforms, and invented spaces, where engagements were led by community members or activists. I also consider the responses of representatives from the sampled CBOs in the coalfields, who were

asked in the semi-structured interviews “What does a Just Transition look like to you (and your organisation)?

Some of the definitions of a Just Transition that were provided by community members or activists during dialogues included “*deep transformation which goes beyond just changing the energy sector, but the whole system*” (Community Activist 1), “*a holistic systems transformation of all sectors of society*” (Community Activist 2) and “*fair change with commitment for inclusion*” (Community Activist 3).

These were the responses of CBOs to the question of “What does a Just Transition look like to you (and your organisation)?”:

A Just Transition should address poverty issues on the ground, address joblessness, and ensure that communities are not side-lined in the processes, but are given an opportunity for meaningful participation. (CBO Representative 1)

A transition that is ‘just’ will present a second chance, an opportunity to make things right and correct the governance and inequality ills we have been battling with and create an opportunity towards equal access to resources. (CBO Representative 2)

Correcting the injustices of the past and creating new green opportunities that will benefit communities, while also addressing climate change issues. (CBO Representative 3)

There are common key phrases and emphases that run through the definitions provided by these community members. These include deep transformation (which has already been unpacked in Section 6.4.2), a bottom-up approach, correcting injustices, rehabilitation, participation, empowerment, and fairness, among others. A Just Transition as defined by these community members should embrace a deep transformation that seeks to correct and address the injustices that these communities have endured for decades, creating opportunities for meaningful participation, and embracing the commitment to justice and fairness. A deep transformative Just Transition that would confront and change the status quo of these communities would be in line with Cock’s (2016) third approach to a Just Transition, the “alternative notion”, which views climate change “as a catalysing force for massive transformative change, an alternative development path and new ways of production and consumption” (Cock 2016:56). This approach presents an opportunity to correct and address the injustices that these communities have contended with for decades.

During an interview, one CBO representative and community activist argued that a Just Transition should take a bottom-up approach, which he articulated as meaning that the Just Transition should be built from the ground up. He maintained that seeing and understanding the conditions that coal communities face in the current context and starting a Just Transition conversation from that understanding would inform a truly Just Transition. He added that a transition will be just if it is anchored on the deep desire to change the uncomfortable reality of coal communities that bear the brunt of the current energy economy. These communities want a bottom-up approach to a transition which emphasises the poor as leading and driving development projects aimed at them (Kaiser 2020) to correct the ills they have endured for decades. These communities maintain that Just Transition planning should start by acknowledging that there is a health crisis, a water crisis and other crises as a result of the current energy economy. Building a Just Transition from the ground up would mean confronting these issues on the ground to move towards proper health care, improved service delivery, and better education, among other basic things. Furthermore, they maintain that in planning for a Just Transition, there should also be an acknowledgement that there is a governance crisis which could frustrate the Just Transition.

Reflection on these comments reveal the essence of what the comprehensive and decolonial environmental justice framework that is developed in the current study (in Chapter 4) calls for, namely a Just Transition that considers justice from multiple perspectives. This speaks to moving towards a just state by building an equally multi-faceted transition model underpinned by a justice framework throughout the project. Such a rootedness in a ground-up approach also emphasises the sense of justice described by Svarstad and Benjaminsen (2020), which listens to affected people who are subjectively perceiving, evaluating and narrating their issue(s), and then determines a suitable intervention which those people perceive as potentially benefiting them. Similarly, such an approach is in line with Svarstad and Benjaminsen's (2020) call for critical knowledge production, as these coal communities, which are the affected populations, are able to voice their sense of justice.

It is noteworthy that these communities emphasise "deep transformation". I consider "deep" in the context of the transformation that these communities are

advocating for through the Just Transition as referring to systematic and systemic changes that would confront the structural mechanisms which shape the injustices they contend with. These communities perceive the Just Transition as a vehicle that could take them out of the complex web of injustices resulting from an extractivist energy model. This re-iterates the argument that the transition can only be “just” if it does not merely mean a shift from the current energy model to another, but in fact corrects the deep injustices that the current energy model has imposed on these communities.

7.4.1 A transition is just if it does not leave coal communities behind

As explained in Section 6.3.2, the Just Transition is underpinned by a commitment not to leave anyone behind. This commitment is crucial to coal communities that have perpetually been excluded from important decisions that affect them. During dialogues and engagements these communities have indicated the desire not to be left behind in the Just Transition. This was articulated through a strong advocacy for inclusion and empowerment, which they maintain can be achieved through participatory democracy, justice, governance, capacity in local government, social ownership in the new energy model, and many other strategies.

These communities define what it means for them not to be left behind in statements such as “*no transition for us without us*”, and the comment “*we have been disappointed before*”. These statements reveal an understanding that significant development processes such as the Just Transition can leave them behind even though those driving the processes claim to be committed to including them. These communities are aware that they have been victims of processes which only pretended to value these communities, their voices, and experiences, but only went through the motions in order to tick some boxes to satisfy bureaucratic requirements. One CBO representative from Komati, where the recent decommissioning and repurposing of power station resulted in the closure of local mines and businesses (see Section 6.6.1), said:

Why do we say a ‘just’ transition? The transition already does not look and feel just. We have lost our jobs with no sense of what is happening and where we are going. Some soft skills trainings are happening here and

there, but we don't really know or understand what we are being trained for.

His frustration reflects the incoherence of the processes unfolding in the Just Transition, where there is a wide gap between what is planned in government offices and what the community is anxiously waiting for: alternative job opportunities that will enable them to secure an income and support their families. These communities already feel left behind in their own transition. This re-invents the wheel of injustice for these communities. Hence, these communities demand a shift towards coherent, meaningful inclusion. As a few community activists have articulated it: *“Community experiences with participation and consultations have not been meaningful; therefore, we need a participatory approach that is credible and meaningful.”*

During the dialogues and engagements, community activists defined a participatory approach that would achieve meaningful engagement and outcomes that

- serve the interests of the coal communities;
- go beyond harvesting ideas to meaningful use of those ideas, followed by clarification of how those ideas have been used;
- build confidence that the transition is really meant to include the coal communities; and
- make the participatory process educational in order to build capacity on the ground and also address the economic, social and educational inequalities on the ground.

Based on my observation, there is a strong and significant shift in the manner in which these community activists packaged the issues of inclusion and participation from voicelessness towards a clear articulation of what these communities want. This reflects a strong sense of breaking through the limitations imposed on them and the disregard they have suffered alongside dehumanising environmental injustices. Coal communities understand that they are key stakeholders in decisions that affect their lives and livelihoods. Moreover, they know that there is a common perception that subjects them to misrecognition and relegates them to meaningless inclusion. These communities are well acquainted with the reality of being viewed as research subjects or participants positioned for

knowledge harvesting without any significant return for them. Therefore, they are fighting to challenge the status quo and redeem their identity as important stakeholders in decisions affecting them through clearly defined participatory processes.

This significant shift challenges the perception that poor populations are powerless and voiceless. Coal communities are well aware of their struggles and the structures that render them powerless and build barriers to exclude them. Geels and Schot (2010) argue that actors are not disempowered passive rule-followers, but are often knowledgeable agents who require structures to enable their actions. Therefore, according to Giddens's Structuration Theory (see Section 2.3.3.2), which emphasises the duality of structure and agency, these communities have agency, but in addition require structures to enable action. Hence, a Just Transition underpinned by a commitment not to leave anyone behind must present a structure that enables the agency of coal communities to transition towards a low-carbon and climate-resilient economy. The study shows that the local and national government (which should provide an enabling structure for these communities), do not seem to be available as enabling structures of this nature. Therefore, these communities use civil society (and social movements) as the structure to enable their agency.

The agency of these communities is visible through their language and also in the bold actions they take. This was seen during the Mpumalanga Green Cluster Agency Energy Summit,² one of the biggest events in Mpumalanga, which hosted delegates from the provincial government, European delegates, CEOs and management teams of big entities and corporates such as Exxaro, ESKOM, the Mineral Resource Council and many other powerful actors in the energy sector. Community activists demanded a slot in the well-planned and structured programme, which had not factored them in. After hours of sitting and listening to the "important stakeholders" that were given opportunities to make presentations, coal activists from different towns in the Mpumalanga coalfields demanded an

² The Energy Summit was one of the most significant and prestigious events organised by the Mpumalanga Green Cluster Agency on the Just Transition which I attended as part of my fieldwork on 24 and 25 May 2022.

opportunity also to make their presentation. After long deliberations, they were afforded that opportunity. They articulated the injustices of the current energy system and what kind of a transition they wanted. They posed very difficult questions to the government, the Mineral Resources Council and the European delegates. After their presentation, they were ushered back to their seats with a standing ovation. All the European delegates from the different embassies and significant global organisations such as COBENEFITS wanted to hear more through multiple interviews and the conversations kept going. This act of boldness and confidence not only challenged the narrative of communities being powerless and voiceless, but reflects a strong sense that coal communities can and want to negotiate their power in the Just Transition.

The concept of power has been conceptualised in this study from multiple perspectives. These include structure and agency, the multi-actor perspective, actor-oriented power, and power complexities in transitions. In Section 2.3.3.2, I indicated the deployment of structure and agency for the purpose of exploring community agency in the power structures that play out in the Just Transition debates. I asked what the context is of the autonomy of coal communities in the current Just Transition debate. In responding to this question, I pay particular attention to strong community activism in the coalfields. Coal communities display autonomy regarding the transition and any related development in their area. This strong agency is reflected in the efforts of coal communities to negotiate themselves out of the multi-faceted perpetual injustices imposed on them. This is enforced through their agency to define a transition that will be truly just for them. As the example above shows, coal communities can indeed break through the structures of the current coal landscape and whatever influences it has imposed on them. Nevertheless, Howarth (2013) cautions that although such communities exercise agency on the structures they have inherited, no significant change can occur until such structures make available possibilities for change. These communities consider the Just Transition to offer precisely such a structure, offering an opportunity for change towards a just state.

However, at the core of their agency lies the issue of affectedness and dependency –these communities have to navigate the current coal landscape from the position of being negatively affected by it on the one hand, and being

dependent on it for their employment and livelihood on the other. From the comment already reported in Section 7.3 about the coal economy giving “*people an opportunity to choose between their health and earning an income*”, it is evident how these communities contend with structures that seek to keep them trapped in injustices with a promise of employment and livelihood security. This results in a paradoxical position of dependence and affectedness which Cock (2015:866) refers to as a “Captive imaginary”, which is constrained into contradictory patterns ranging from confrontation to dependence. In this context, agency has to be leveraged against a structure that is favourable at one end (dependence) and unfavourable at the other (affectedness). However, through the Just Transition, these communities are redefining the terms of reference and are exerting strong agency to break out of the impasse through what they consider “deep” transformation and fair (just) change. Therefore, in navigating their position of being negatively affected by the coal economy, on which they also depend for employment and their livelihood, these communities are defining the kind of transition that would be just for them and not leave them behind.

Meaningful inclusion that aligns with the processes and principles of participation as called for by these communities becomes an enabling structure for the agency of these communities. Coal communities are eager for a transition process that is empowering rather than meaningless and disempowering. They do not just want to be included in the process, but want to strengthen their capacity to influence the actions and decisions that will affect them effectively as the Just Transition unfolds, and after the transition. The kind of participation that these communities want reflects De Beer’s (2012) notion of radical participation, where communities are not just co-opted into Just Transition projects, but lead their own development and have decision-making powers. From a socio-technical transition theory perspective, the question of the agency of these communities relates to the dynamic, complex nature of socio-technical transitions and their inherent multi-actor nature, which may mean that the least powerful stakeholders and actors may be left behind in Just Transitions. Geels (2020) and Jain (2020) have articulated actor agency and the role of actors in driving the transition. Therefore, coal communities compete with the vested interests of other powerful stakeholders.

The strong agency claimed by these communities seeks to counter experiences of exclusion, which scholars such as Leonard (2017) have shown to be played out when the participation of local communities is considered trivial by mining companies and the government, as can be seen in a disregard for the voices of local communities in the processing of mining rights and licenses. Over the years, exclusion has constituted a mechanism to subject mining communities to injustices associated with mining. Thus, the agency of communities to achieve meaningful participation must negotiate a hostile context of disregard, exacerbated by their entrapment in perpetual environmental degradation. Coal communities are rising up against structures that seek to disempower them and silence their voices. They are insisting on having their voices heard.

The evident capacity among coal communities to fight for a transition that is truly just aligns with Avelino and Rotmans's (2011:798) reflections on power "as the capacity of actors to mobilise resources to achieve a certain goal". This kind of agency is characteristic of Avelino and Rothman's (2011) constructs of transformative power (actors' capacity to change how things are done), an constitutive power (the capacity of actors to control and manipulate structures). Constitutive power is reflected through the organised activism structures in coal communities, which is a strong voice in the transition. Having contended with disempowerment, which has manifested as multi-faceted injustices for decades, coal communities are harnessing the Just Transition to challenge the injustice narrative and fight for their place at the table. Therefore, beyond just exercising power, in terms of Avelino and Wittmayer's (2017) work on the use of the Multi-actor Perspective as a heuristic framework for analysing shifting power relations in transitions, through their agency, community activism is eliciting power shifts in the transition.

7.4.2 An emerging resistance agenda

The agency of coal communities in the Just Transition is further manifested through what looks like a resistance agenda against the Just Transition. Some coal communities have acknowledged fear of losing their employment and livelihoods. Community members raise the likelihood of the creation of ghost towns, as emphasised by DMRE Minister Gwede Mantashe. During the DMRE

and Nkangala District Municipality Dialogue, some activists indicated concern over what they perceive as the imposition of a transition model that will take away their jobs and their coal sovereignty, leaving them worse off. One of the activists presented their resistance as a threat: *“Our coal is not going anywhere. If we cannot use it, then no one is allowed to transport it to the Richard Bay coal terminal.”* Activists opposing the transition voiced their determination to fight for their jobs and livelihoods. The dialogue was followed immediately by a demonstration during which the protesters sang and danced. They carried placards with wording such as “Hands off our jobs” and “Don’t take our dignity”.

The conflicting positions in these communities are creating chaos on the ground. Some activists advocating for the Just Transition reported at one of the Strengthening Community Voices Project, Monitoring and Evaluation meetings that they were being threatened and considered “sell-outs” by community members who resist the transition. The inconsistencies at the national level, as explained in Section 6.5, are having a trickle-down effect to the level of the affected populations. The disruptive, contested, non-linear nature of socio-technical transitions described by Geels, Sovacool, Schwanen and Sorrell (2017) and complex negotiated processes and trade-offs are characteristic of the Just Transition at the national and local levels.

More contestation was captured through the alternative energy model debate. During the same engagement (the DMRE and Nkangala District Municipality Dialogue), the Minister was flooded with questions and concerns on how the Independent Power Producers Procurement Program (IPPPP) undermines the commitment to inclusion by imposing an energy model that is not favourable to poor communities such as those in the coalfields. One community activist was of the opinion that the communities *“do not want an alternative energy model that will perpetuate monopoly, poverty and inequality on the ground”*. These communities hold strong views around the decentralised model. They emphasise that a “truly just” transition has to premise the idea of a decentralised model on their inclusion, in other words, through a social ownership model that will empower coal communities. These debates again emphasise the complex nature of the Just Transition and “how exclusion is not a random process...but is structured by power relations” (Hall et al. 2011:4). As Brown and Spiegel (2019:161) point out:

“A coal phase-out constitutes only one aspect of the socio-technical transition now underway, and for communities whose lives are entangled with the hydrocarbon economy, a crucial concern is what will follow in its wake.” These communities are faced with the challenge of navigating a transition that is supposed to bring opportunities, but at the same time poses many challenges and prospects of exclusion.

7.4.3 Empowered populations: the role of NGOs and CBOs in empowering coal communities

I maintain that coal communities are sufficiently empowered to know what kind of transition would be just for them. Based on my observation in the communities, the agency that is seen among these communities is enabled by the empowering presence of CBOs and NGOs that provide these communities with the knowledge and skills they need to exercise their agency and autonomy to fight for their well-being. Such empowerment is evidenced in the continued emphasis on meaningful inclusion. During the PCC dialogue on Governance: JT Framework: Dialogue on governance for a Just Transition,³ Mr Thomas Mguni, a coal campaigner and activist in the Mpumalanga coalfields, representing fellow community activists, commented on agency regarding the inclusion of coal communities in the Just Transition. He noted the need for the following (among many other issues of inclusion and participation):

- Open dialogue: These communities called for the creation of a safe space to say what they think and have their voices taken seriously. They argue that this will challenge the common practice of merely ticking boxes, and instead create a dialogue space where “what the next person says can change your mind”, as described by Bakhtin (1986) in his work on the dialogics of space (cited in Holloway & Kneale 2000).
- A parliament of knowledge: They want all knowledge to be respected and for there to be openness to learning from all forms of knowledge (all knowledges should be seen as equal and significant). They emphasised that their indigenous knowledge, derived from lived experiences, should not be

³ Held on 5 November 2021 (see Table 5.1).

overlooked or undermined as non-scientific knowledge. This call is in line with Visvanathan's (2005) concept of cognitive justice.

- Spaces and opportunities for participation: Community members and activists need spaces and chances to participate and share their ideas and opinions effectively and comfortably.
- Knowledge empowerment: They want knowledge that will enable them to know and understand what they are faced with (a holistic view of the Just Transition which includes the intentions and agendas of all stakeholders).
- Access to strategic conversations and dialogues: They want these to be made accessible to them in terms of location and language.
- Capacity building and community voice: They also advocated for capacity building and strengthening of community voices as part of the Just Transition in an effort to address educational inequalities.
- A level playing field: They want the playing field to be levelled to position communities as equally important stakeholders in the Just Transition.

These calls capture a strong sense of a demand for inclusion that is not mere rhetoric or uncoordinated. These communities want a structure to guide well-coordinated and meaningful inclusion in the Just Transition. I therefore maintain that these communities are empowered to some extent. NGOs and CBOs such as the Vukani Environmental Movement in Emalahleni, the Khuthala Environmental Group in Ermelo, the Middelburg Social and Environmental Justice Alliance, Womxndla in Carolina and other structures in the Mpumalanga coalfields have made significant efforts to empower their communities with knowledge, and use both constitutive and transformative power (see Section 7.4.1) to change the status quo and challenge the reality of exclusion and imposition. As part of the grassroots and social movement structures, these CBOs deploy power as a resource to confront complex webs of power. These activists exercise agency and want to empower and share their power with local communities in their quest for Just Transition Resource Centres (a need first identified in the 2020 GroundWork Report), which they maintain will position them to educate their communities about the Just Transition.

Social movements such as these play a significant role in aiding development by deploying strategies towards broadening governance practices, promoting new

and alternative ways of thinking to question dominant discourses, and challenging bureaucratic modes of engagement (Bebbington et al. 2010). The agency of these community activists and CBOs in the coalfields regarding their position in the Just Transition supports the argument by Deng et al. (2023) who maintain that social movements strategies in energy transitions have evolved to include the use of tactics, and the mobilisation of political and social networks through which to gain access to national policy-making and the reframing of narratives. Moreover, this reflects the kind of actor-oriented power among these communities which Svarstad et al. (2018) articulate as the agency exercised by actors. I consider this agency in the light of the writings of Biersack (2006) and Tetreault (2017), who argue for the analytical approach of a poststructuralist Political Ecology to consider the realities of communities such as the Mpumalanga coal communities that are the focus of my study by allowing for a more localised case study which can capture the realities of the marginalised actors and their agency, and social inequalities. From the perspectives of these scholars, Political Ecology offers a useful lens to consider power from the position of actors in the context of their realities, which are characterised by structures that they have constantly had to fight against. The three core attributes of Political Ecology (it is deconstructive, decolonial and emancipatory, as discussed in detail in Section 3.4.3), highlight the emancipatory aspect of Political Ecology. Leff (2012) argues for this emancipatory element in the context of opposition to metaphysical thinking, hegemonic world systems and political orders that subjugate and misrecognise other systems (including knowledge systems). This emancipatory trajectory then helps to destabilise the dominant order in an effort to establish alternative ways of thinking and being. As I have indicated in that section, this prompts an alternative way of thinking that challenges the status quo by shifting from exclusion to inclusion, recognition and meaningful participation. The call for parliaments of knowledge, where these communities demand recognition of their indigenous knowledge, shaped by their experiences, alongside scientific knowledge, resonates with such alternative ways of thinking. This clearly reflects the position of the Mpumalanga coal communities and their agency towards a truly Just Transition.

7.5 Capacity issues at the local government level

The topic of capacity at the Local government (the Municipal level) dominated conversations at different levels. It was a key focus in many parallel sessions and plenary discussions on different platforms, including the PCC multi-stakeholder conference, the Africa Energy Indaba, PCC stakeholder engagements and Climate Action group meetings.⁴ Local government is well positioned as a structure to facilitate a Just Transition that does not leave communities behind. However, as it stands, the question of the capacity of the local government to facilitate a just transition was met with negative responses, which reflected a lack of confidence in local government. Coal communities maintain that local government is disempowered in terms of capacity and knowledge regarding the Just Transition.

Some of these communities voiced frustration with the lack of information regarding the Just Transition. One community activist explained:

The lack of engagement and dialogues at the local government is causing confusion and frustration on the ground. Communities hear about the Just Transition; however, there is no information that the local government is sharing with the community. Our efforts to engage the local government regarding the changes that the Just Transition will bring on the ground are dismissed.

I personally encountered a lack of information among community members during my visit to Kriel in the Mpumalanga coalfields. This was at the time of the dialogue between Minister Gwede Mantashe and his department, the DMRE and the Nkangala District Municipality.⁵ I drove for hours looking for the indicated venue, and no one in the community knew about it, or even understood what I was talking about. I went to different sections of Kriel and drove to all the community halls. No one seemed to know about the dialogue or the venue. After three hours, I eventually found the venue, which was the EXXARO Coal Matla Hall, located a few kilometres outside the community. The hall was about 80% empty, and the justification provided was that the organisers had to change the venue at the last minute. I found this very problematic on many levels. On one level, if the dialogue

⁴ Held on 2-5 May 2023 (see Table 5.1) respectively.

⁵ Held on 10 December 2022 (see Table 5.1).

was between the DMRE and the Nkangala District Municipality, why was the community not aware of it, or invited? Secondly, why was the venue inaccessible? Thirdly, why was the community unaware that a minister was coming to their town to discuss their future (even the communities working at EXXARO Coal and the Kriel power station were not there). Only a few community activists, the district leadership and DMRE were present.

I give my personal account here to demonstrate the fragmentation of the processes on the ground, despite a rhetoric of inclusion and participation regarding the coal communities and local government. The Just Transition “requires effective and responsive local government” that will “become functional and efficient partners” in the implementation of plans and projects (Jacobs et al. 2022:67). In view of the fragmentation visible at the local government level, I must then pose the question: what constitutes leaving nobody behind, given the reality of what is happening on the ground? Is leaving nobody behind merely rhetoric or is there any true intention of ensuring that nobody is left behind in the Just Transition? During the semi-structured interviews, most of the CBO representatives held the view that coal communities are already left behind in the Just Transition. One added: *“Its only people who know and understand what the Just Transition is and what it entails that are part of the conversation.”* During the PCC Komati Stakeholder engagement,⁶ one community activist and leader wanted to reduce the speed at which the transition is unfolding, especially given the reality of the communities’ being excluded from the transition processes, but already bearing the brunt of job losses and livelihood disruption. This reflects the uncoordinated transition (Smith et al. 2005) unfolding on the ground and the lack of information among communities, the lack of capacity at the municipal level and broad inconsistencies in the Just Transition. Drawing on Osunmuyiwa et al.’s (2017) notion of “discursive capability” and Geels’s (2014) term “discursive strategies”, I argue that the commitment not to leave anyone behind in the transition is often merely a discursive framing which powerful actors use to perpetuate a narrative of inclusion, while not genuinely engaging with such

⁶ Held on 27 October 2023 (see Table 5.1)

inclusion. I maintain this position because the prospect of these communities' being left behind is already becoming a reality.

7.6 The “just” that translates to justice

The justice aspect of the Just Transition remains an important focus and emphasis. As indicated in Chapter 6, a critical question in the Just Transition debate is what constitutes the “just” aspect in the Just Transition. The dimensions of justice have been categorised as distributive justice, procedural justice, and restorative justice (explained in detail in Section 6.10). However, although the broader justice emphasis is the same, the conceptualisation of justice by coal communities emanates from a different position and has a different emphasis. This position is one of being trapped in multi-dimensional and perpetual injustices, with a long history entrenched in coloniality, post-coloniality, capitalism and a post-apartheid context. These communities are among the black poor populations contending against the ongoing injustices of a colonial and apartheid system in a democratic dispensation, as can be seen from continuous protests for access to basic services such as clean water and energy. Some of these the local people, especially in informal settlements next to power stations and coal mining establishments, live under unfavourable conditions, and most do not have grid connection. A substantial number depend on coal accessed through artisanal and local small-scale mining activities for cooking and heating. This is happening in a democratic post-apartheid South Africa that has a good legislative framework, but poor enforcement. Thus, in view of this, the question of “what does justice look like for these communities in the Just Transition?” remains crucial.

Throughout the different reflections in dialogues and conversations with coal communities, they framed their understanding of justice in the context of procedural justice, restorative justice, participatory justice, distributive justice, economic justice and gender justice. These justice dimensions defined by communities are aligned with the three pillars of justice (procedural justice, distributive justice and restorative justice), which the South African JT Framework captures as progressive principles underpinning a Just Transition, as discussed in Section 6.10. Although these justice framings align with the framing of justice

in the PCC JT framework, coal communities express a different emphasis that is shaped by their realities.

Procedural justice is described by these communities as relating to the principles of participation: these communities want meaningful, empowering consultations. This is then connected to participatory justice, as articulated by means of the processes and principles described in Sections 7.4.1 and 7.4.3 This includes enabling workers and communities to inform decision-making around the Just Transition. These communities emphasise the need for progressive solutions which should come out of the larger population. Procedural justice was strongly emphasised as a justice process that should take place now, as the Just Transition unfolds. As one community activist explains, the *“failure of the Just Transition processes to adhere to procedural justice will be an indication that the Just Transition is not truly meant not to leave nobody behind”*. Given the complex and multi-actor nature of the Just Transition and the vested interests underpinning it, coal communities advocate for the primacy of procedural justice in the transition from the very beginning phase, in other words, from the planning phase. Documented lessons from the historical exclusions that these populations have suffered now prompt them to fight for inclusion from the outset, to give these communities bargaining power which they can leverage throughout the transition process. The empowerment envisaged through the inclusion will build and strengthen the voices of these populations in the Just Transition.

In addition to inclusion, coal communities demand action on issues around service delivery, access to clean water, good health care and land. They argue that these issues should be considered in the quest for procedural justice as it underpins the Just Transition. These issues dominated the PCC stakeholder engagements, where communities demanded that a Just Transition should start by addressing these issues on the ground, which constitute their daily uncomfortable reality.

Moreover, in view of the changes that will happen as a result of the transition towards a low-carbon economy, communities and workers demand a detailed employment creation plan to address the anticipated job losses in the fossil energy sector. They maintain that due consideration must be given to the informal

economy, on which the majority in these communities outside the formal coal mining economy depend.

Communities want a transition that is cognisant of their current context and for their context to influence planning in the Just Transition. The bottom-up approach which these communities are advocating for is a process that will correct the situation from the ground up. The multi-faceted injustices discussed above also imply that the vulnerability and exposure to risk for these communities to climate change is much higher because of their degraded landscape, thus reflecting Williams and Mawdsley's (2006) point on varying exposure, risk and vulnerability, which are an important consideration in the distributive justice paradigm. Therefore, planning for a Just Transition should prioritise these communities and effectively respond to their affectedness (vulnerability exacerbated by the degraded physical environment and compromised physical security) and dependence (jobs and livelihoods that they depend on in the fossil economy). The procedural justice framed by these communities reflects a strong aspect of participatory justice and recognition justice and a bottom-up approach to the Just Transition. This reflects the emphasis on justice as recognition, and participatory justice, as articulated by Schlosberg (2004, 2007), Walker (2012), Svarstad and Benjaminsen (2020) and other scholars.

The concept of participation is common in development literature but is a difficult concept to operationalise. Real and effective participation confronts and changes power dynamics and relations. When affected populations are given a real opportunity to participate, they are given power to influence actions and decisions concerning them. Chomsky (1998), in his "consent without consent" idea warns against the logic that underpins a mere rhetoric of empowerment and participation. Scholars such as Rahnema (2019) categorise participation as a cliché used in the modern discourses, and points out that the word is included for the purpose of manipulation of such discourses. Chomsky's (1998) and Rahnema's (2019) positions acknowledge the significance of the inclusion and participation of affected people in their own development, but oppose misuse of the concept, which has over time eroded its usefulness on the ground. Even in the context of development in South Africa, participation is emphasised; however, including the term in the rhetoric has not yielded any significant empowering

results for the participants. To challenge this situation, coal communities are not only advocating for genuine participation, but for a redefinition of the principles and processes that should underpin such participation. The justice aspect comes to the fore in their quest for participation in the Just Transition.

The other justice dimension that these communities emphasise is restorative justice, which is dominated by concerns around abandoned and unrehabilitated mine sites, which pose a hazard because of acid mine drainage, spontaneous underground fires, sink holes, health issues and the presence of zama zamas (illegal miners). Communities have reported what they have suffered because of abandoned mined land that should have been rehabilitated years ago. The unrehabilitated mined land further increases the scale of risk regarding extreme climatic conditions. Community initiatives such as the Khuthala Environmental Group in Ermelo are responding to the challenge of unrehabilitated mine sites through alternative economic activities. These include an agri-village, which is a space rehabilitated through community initiatives. These communities insist that efforts to rehabilitate local abandoned mine sites should not sideline them. Instead, they should be empowered with the relevant training and funding to participate effectively in rehabilitation. One aspect which has been raised specifically in relation to restorative justice is acid mine drainage in the Mpumalanga coalfields, which has had negative effects for water access, health and agriculture. This issue has been picked up in the media and research for over a decade now; however, communities still contend with the problem. Over and above these legacy issues, coal communities face problems with combustion, which exacerbate the vulnerability of the housing structures these communities live in.

Thus, an important aspect of restorative justice for communities is restoration of the damage (both historical and current) imposed by the current fossil energy model on local communities and their environment. A Just Transition underpinned by restorative justice that considers and corrects the injustices of these communities in their current context gives these communities a better starting context in the alternative economy. A suitable framework for these communities is one that integrates the senses of justice (Svarstad & Benjaminsen 2020), as expressed and defined by these communities as the affected populations.

These communities further articulated issues of fair and equal distribution of the benefits in the new economy. This represents distributive justice, which in the context of the Just Transition, speaks to the fair distribution of risks and opportunities arising from the transition. In the context of the dialogues and debates at the national level, distributive justice assumes primacy; however, for coal communities, it was presented as secondary to procedural and restorative justice. Based on the engagements and dialogues that I observed, for these communities the power to negotiate how the transition should affect them through meaningful inclusion and participation in the Just Transition was presented as a priority. From the position of being meaningfully included, these communities will be empowered to negotiate restorative and distributive dimensions of the justice suitable to them. I therefore argue that the just distribution perspective of the environmental justice framework conceptualised in Section 4.8 presents a more suitable approach to distributive justice as it relates to these communities.

These communities also bring a gender dimension into the justice discourse, as they call for gender justice, considering the legacy of gender discrimination and its effects in society. These communities noted the exclusion of women from the current mining economy, which has disempowered women, reducing their role to care work. This kind of discrimination was highlighted by the Middelburg Social and Environmental Justice Alliance and Womxndla, two organisations advocating for the rights of women and children in the Mpumalanga coalfields. The current mining regime has left women to take on the responsibility of raising children in the absence of fathers who work in mines (both local and migrant mine workers). These organisations point out that the landscape changes arising from the Just Transition may leave women even worse off if their partners are retrenched, as this will perpetuate the poverty in their families. These two organisations call for a Just Transition strategy that considers these realities and mainstreams these women into the new economy to give them better economic opportunities. In analysing these organisations' comments about women's being outside the economy, I recognised another rehabilitation opportunity that the Just Transition can present for these communities, through a significant shift from their being secondary beneficiaries of the energy economy to being primary beneficiaries. This does not only require an economic shift which presents these women with

an opportunity to earn income from the formal economy, but also a perception and mindset shift that makes them co-players in the economy.

The fifth justice dimension is economic justice. This dimension challenges the capitalist and neo-liberal economic structures which have subordinated society and nature to the needs and profit-making of the elite. Economic justice addresses the need for a reversal of what Munnik (2019:9) regards as the “shrinking of nature and society” which leave society and nature to assume a subordinate position to economic considerations. As stipulated in the Just Transition Open Agenda (LAC 2020:22), there is advocacy pressure towards an “economic well-being based on the idea that economic decision making should start by asking what the needs of the people are and how to fulfil them”. This kind of justice is premised on the idea that new economic considerations which take into consideration the well-being of society and nature will address the inherently extractivist economic model which has contributed significantly to climate change and the economic injustices suffered by the populations in mining regions.

The question of justice thus lies at the core of the Just Transition. It has numerous important dimensions captured through the national debates and community perspectives. I have zoomed in only on the three key emphases in the context of justice for coal communities: inclusion (participation and recognition), fairness, and equity. The quest for inclusion in the Just Transition emanates from repeated exclusions which constitute an injustice that these communities have had to contend with. Exclusion has been used as a mechanism to disempower and silence these communities. Hallows and Butler (2002) and Munnik (2012), in their South African analysis of environmental justice through the three Es (EEE) discussed in Section 4.4, elaborate on exclusion from decision-making as an environmental injustice. This is a major concern that coal communities contend with, and has perpetuated other forms of injustice.

Exclusion is an intentional and coordinated process. “It is not a random process, nor does it occur on a level playing field” (Hall et al. 2011:4). As a mechanism of injustice, exclusion often takes the form of well-structured processes through which stakeholders are impeded from influencing decisions affecting or concerning them, implying “consent without consent” (Chomsky 1998:1). In the

context of the Just Transition, characterised by multiple actors with vested interests, the more powerful actors have the power to influence the transition processes. This is captured by the MLP, which highlights how multiple actors interact at the regime and the niche levels, and the different power dynamics and strategies that they deploy to push their own agendas. This situation commonly creates unequal playing fields, which then restricts the least powerful actors to limited success in their pursuits. Coal communities that have experienced exclusion have raised the issue of levelling up the playing field, because that is the only way they can gain meaningful inclusion into the Just Transition processes. Although the Just Transition promises to change things, businesses and the government remain the most powerful and influential actors in the transition. Both have vested interests. Given this reality, communities have to contend with exclusionary measures that may be exercised against them to protect the interests of these powerful actors. In some instances, to bring about some balance, concepts such as participation of the affected actors (communities) are put forward, but as Rahnema (2019) warns, these terms are often only used as a form of rhetoric and in politically attractive slogans.

This captures an important emphasis on power in transitions which reflects Geels's (2014) notion of instrumental power, where influential economic or political positions of authority, resources such as money, access to the media, personnel and other resources are used to exert influence in favour of a certain agenda, and the goals and interests of the most powerful actor(s). This is characterised by the exclusion of the least powerful actors by powerful actors through tactics of power and influence. In this study, the framing of discursive manoeuvres is used to explain the tactics and strategies deployed by various actors in the Just Transition to protect and advance their agenda. These ideas speak to Hall et al.'s (2011) concepts of regulation, force, market and legitimation exclusions (discussed in Section 4.4). Exclusion by legitimation, as Hall et al. (2011) show, is usually tied to an established "moral" basis used to justify and legitimate the exclusion. Essentially, the reasons given for the exclusion in question are made to appear sound and morally acceptable, but in fact mask tactics to protect powerful actors' interests. Therefore, in this study, the strategies

and tactics that underpin exclusions are deemed discursive manoeuvres underpinning the Just Transition.

The question of power remains an important consideration in this study. The deconstructive Political Ecology perspective, thus enabled the study to explore power dynamics in the Just Transition. The question of power also plays out in how coal communities are seen and considered. These communities advocate for meaningful inclusion as a cry for recognition. If coal communities are not seen and recognised as important stakeholders in the Just Transition, but are marginalised in discussions merely as vulnerable communities that ought to be considered (so that they are not “left behind”), such thinking may underpin and inhibit real, meaningful inclusion. According to Coolsaet and Pierre-Yves Neron (2020), such misrecognition constitutes an injustice, playing out in the systematic ill-treatment or disregard of others because of who they are. In this context, a decolonial perspective, as captured by the decolonial environmental justice framework (see Sections 4.8 and 4.9), aligns with Malin et al.’s (2019) definition of recognition justice which arises from confronting historical and structural patterns of privileging others (people, worldviews, cultural systems) over others. Thus, from such a decolonial perspective, those who were disadvantaged through these patterns are reconsidered and recognised.

Therefore, from this perspective, the equity questions posed in the study, through the work of Frank (1991) and the concerns of Walker’s (2012) dimensions of vulnerability, need and responsibility, which speak to the varying degrees of vulnerability and affectedness which should be considered in the distributive justice discourse, are responded to through the decolonial perspective. This also includes the argument of Alvarez and Coolsaet (2018) that the notion of “equity” in the distributive justice framework provides a more generalised approach to justice. This generalised approach is too broad and as a result, can undermine other modes of life. Therefore, from this position I maintain that a truly Just Transition requires a comprehensive and decolonial justice framework that considers and brings together different forms of justice and implements decolonial epistemologies which the study achieves through its environmental justice framework conceptualised in Chapter 4. The significance of the interdisciplinary framework of this study is re-emphasised, as informed by Political Ecology’s

awareness of the alternative modes of thinking demanded from subjugated places of being (Leff 2012 2015).

7.7 Conclusion

This chapter has looked at the perspectives of coal communities regarding their position in the Just Transition. These perspectives were recorded during the observation of stakeholder engagements and in the semi-structured interviews. The themes that emerged from the extensive fieldnotes and recordings made during the fieldwork have been presented and discussed under four headings, relating to the perpetual and multifaceted injustices suffered by coal communities, moving towards a “just” state, capacity issues at the local government level, and how justness translates to justice. These sections captured the voices of coal communities regarding a Just Transition, answering key research questions of this study.

Coal communities know the kind of transition they want. Their aspirations for a Just Transition include fairness, inclusion, and empowerment. Coal communities do not want to be left behind in their own transition, but want to influence the Just Transition in all its critical phases (the planning, implementation, monitoring and evaluation phases) of the Just Transition. These communities are clear about the kind of Just Transition they need, but the non-linearity, complexity and contestation of the Just Transition may negatively affect the opportunities that these coal communities envisage in the Just Transition, and bring about challenges they did not anticipate. Thus, based on how the transition has unfolded up to this point, these communities may not get what they want.

CHAPTER 8: SUMMARY AND CONCLUSION

8.1 Introduction

This study set out to respond to the following research question: What are the opportunities and challenges of the Just Transition for coal communities in the Mpumalanga coalfields? This chapter sums up the evidence gathered and presented in this thesis. It does this by reminding the reader of the context of the study, the theoretical grounding and the philosophical position, to show how these have contributed to the study, and ultimately to a response to the research question. The chapter also provides a summary of how the research question was answered and the objectives were met. It highlights the contribution of the study to the body of knowledge on this topic and outlines the limitations of the study and opportunities for future research.

8.2 The context of the study

The climate change crisis imposes severe pressure on the global economy, particularly the call to reduce greenhouse emissions levels quickly. This process is unfolding through the Just Transition, which entails a shift from the current economy (which depends on fossil energy) to a low-carbon, climate-resilient economy. For South Africa, this implies embarking on a new industrialisation path, which must simultaneously address growth and climate concerns. However, some stakeholders debate the value and feasibility of such a transition, given the negative impact it may have on the country's goals and aspiration to achieve accelerated development.

This divergence on the most desirable trajectory has resulted in a contested transition, characterised by non-linearity and complexity. One of the areas of contestation in the Just Transition is the JET, which stakeholders support or oppose, based on what it may mean for South Africa's energy sector, which faces the most significant disruption. Different actors with vested interests in the economy and in the transition are attempting to grapple with the reality of the anticipated changes. There is a strong call for a transition that will not leave anyone behind. There are numerous stakeholders and actors with vested

interests in the transition, which holds different prospects and challenges for these divergent stakeholders. All these stakeholders strive to position themselves on the winning side.

One of the key stakeholders grappling with the reality of the changes that the transition will bring is communities in the coalfields of the Mpumalanga province, which is the country's energy hub. An important portion of the coal value chain, made up of large coal mines and coal power stations, is concentrated in that region. These coalfields are home to a population that have built their lives and livelihoods on the coal economy. In addition to these communities, there are others that are not necessarily dependent on the coal economy, but that have, over the years, contended with the negative externalities of the coal economy. The study has considered both the dependent and affected populations under the umbrella of coal communities in the coalfields.

This study has explored the Just Transition in terms of its anticipated impact on these coal communities, responding to the question of what the opportunities and challenges of a Just Transition are for coal communities. To explore the position of coal communities in the Just Transition, the study provided a historically informed perspective on and consideration of these communities and how they are positioned in the Just Transition, given their long history of being subject to injustices. This was achieved through a literature review that traced the topic of coal communities in the Just Transition against the broader context of an unequal world. The review showed how the injustices emanating from this context have been perpetuated by an extractivist logic, underpinned by capitalism and other power structures.

Using an interdisciplinary lens, the study considered how this historical context informs and shapes the current position of coal communities in the Just Transition, which is non-linear, complex, and contested. The evidence shows that justice in a Just Transition is possible where community members have strong agency and if change is underpinned by environmental justice. Hence, the study undertook to conceptualise a decolonial environmental justice framework that incorporates social and cognitive justice, as well as decolonial epistemologies in a radical environmental justice framework. The study then conceptualised a

comprehensive environmental justice framework that brings together theoretical insights from Political Ecology and decolonial epistemologies, and analytical insights regarding social and cognitive justice.

8.3 Theoretical grounding

The first theory that the study used is Dependency Theory. This theory gave the study a lens through which to navigate the unequal world context that shaped the current coal landscape. Inequalities are inherent in this landscape, resulting from colonial and neo-colonial structures characterised by extractivist patterns of subjugation. Apartheid structures also exacerbated severe inequalities through its policy of separate development and an unfavourable legislative environment. Extractivism operated through the workings of the Minerals Energy Complex, which drove the fossil economy. Dependency Theory and the work of scholars such as Rodney, Frank and others enabled the study to explain how an unequal world plays out in the context of the periphery and the core, where the global North as the core developed much faster because of mineral wealth extraction from the global South as the periphery. This then forced the global South into underdevelopment, characterised by high poverty and inequality. Dependency Theory enabled me to understand the current context of coal communities, which has largely been shaped by a colonial, neo-liberal and apartheid history which benefited elites at the expense of poor populations, who were subjected to degraded environments through unsustainable extractive patterns.

The second theory that the study deployed is the Socio-technical Transition Theory, with a specific focus on the MLP, to explain the traits of socio-technical transitions. The Socio-technical Transition Theory enabled understanding of the Just Transition as a non-linear, multi-actor, open-ended, and complex process unfolding over a longer period. The nested hierarchy of the MLP was useful in identifying interactions between landscape pressures (climate change and the related geopolitics), the regime (the coal economy) and niches (in this case, renewable energy). In addition, the MLP also clarified the complex power dynamics inherent in the Just Transition, which are important in determining the trajectory of the transition.

However, the MLP did not provide an adequate analytical lens for understanding interactions among the actors and with the inherent power dynamics. The study therefore brought in the Multi-actor Perspective as a complementary analytical approach to show interactions among the multiple actors in the transition. To deconstruct these structures and strategies further, the study drew on Political Ecology to make up the theoretical framework underpinning this study. Political Ecology as an interdisciplinary theory enabled me to navigate the complex power dynamics inherent in transitions and provided the study with an important theoretical lens to deconstruct the power manoeuvres that underpin the Just Transition. Thus the study deployed theories on the politico-economic complex of rentier states, and the socio-political regime as complementary analytical frameworks to supplement the MLP in exploring the Just Transition. These analytical frameworks revealed inherent power structures, strategies and dynamics used within socio-technical transitions to protect the regime and maintain the status quo.

Moreover, the theories on Political Ecology and environmental justice are compatible and mutually strengthening. The study thus brought in the complementary lens of environmental justice, which served as a threefold theoretical and analytical framework. Firstly, it highlights the current injustices of coal communities in the coalfields. Secondly, it offers rich theoretical and analytical insights from the convergence between environmental justice and Political Ecology. Thirdly, it was used to conceptualise an environmental justice framework which should underpin a truly just transition that is just and fair to coal communities. The environmental justice framework that the study conceptualised merges the radical environmental justice framework (Schlosberg 2007), with decolonial epistemologies which ground environmental justice in the lived experiences of coal communities and considers the post-colonial landscape within which these environmental injustices occur. This framework also drew theoretical and analytical insights from Political Ecology, and borrowed conceptual insights from social justice and cognitive justice. For the conceptual purposes of this study, this framework is referred to as “a comprehensive and decolonial environmental justice framework”.

This comprehensive theoretical framework provided this study with an interdisciplinary lens to locate the research question within the complex transition processes and debates around the Just Transition and its effects for the selected communities. Therefore, based on the theoretical analysis, I argued that the Just Transition is a non-linear, complex process unfolding in a complex political economy and geopolitics. It is characterised by the vested interests of multiple and diverse stakeholders. This places coal communities in a very difficult space when they have to navigate these vested capitalist, political and power interests and still strengthen their own position in the contested transition. Thus, if, as I argued in Chapter 1, a Just Transition can only be truly just if it ensures wide-reaching societal welfare for communities in the coalfields, this must be achieved through a transition underpinned by environmental justice. This argument is justified by the reality that a transition that does not start from a place of justice is likely to undermine the well-being of current coal communities. Thus, on a theoretical level, a Just Transition anchored in the comprehensive and decolonial environmental justice conceptualised in this study offers coal communities better prospects of not being left behind, and of being empowered as important stakeholders in an alternative economy that seeks to redress their historical and current injustices.

8.4 Has the study achieved its objectives?

8.4.1 Main objective: outlining the opportunities and challenges for coal communities in the Mpumalanga coalfields in the Just Transition.

The main objectives were achieved – upon navigating the broad debates in my quest to understand the national trajectory of the Just Transition in South Africa and document the voices of coal communities, I identified several opportunities and challenges for coal communities in the Just Transition.

8.4.1.1 Opportunities

- *An alternative economy*

The transition is intended to achieve an alternative economy through what is considered “a new green industrial path” that simultaneously addresses

growth, job creation and transformation. The shift is envisaged reset and correct the current economic trajectory where growth and employment are limited. An alternative economy presents some good prospects for coal communities that contend with the injustices of the current economic and energy system. Provided the transition is underpinned by justice, it may place coal communities on a better path to redress.

The alternative economy is further envisaged to achieve an affordable, decentralised, and diversely owned renewable energy model, offering multiple opportunities. These include opportunities for coal communities to produce and distribute renewable energy, through structured social ownership models. This presents a shift from these communities only being suppliers of labour in the energy production, but to also participate in the new energy model as owners of means of production. At present, many coal communities cannot afford electricity for cooking and heating; as a result, they depend on coal accessed through artisanal mining. Access to affordable and adequate energy will directly address these challenges. Tied to the new energy model is small-scale industrialisation through manufacturing opportunities which will be located close to communities.

Coal communities, especially women and youth, have raised concerns over their exclusion from the current energy economy. The PCC JT Framework stipulates the need to equip women, youth and people living with disability with skills to participate in the alternative economy.

- *Prospects for justice – a “just” transition*

There is a strong emphasis in the PCC processes, as reflected through the PCC JT Framework on a Just Transition, on achieving three principles of environmental justice: distributive justice, procedural justice and restorative justice. All three justice pillars present significant opportunities for coal communities in the Just Transition.

Distributive justice promises a Just Transition where the costs of the transition are not borne by the coal communities. If this commitment is adhered to, coal communities will be part of a transition that can change their lives for the better

without carrying the burden of the transition as they are currently carrying the burden of the fossil economy.

Procedural justice holds out prospects for the empowerment of coal communities as important stakeholders in the Just Transition. Such empowerment would position communities to participate meaningfully in the Just Transition, influencing planning and decisions that affect them. This would be a shift from voicelessness and powerlessness to being important stakeholders in a transition that will have a significant effect on them. It would give them a voice to define what a Just Transition looks like in their context.

Restorative justice promises a rehabilitated post-coal landscape. New functional ecosystems would give coal communities access to a clean and healthy environment, by addressing issues such as the acid mine drainage crisis, pollution, sinkholes, and underground fires, which have had devastating effects on these communities. Moreover, rehabilitated sites could translate to land ownership opportunities which may position these populations to take up other economic opportunities. Coal community projects such as rehabilitation work and food gardens on rehabilitated land, undertaken by local environmental groups such as the Khuthala Environmental Group in Ermelo, in the Mpumalanga coalfields, could experience massive growth through appropriate support.

In addition to rehabilitation, a climate-resilient economy may offer climate-proofing structures for communities and the environment to become climate resilient. Coal communities that, as a result of mining externalities, find themselves in cracked and dilapidated housing structures, will have an opportunity to have these climate-proofed to reduce their vulnerability to climate change through the JET IP funding model.

- *Post-coal landscape*

Over a long history of unsustainable extractive and capitalist patterns, the coal economy thrived on cheap labour to drive high profit margins. This opened the Mpumalanga coalfields to a migrant labour influx from nearby towns, provinces and other countries. The result of this is high levels of multiple social ills: crime,

health problems, prostitution, etc. A Just Transition could address these social ills (detailed in Chapter 7), which mostly affect women and young people, through diverse empowerment strategies that will enable these vulnerable groups to participate in the new economy.

8.4.1.2 Challenges

The Just Transition has been shown to be characterised by non-linearity and the presence of multiple actors (some of whom are powerful and/or, influential) with vested capitalist and political interests. It is unfolding in a complex political and socio-economic context. Coal communities have to navigate this complex and highly contested process to find their place on the winning side. Given a long history of exclusion from planning and decisions affecting their lives, which in turn left them on the losing side, these communities are navigating a reality shaped by a perpetually unjust history. The study therefore considered the challenges of coal communities in the Just Transition from this perspective.

- *Contested transition*

Although the Just Transition has been defined in terms of the envisaged prospects of what constitutes a Just Transition, as argued above, it remains a highly contested process in practice. From the series of debates and engagements that have been taking place in planning a Just Transition, it is obvious there is no clear direction for the national South African transition pathway and trajectory. This places communities that should be at the core of transition in a place of uncertainty about their future as the Just Transition can take any direction at this point.

- *Alternative economy*

The alternative economy, which promises the opportunities highlighted in the section above, also presents coal communities with some challenges. These include the disruption of livelihoods and job losses. For example, the JETIP stipulates:

Coal fleet closure will directly impact about 90,000 coal workers in the mines and power plants of the poverty-stricken Mpumalanga Province where the sector is concentrated, having dire consequences for the

extended number of livelihoods supported by workers in the sector.
(Presidency 2023:23)

This reflects the anticipated job losses. Communities such as those in the Komati area are already dealing with job losses and a disruption of their livelihoods from the decommissioning and repurposing of the Komati power station. They have been excluded from their own Just Transition, and many felt confused. They are frustrated about the Just transition that is unfolding on the ground.

The alternative energy model claims to offer better and safer employment and livelihood opportunities, and prospects for upskilling and reskilling. However, poor and uneducated workers in the coal mining space are likely to be excluded from the sophisticated renewable energy space. Moreover, for community members who have built livelihoods around the coal economy, disruptions of the current fossil economy will result in a further disruption of their lives and livelihoods.

The findings of this study show that the prospects of new and safer livelihood options, as indicated in the JETIP and PCC JT Framework, cannot be ascertained in terms of their economic viability and sustainability. The current livelihood activities that coal communities are involved in include transportation, accommodation for workers and contractors in the coal mines and coal power stations, hospitality, and other sources of income through which coal communities have achieved some economic viability over time. Therefore, disruptions of these livelihoods as a result of sector reforms and a coal phase-out will have a significant impact on these communities. Moreover, rebuilding can constitute an injustice for poor communities, especially because the economic viability and sustainability of the proposed livelihood alternatives remain unknown.

- *Displacement – migrations*

The migrant influx that occurred over time in the Mpumalanga coalfields has redefined the social and physical landscape, with the mushrooming of squatter settlements and the formation of new family structures and social relations. The anticipated alterations to the current coal landscape threaten to disrupt

these social relations through further migrant movements. Such negative effects will almost inevitably also ripple out to the “sending” communities where these migrant labours come from. The new migrant system could potentially perpetuate the pattern where fathers settle in new towns and start new families. This could further disrupt social and family structures, leaving women to fend for their children in a post-coal landscape.

- *Lack of capacity at the local government level and corruption*

One concern that came up repeatedly in the national dialogues of the PCC and in the community voices in the GroundWork/LAC project is the lack of capacity at the local government level. This is coupled with issues of corruption and a lack of good governance. This situation places coal communities at a disadvantage, because the Just Transition programmes have to be coordinated at the local government level. Corruption at this level (and also at the national and provincial levels) could frustrate a just and fair transition, as projects meant for communities end up enriching only a few.

Moreover, local government is inherently political (i.e., it is characterised by factional fighting for positions and resource distribution through patronage networks) and strives to uphold political mandates over any other mandate. As a result, there is a tendency to politicise all issues. This places communities, especially those outside dominant political affiliations, at a disadvantage. Structures of patronage networks (the privileging of “fellow comrades”) that prevail at the local government level could perpetuate the exclusion of these communities.

- *Inconsistencies in the national government level*

Inconsistencies in the language and action at the national level exacerbate the complexity and non-linearity of the transition, thus making the Just Transition a complicated process for communities to understand. This therefore subject these communities to confusion regarding the country’s transition trajectory and how they are positioned in it.

8.4.2 Secondary objectives

The achievement of the secondary objectives of this study is discussed below in terms of the main findings.

8.4.2.1 To analyse the struggles of coal communities in the current coal mining landscape

The study has confirmed that coal communities find themselves in a reality moulded by a long history of imposition, subjugation, and injustices in multi-faceted ways. This history has shaped and continues to influence the current injustices these communities contend with. They find themselves at the receiving end of extractive capitalist patterns and structures, which they have perpetually suffered without recourse, because of the contributions these activities make to the economy.

Although these communities have developed strong and growing agency through protests, activism and other measures to break out of their current reality, in many instances their efforts have been undermined by the government and private sectors. In some cases, this has led to a trade-off between their health and well-being and the greater economic returns that the fossil economy yields. Such issues have long rendered them voiceless and powerless, and unable to influence decisions affecting them. Navigating the reality of being trapped in a system that continuously promises to make provision for them, but then fails them, keeps them locked into a repetitive pattern of justice negotiations that have not yielded any significant returns. These communities remain entrapped in a paradox of dependence and affectedness, where navigating the injustices arising from negative externalities have to be weighed against access to their bread (and very little butter). In South Africa, which is characterised by high poverty levels and inequality that has worsened over the years because of unemployment, resulting from economic and political instability, breaking out of one trap may mean falling into another.

Considering these injustices through the lens of environmental justice makes evident the environmental racism and injustice that were strategically enabled by South Africa's colonial and apartheid history through its separate development

laws, which promoted racial segregation and white supremacy. This also enabled the dispossession of black-owned land for mineral wealth extraction, and then the same black people were hired at minimum wages for maximum production outputs. This in turn undermined the well-being of these black populations and caused major social disruptions as fathers were segregated in a hostel system away from their families.

These communities have perpetually remained in a cycle of imposition, exclusion and enclosure, such that although laws to protect them have been enacted by the government, enforcement of these laws remains ineffective. This means that these communities have been excluded from owning mineral rights in their locality, while they continue to suffer the negative effects of the extractive activities tied to these minerals. These communities have contended with negative externalities such as acid mine drainage and unrehabilitated mine sites, resulting underground fires, sinkholes, etc., and high pollution levels.

An environmental justice analysis also reveals the exclusion that coal communities face from decision-making that affects them. Although these communities hold strong agency, they mostly lack the structures to make that agency effective or influential. In the case of the communities in the coal fields, environmental justice movement (the social movements initiatives through CBOs and NGOs) is providing that structure. This is seen for example in how these communities express themselves in advocating for a transition that would not leave them behind (as seen in Section 7.4.3).

8.4.2.2 To understand the non-linear dynamics that underpin the Just Transition

The study clearly shown that the Just Transition, which presents a shift away from the current fossil-dependent economy towards a low-carbon, climate-resilient economy, is unfolding as a non-linear, multi-actor, complex and contested process, with convoluted power and political dynamics, unfolding within a complex political economy and socio-economic context. This has wide-reaching social, economic and political transformative implications. Through the lens of the Socio-technical Transition Theory, and the MLP in particular, the study has shown that the transition pathway is chaotic, open-ended and uncertain. It is characterised

by multiple promising innovations and initiatives that are unfolding at the same time, thus making it impossible to predict which ones will prevail.

The study could then argue that, given this description of the Just Transition, which has to be deployed in a complex open system, it is difficult to predict South Africa's Just Transition trajectory accurately. There is a tension between the purpose of the transition, as reflected in the well-coordinated and deliberately intentional processes driven by the PCC on the one hand, and on the other hand, the actual emergent transformation on the ground, where uncoordinated pressures, contestation, inconsistencies, poor planning, discursive manoeuvres, and various stakeholders' strategies influence the transition pathway. This tension presents what looks like a shift towards a mixing pathways transition (Geels & Schot 2010), characterised by a non-deterministic sequence of transition pathways, rather than the intended purposive transition, which remains a dream for coal communities that hope not to be left behind in their own Just Transition.

8.4.2.3 To deconstruct the power structures and dynamics that underlie the Just Transition

The evidence collected in the course of this study highlighted the power dynamics that underpin the transition trajectory. The Multi-actor Perspective shows how the dynamics play out among the different actors, with different levels of influence in the transition. In this actor-driven process, these power dynamics unfold through well-organised structure and power manoeuvres, which may not be easily identifiable, but are powerful in defining and directing the trajectory of the transition. The study framed these as discursive manoeuvres which are emergent structures and mechanisms that determine the transition pathway and trajectory.

The study then applied the Political Ecology lens to deconstruct these discursive manoeuvres. The conclusion here is that the power manoeuvres at play in the Just Transition are complex. They use narratives that reflect the emerging contestation and competing agendas. Scholars such as Kent et al. (2023) characterise these agendas as competing political initiatives, and these take the shape of what they regard as the fossilist initiative, the green extractivist initiative, the green developmentalist initiatives and the socio-ecological initiatives. Many of

these agendas and strategies are underpinned by political and capitalist power structures that seek to define the transition to suit their contexts.

Given this complex content, I maintain that coal communities are faced with the reality of navigating a Just Transition characterised by complex political and capitalist power structures in order to achieve a transition that is just to these communities.

8.4.2.4 To analyse the position of coal communities in the Just Transition

Coal communities in the Mpumalanga coalfields are interested and vested in the Just Transition agenda. The study considered coal communities in the context of an unequal world which largely shapes their current context. These communities suffer the injustices of exclusion, the imposition of externalities, enclosure of resources, and other efforts to render them powerless and voiceless. The study considered the significance of the voices of these communities in the Just Transition. Through the discussion of the results of participant observation and semi-structured interviews, the voices of these communities were reported in the study.

The study therefore documented a shift from voicelessness and powerlessness to agency. I have shown that coal communities are expressing agency, giving them some power towards being included in the Just Transition. Through social movements, these communities have been empowered with knowledge that positions them as important stakeholders in their own transition, challenging the status quo of exclusion, voicelessness and powerlessness. This is seen through significant mobilisation at the community level. Through these mobilisations, there is a strong local voice which is even audible in the Just Transition debates at the national level. In Chapter 7, I have highlighted the agency emanating from these communities in defining a transition that is just for them. The study used the concepts of structure and agency to explain the agency of the coal communities to confront and break out of structures shaped by colonialism, apartheid and the Minerals Energy Complex. The study used Social Movement Theory to articulate the mobilisation power among coal communities to influence the Just Transition agenda and advocate for the kind of justice they need. Such forms of justice are

participatory justice, recognition justice, restorative justice, procedural justice, gender justice, and economic justice in the Just Transition.

These communities, through social movements and activism, which I argue in this study that these social movements have become structures, are already taking the initiative to be part of the Just Transition. I used the example of the Khuthala Environmental Group in Ermelo, which is responding to the challenge of unrehabilitated mine sites through alternative economic activities such as the Agri-village to address food security. This and many case studies reflect the agency of coal communities to be part of a transformative agenda intended to correct, redress and reset. Similarly, agency is also seen in the emerging resistance agenda where coal communities see the Just Transition as a threat to their jobs and livelihoods, and therefore oppose it. This agency is also enabled by the pro-coal lobby and the quest to protect livelihoods and employment.

8.4.2.5 To explore what would constitute a Just Transition with wide-reaching societal welfare for communities in the Mpumalanga coalfields

To engage with this objective, the study reviewed the relevant literature, and looked at the national debates to capture the national transition trajectory, and the perceptions and voices of coal communities. The literature review included the voices of prominent scholars such as Swilling et al. (2015), who emphasise that the transition is only possible if the overall goal is human well-being within a decarbonised and sustainable world. Other authors are Cock (2014) and Bond (2011), who argue against the prospects of corporate capture or climate-crisis capitalism. And many others who engaged with the Just Transition. The analysis of the national transition trajectory included debates, contestation and the complex power dynamics at the national level. The fieldwork with coal communities made it clear that they do not want to be left behind in their own Just Transition.

Having engaged with these three levels, the study maintains that a Just Transition is only possible (in other words, the Just Transition can only be truly just) if it ensures wide-reaching societal welfare for coal communities in the coalfields. The study further maintains that such a transition should be underpinned by environmental justice. In order to support such outcomes, the study

conceptualised a comprehensive and decolonial environmental justice framework that merges the radical environmental justice framework with decolonial epistemologies, theoretical and analytical insights from Political Ecology and conceptual insights from social justice, and cognitive justice, as a suitable framework for achieving a truly just Transition.

8.5 What is the contribution of the selected philosophical research paradigm?

The study deployed critical realism, which is a philosophy of science intended to enhance understanding of the ontological and epistemological underpinnings of the Just Transition. From a critical realist perspective, the study adopted the perspective that “observed regularities are eventually explainable in terms of underlying ‘real’ causal structures and/or mechanisms” (Blaikie & Priest (2017:168-169, see Section 5.4). This offered the study a philosophical position to investigate the Just Transition as a process that is underpinned by complex real causal structures and mechanisms which although they are in tension with each other, produce the events as they unfold. These events have been captured in this study as contestation, debates, among others. From a critical realism perspective, these are observable events that arise from the underlying mechanisms and structures. Some of these mechanisms may include complex power and capitalist structures and dynamics that underlie the contestations, non-linearity and other events unfolding in the Just Transition. This then captures the multiple realities that make up an ontological map.

Moreover, critical realism offered the study a philosophical position to understand the non-linearity and complex nature of the Just Transition and the complex economic and political context within which it unfolds as an open system. Hence, predictions for the future cannot be made with accuracy because of the openness of the system, coupled with emergent mechanisms, which militate against making predictions.

8.6 What is the contribution of this study?

This study has made contributions at three levels: knowledge, theory and methodology.

8.6.1 Contribution to knowledge

The study has contributed to knowledge in the following ways:

- The study makes a contribution through its argument that in the South African context, a Just Transition is only possible (and can only be truly just) if it ensures wide-reaching societal welfare for communities in the coalfields. The study positions coal communities as important key stakeholders in the Just transition given their long history of entanglement with the coal economy, characterised by injustices they have endured alongside the dependence they have built around this economy. Its justice arguments prepare a conceptual pathway for community agendas.
- The study brings the topic of a socio-technical transition or sustainability transitions into the Development Studies discourse. This enabled the study to consider the Just Transition in terms of the interplay of power dynamics, politics and governance issues, and how this in turn makes the Just Transition a non-linear, contested and complex process. This approach opens up significant debates in the field of Development Studies, thus creating more opportunities for further research on the unfolding Just Transition to low-carbon economy.
- Using an interdisciplinary theoretical lens, multiple analytical insights, and a philosophy of science that seeks to overcome the objectivism/subjectivism dualism through a unique focus on ontology and epistemology, the study documents the Just Transition as a multi-actor, non-linear, complex power and political process underpinned by complex mechanisms. It unfolds in an open system, which makes predictions very difficult. This implies that although the Just Transition is a well-planned process unfolding through well-structured processes, for which we can identify as underlying mechanisms at work, we cannot predict with certainty how it will unfold and what it will translate into.
- The study has documented an interesting shift from voicelessness and powerlessness among poor populations to strong agency. This is seen among coal communities who exercise agency to define, be involved and not be left behind in their own Just Transition. This finding also reflects the significant role that social movements play as structures to empower and enable the agency of these communities when the local and national government fail to effectively

provide the structure. This therefore contributes to the academic debate around social movements in the development agenda and brings up a structure and agency debate to the Just Transition.

8.6.2 Contribution to methodology

The methodological framework in this study is strongly premised on knowledge co-production. This presents a shift from extractive methodological approaches whereby a researcher is positioned as knowledgeable and thus goes into a research setting (or community) to extract context-relevant knowledge. Instead, in producing this research, I spent a significant amount of time with community research activists, and I allowed myself to learn from them and capture their lived experiences and perspectives. These community research activists were thus knowledge co-creators in this study. For example, through the voices of these communities, the study was able to conceptualise a comprehensive justice framework that considers principles of justice and inclusion as defined by these communities. Thus, this research study achieved engaged scholarship that sought to bring together academic theoretical knowledge with the knowledge derived from the lived experiences and perspectives of communities.

8.6.3 Contribution to theory

In its exploration of the key question, some contributions to theory emerged:

- The study explored the Just Transition and responded to the research question through an interdisciplinary theoretical framework. This framework enabled insights from Dependency Theory, the Socio-Technical Transition Theory, Political Ecology and environmental justice to be drawn in when exploring the Just Transition. Through this interdisciplinary framework, the study was able to respond to a Development Studies research question.
- The study made a further contribution by developing an environmental justice framework that merges the radical environmental justice framework with decolonial epistemologies, draws insights from the convergence between Political Ecology and environmental justice, and borrows conceptual insights from social justice and cognitive justice in the quest to place coal communities (their voices, perceptions and lived experiences) at the centre of the Just

Transition. The study used an emerging non-Eurocentric theoretical lens, namely decoloniality, to define an environmental justice framework that is appropriate for African poor populations in a post-decolonial dispensation. Moreover, the study provided an alternative lens, where environmental justice (which is a non-Development Studies theoretical and analytical framework) was adapted to become a suitable analytical framework in this Development Studies context.

8.7 Limitations of the study and opportunities for further research

The Just Transition debate is evolving rapidly, as new developments and arguments emerge. The study depended on evidence gathered from 2020 to mid-2023. At that time, the idea of a Just Transition was fairly new and was still abstract for most community members. Some of their views and positions are likely to change, thus presenting an opportunity for continued debate around the Just Transition.

There are further research opportunities in deconstructing the complex structures and interests in the Just Transition:

- Having engaged with critical realism, I recognise an opportunity to explore the Just Transition further by bringing together the open system debates, the ontological map, and the structure, events and mechanism ontology, and the Concrete Utopias ideas as expressed by different critical realist scholars.
- The current study used a Participant Observation method, which was limited in many instances. A future research opportunity emerges through the use of the Participatory Activist research method in engaging the subject of coal communities in the Just Transition.
- There is an opportunity for an engaged scholarship project towards the empowerment of women in the coalfields. This can be achieved through support programmes that offer these women soft (emotional and basic literacy) and hard skills that will position them well in the Just Transition. This holds promise for research, teaching and learning partnerships between women in the coalfields, community research activists and academics.

- There is an opportunity to explore a social-ownership energy model that will position coal communities at the centre of an affordable and diversely owned renewable energy model so that they are not left behind in the Just Transition.

8.8 Recommendations of the study

- The study recommends that the efforts to empower stakeholders, especially coal communities that are at the receiving end of the Just Transition, must consider the deep-rooted injustices these communities have endured over the years. Addressing these historical and current injustices, requires a comprehensive environmental justice lens/approach that incorporates other relevant epistemologies.
- The study also recommends that there must be intentional efforts to empower women in the coalfields as part of restorative justice. Many of the women in the coalfields are secondary beneficiaries of the coal economy; thus, they cannot easily imagine alternative pathways for survival if their partners lose employment in the coal industry. Empowering these women by providing opportunities for education, skill-building, and economic independence is crucial to ensure they are better equipped to adapt to changes in the coal industry and secure their futures.
- The Just Transition is a non-linear, complex, multi-stakeholder process unfolding in a complex context characterised by contestations, and complex social, economic and political dynamics. Therefore, to effectively explore the Just transition, a multi-disciplinary approach and systems thinking are necessary, considering the interconnected factors at play. Proactive academic research is crucial for understanding these dynamics in-depth, identifying potential challenges, and addressing injustices before they occur, rather than responding reactively when harm has already been done. This forward-looking approach will help ensure the transition is fair and inclusive, living up to the commitment to “leaving no one behind in the Just Transition”.
- The commitment to leaving no one behind should be anchored on participatory justice. This entails actively involving affected communities in decision-making processes, ensuring their voices are heard, and that they are key stakeholders in shaping the solutions that directly impact them.

8.9 Conclusion

This chapter has provided a conclusion and summary of a study that sought to respond to the question of the opportunities and challenges of the Just Transition for coal communities. The chapter has highlighted the key components that make up this study. This includes the context of the study, a summary of the theoretical framework, the contribution of the selected philosophical research paradigm, whether the study achieved its objectives set out in Chapter 1, the contribution of the study, the limitations of the study and opportunities for further research.

The study has demonstrated that the Just Transition constitutes one of the most significant transitions in modern-day South Africa, in its trajectory towards achieving a low-carbon and resilient economy. The study concluded that the Just Transition is unfolding in a complex context characterised by contestation, and complex social, economic and political dynamics, which shape the opportunities and challenges of the Just Transition for coal communities. Through the evidence acquired from various levels to respond to this research question and the interdisciplinary framework, the study has engaged with the complexity of the Just Transition to assess what the opportunities and challenges of the Just Transition are for coal communities. From a critical realist perspective, this complex context constitutes an open system characterised by emergent entities which militates against predicting how the Just Transition will unfold and the opportunities and challenges it will present for coal communities in the Mpumalanga coalfields.

Based on the findings, the study concludes that, although the transition promises good prospects for societal transformation, it also presents challenges for coal communities, because of the uncoordinated pressures, contestation, inconsistencies, discursive manoeuvres and strategies which influence and shape the transition pathway and trajectory. Thus, the study argues that the Just Transition is only possible if it ensures wide-reaching societal transformation. The environmental justice framework that the study has conceptualised provides a significant framework which could aid the Just Transition towards wide-reaching societal well-being for communities in the coalfields.

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**APPENDIX A:
ETHICAL CLEARANCE**



COLLEGE OF HUMAN SCIENCES RESEARCH ETHICS REVIEW COMMITTEE

20 August 2019

Dear Kholofelo Moeng

NHREC Registration # :
Rec-240816-052
CREC Reference # : 2019-
CHS-Depart-64032477

Decision:
**Ethics Approval from 20 August
2019 to 20 August 2022**

Researcher(s): Kholofelo Moeng

Supervisor(s) Dr V Munnik

victor@victormunnik.co.za

**Challenges and opportunities for coal mining communities in a post mining
landscape: towards a transition underpinned by environmental justice**

Qualifications Applied: PhD in Development Studies

Thank you for the application for research ethics clearance by the Unisa Department of Developmental Studies, College of Human Science Ethics Committee. Ethics approval is granted for three years.

The *low risk application* was *reviewed and expedited* by the Department of Development Studies College of Human Sciences Research Ethics Committee, on 15 August 2019 in compliance with the Unisa Policy on Research Ethics and the Standard Operating Procedure on Research Ethics Risk Assessment.

The proposed research may now commence with the provisions that:

1. The researcher(s) will ensure that the research project adheres to the values and principles expressed in the UNISA Policy on Research Ethics.



2. Any adverse circumstance arising in the undertaking of the research project that is relevant to the ethicality of the study should be communicated in writing to the Department of Development Studies Ethics Review Committee.
3. The researcher(s) will conduct the study according to the methods and procedures set out in the approved application.
4. Any changes that can affect the study-related risks for the research participants, particularly in terms of assurances made with regards to the protection of participants' privacy and the confidentiality of the data, should be reported to the Committee in writing, accompanied by a progress report.
5. The researcher will ensure that the research project adheres to any applicable national legislation, professional codes of conduct, institutional guidelines and scientific standards relevant to the specific field of study. Adherence to the following South African legislation is important, if applicable: Protection of Personal Information Act, no 4 of 2013; Children's act no 38 of 2005 and the National Health Act, no 61 of 2003.
6. Only de-identified research data may be used for secondary research purposes in future on condition that the research objectives are similar to those of the original research. Secondary use of identifiable human research data require additional ethics clearance.
7. No fieldwork activities may continue after the expiry date (20 August 2022). Submission of a completed research ethics progress report will constitute an application for renewal of Ethics Research Committee approval.

Note:

*The reference number **2019-CHS-Depart-64032477** should be clearly indicated on all forms of communication with the intended research participants, as well as with the Committee.*

Yours sincerely,

Signature :

Dr A Khan
Department Ethics Chair: Development Studies
E-mail: khana@unisa.ac.za
Tel: (012) 429- 6173

Dr, S. Chetty
Ethics Chair : CREC
Email: chetts@unisa.ac.za
Tel: (012) 429-6267

APPENDIX B:

PARTICIPANT INFORMATION SHEET

Ethics clearance reference number: 240816-052 #2019-CHS-Depart-64032477

Research permission reference number (if applicable):

May 2019

Title: Challenges and opportunities for coal mining communities in a post mining landscape: Towards a transition underpinned by environmental justice

Dear Prospective Participant

My name is Kholofelo Moeng and I am doing research under the supervision of Dr. Victor Munnik, a Lecturer and Research Associate for Nature and Society, SWOP, University of the Witwatersrand and Doctoral Supervisor for the University of South Africa (UNISA), towards a degree in Doctor of Philosophy (PhD) in Development Studies at the University of South Africa. We are inviting you to participate in a study entitled "Challenges and opportunities for coal mining communities in a post mining landscape: Towards a transition underpinned by environmental justice".

WHAT IS THE PURPOSE OF THE STUDY?

I am conducting this research to find out the challenges and opportunities which will be brought about the transition to low carbon economy and how a transition to low carbon economy can be facilitated to ensure that it is just (fair and beneficial) to communities in mining areas/towns

WHY AM I BEING INVITED TO PARTICIPATE?

Questionnaire respondents: Part of the data for this study involves households within a few identified mining areas/towns. You were chosen/ selected to participate on this study as a resident of a mining town. We believe that you have firsthand knowledge and experience about living in a mining area and the direct/indirect impact of the local mines on this community. A technique called purposive sampling was used in selecting the study areas for this study, and you were selected because of your jurisdiction- as a member of this community.

Interview respondents: you were selected to participate in this study because of your working knowledge and experience in coal mining (operations/debates).

WHAT IS THE NATURE OF MY PARTICIPATION IN THIS STUDY?

Questionnaire respondents: You will participate in this study by responding to a set of questions in a questionnaire. The questions are based on your experience about being a resident of a community that is located near mines; the benefits and challenges of residing near a mine; your household employment status in the mines and livelihood activities which are indirectly linked to the mining economy. The questionnaire can take between 20-45 minutes to complete and can be done during my visit to your household or at a time convenient to you.

Interview respondents: You will be interviewed based on a range of topics under the following headings: “transition policies, the just transition debates and the post mining landscape. The interview will be conducted by me, the researcher at a place and time convenient to you. The interview will be captured in an audio tape to allow for analysis later in order to report on the findings. The interview will be in-depth and an allowance of an hour will be appreciated to ensure a fruitful conversation.

CAN I WITHDRAW FROM THIS STUDY EVEN AFTER HAVING AGREED TO PARTICIPATE?

Participating in this study is voluntary and you are under no obligation to consent to participation. If you do decide to take part, you will be given this information sheet to keep and be asked to sign a written consent form. You are free to withdraw at any time and without giving a reason. [*Questionnaire respondents*] Seeing that you will be expected to participate in the study by completing an anonymous questionnaire whereby you will not be expected to specify your details, it will not be possible to withdraw once the questionnaire is submitted

WHAT ARE THE POTENTIAL BENEFITS OF TAKING PART IN THIS STUDY?

There are no direct benefits that you will derive from participating in this study.

ARE THERE ANY NEGATIVE CONSEQUENCES FOR ME IF I PARTICIPATE IN THE RESEARCH PROJECT?

The only risk anticipated for this study is in the form of potential inconvenience as far as time is concerned and some discomfort in responding to some questions in the questionnaire/ during the interview. However, it is noteworthy that if such

inconvenience or discomfort is experienced, you are more than welcome to discontinue with completing the questionnaire or continuing with the interview.

WILL THE INFORMATION THAT I CONVEY TO THE RESEARCHER AND MY IDENTITY BE KEPT CONFIDENTIAL?

You have the right to insist that your name will not be recorded anywhere and that no one, apart from the researcher and identified members of the research team, will know about your involvement in this research [*this measure refers to confidentiality*] OR your name will not be recorded anywhere and no one will be able to connect you to the answers you give [*this measure refers to anonymity*]. Your answers will be given a code number or a pseudonym and you will be referred to in this way in the data, any publications, or other research reporting methods such as conference proceedings [*this measure refers to confidentiality*].

Kindly be informed that the data collected through these questionnaires/ during this interview will be used for the purpose of completing the research report, journal articles and possibly a conference proceeding. Your identity will still be protected even during the drafting of the report and journal articles and conference proceedings.

HOW WILL THE RESEARCHER(S) PROTECT THE SECURITY OF DATA?

Hard copies of your answers will be stored by the researcher for a minimum period of five years in a locked cupboard/filing cabinet in my (researcher's) office located in an accessed controlled institution for future research or academic purposes; electronic information will be stored on a password protected computer. Future use of the stored data will be subject to further Research Ethics Review and approval if applicable. When the five year period has lapsed, the data will be permanently destroyed (questionnaires and interview notes will be shredded, audio recording deleted).

WILL I RECEIVE PAYMENT OR ANY INCENTIVES FOR PARTICIPATING IN THIS STUDY?

There are no payments/incentives for participating in this study

HAS THE STUDY RECEIVED ETHICS APPROVAL

This study has not yet received written approval from the Research Ethics Review Committee of UNISA. An application has been submitted to the Research Ethics Committee and upon approval; a copy of the approval letter can be obtained from the researcher as you wish.

HOW WILL I BE INFORMED OF THE FINDINGS/RESULTS OF THE RESEARCH?

If you would like to be informed of the final research findings, please feel free to contact me using the details provided below. Should you require any further information or want to contact the researcher about any aspect of this study, please contact feel free to contact me weekdays between 08:00 and 16:00.

Should you have concerns about the way in which the research has been conducted, you may contact the supervisor using the details provided below. Contact the research ethics administrator, Ms Methane on (012 429 6771 or mathama@unisa.ac.za) if you have any ethical concerns.

Thank you for taking time to read this information sheet and for participating in this study.

Thank you.

Mrs. Kholofelo Moeng

Researcher's signature

Contact Details:

Researcher

Mrs. Kholofelo Moeng

Lecturer and PhD candidate in the
Department of Development Studies

Tel: 012 429 3694/ 083 784 0002

Email: makhuk@unisa.ac.za/ or

kholmoeng@gmail.com

Supervisor

Dr. Victor Munnik

Research Associate, Nature and
Society, SWOP, University of the

Witwatersrand

Tel: 011-717 4463

victor@victormunnik.co.za

APPENDIX C:
CONSENT TO PARTICIPATE IN THIS STUDY

Researcher's details

Kholofelo Moeng
Lecturer and PhD candidate in the
Department of Development Studies
Tel: 012 429 3694/ 083 784 0002
Email: [makhuk@unisa.ac.za/](mailto:makhuk@unisa.ac.za)
kholmoeng@gmail.com

Research title: Challenges and opportunities for coal communities in Just Transition:
Towards a transition underpinned by environmental justice.

I, _____ (participant name), confirm that the person asking my consent to take part in this research has told me about the nature, procedure, potential benefits and anticipated inconvenience of participation.

I have read (or had explained to me) and understood the study as explained in the information sheet.

I have had sufficient opportunity to ask questions and am prepared to participate in the study.

I understand that my participation is voluntary and that I am free to withdraw at any time without penalty (if applicable).

I am aware that the findings of this study will be processed into a research report, journal publications and/or conference proceedings, but that my participation will be kept confidential unless otherwise specified.

I agree to the recording of the interview

I have received a signed copy of the informed consent agreement.

Participant Name & Surname..... (please print)

Participant
Signature.....Date.....

Researcher's Name & Surname..... (please print)

Researcher's
signature.....Date.....

APPENDIX D:
INTERVIEW GUIDE FOR SAMPLED COMMUNITY-BASED
ORGANISATIONS IN THE COALFIELDS

1. What is the name of your organisation and what do you do?
2. What does a just transition look like to you (and your organisation)?
3. Do you think or feel like we (as a country) are heading towards a transition that is just for coal communities?
Please elaborate on your answer:
4. Do you think coal communities are part of the just transition processes already unfolding?
5. What do you think can be done better or differently to enhance the prospects of a just transition for coal communities?