Gordon Institute of Business Science
University of Pretoria

Business model innovation and decision-making in the context of just energy transition

---

Student number: 23991683

A research project submitted to the Gordon Institute of Business Science, University of Pretoria, in partial fulfilment of the requirements for the degree of Master of Business Administration.

03 November 2025

ABSTRACT

This study examines how participative decision-making and business model innovation (BMI) may help achieve a Just Energy Transition (JET) in South Africa, where decarbonization targets run into complex social and economic issues, including inequality, unemployment, and dependence on coal. In contrast to the previous studies, which have focused on technical and economic solutions, this study focuses on the justice, equity, and stakeholders' inclusivity issues that must necessarily be incorporated into business models if an effective energy transformation is to take place. A qualitative, phenomenological approach is adopted through sixteen semi-structured interviews with policymakers, industry leaders, regulators, financiers, and civil society to understand experience and interpretative knowledge and how stakeholder power, governance, and ethical dilemmas interact to shape BMI in a JET context. Thematic analysis shows the main obstacles that exist in the way, including fragmentation of governance, centralised decision-making, and policy misalignment, but also points out the participative mechanisms that are emerging, which allow for stakeholder forums and participative initiatives in communities that promote co-creation and legitimacy. The results show that the successful realignment of energy business models depends on participative, adaptive governance frameworks that strongly focus on procedural justice and multi-level inclusivity. The newly introduced Justice-oriented Innovation Framework strongly emphasizes agency and accountable leadership to overcome historical inequalities. The current study thus provides actionable insights and theoretical gaps for both theory and practice for South Africa and the world regarding the need for integrated frameworks that connect participative decision-making, justice-oriented governance, and business model innovation to achieve a fair and inclusive energy transition.

Keywords

Just energy transition, Business model innovation, Decision-making

DECLARATION

I declare that this research project is my own work. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration at the Gordon Institute of Business Science, University of Pretoria. It has not been submitted before for any degree or examination in any other University. I further declare that I have obtained the necessary authorisation and consent to carry out this research.

_____

03 November 2025

TABLE OF CONTENTS

LIST OF TABLES

CHAPTER 1: INTRODUCTION TO RESEARCH PROBLEM

1.1. Introduction

A significant transformation in the global energy system is guided by the double obligations of climate change and sustainable development (Zahid et al., 2025; IRENA, 2022; Weaver, 2025). The Just Energy Transition (JET) views this transformation as a shift from fossil fuels to low-carbon energy, and incorporates questions of justice, equity, and socio-economic inclusion to prevent disempowered groups from carrying disproportionate costs (Kilimcioğlu, 2025; Agbaitoro, 2025). These issues are acute in South Africa, where coal dependency in the energy sector collides with high unemployment, entrenched inequality, and energy insecurity (Akrofi, 2024; Patrick, 2025).

Given this context, Business model innovation (BMI) is a fundamental lever on the broader energy transition, constituting a shift in how energy organisations create, deliver and capture value. This enables integration of decentralised renewable technologies, new value chains, and the involvement of a broader dimension of stakeholders (Nurulin, 2023; Rubino et al., 2021). Nonetheless, in keeping with the complexity of innovating business models, this depends on strategic and managerial choices, is dependent upon governance issues, power relations between stakeholders, and ordinary restrictions (Huang et al., 2023; Spieth et al., 2025). Recognition of how these organisational and decision-making factors affect BMI is necessary in designing energy business models that will be sustainable and socially inclusive (Rubino et al., 2021; Nurulin, 2023).

This study examines the intersection of BMI and decision-making in the South African energy sector. It intends to generate insights that are academically robust and practically useful for managers and policymakers navigating the JET.

1.2. Problem statement

Concurrently, South Africa must rapidly decarbonise its energy systems and economically manage the related but consequent effects. It is universally accepted that a transition to renewables is needed urgently (Geissdoerfer et al., 2018; Mihailova et al., 2022; Kilimcioğlu, 2025). There are few theoretical or empirical guidelines available to companies, especially in carbon-intensive sectors, on how to re-model their business activities in such a manner that they introduce fairness and inclusivity as well as an economically sustainable one (Olawuyi, 2025; Rubino et al., 2021).

Research has shown that renewable technologies do not automatically mean that the outcomes are fair or inclusive; new forms of exclusionary or debilitative behavior arise in such transitions (Jacobs, 2024; Akrofi, 2024). The prevailing form of economic and managerial incentives in this country and elsewhere still seems to favour short-term economic return to stakeholders as against broader socially related outcomes (Hall et al., 2022; Mihailova et al., 2022). The processes of decision-making used in companies and their corporate governance processes often do not have built-in specific mechanisms that ensure that considerations of social justice and equity are included in decisions made (Rubino et al., 2021; Lonergan et al., 2023; Spieth et al., 2025).

Scholars increasingly argue that the prevailing frameworks for business model innovation need to be explicitly calibrated for such issues to include distributive injustice, stakeholder inclusiveness, and procedural justice as part of the design principles (Jacobs, 2024; Olawuyi, 2025). The successful decarbonising pathways for companies will require technological and economic reconfiguration and new forms of participatory governance, stakeholder input, and measuring in Justice terms across the functions (Kilimcioğlu, 2025; Doh & Newburry, 2021). A failure to adopt such an approach could result in the energy transition simply perpetuating existing social and economic disparities within the sector (Akrofi, 2024; Mihailova et al., 2022).

Consequently, a knowledge gap exists around how managerial and strategic choices influence BMI design and implementation that supports national decarbonisation objectives and equitable outcomes for affected communities. This research addresses that gap by investigating the concept, design, and application of BMI and the associated decision-making practices used by South African energy organisations within the JET framework. The study focuses on how firms reconcile competing demands of sustainability, stakeholder inclusion, and long-term economic sustainability when transforming their business models to align with national decarbonisation targets (The Presidency, 2024; García-García et al., 2020; Geissdoerfer et al., 2018).

1.3. Academic Problem

There has been considerable interest in recent research into business model innovation (BMI) in energy transition in a diversity of contexts in order to recommence a conversation about the need for the transition to low carbon systems and the associated questions as to how new methods of value creation and value capture exist, (Stojilovska & Markova, 2023; Mihailova et al., 2023; Wang & Lo, 2021; Garcia-Garcia et al., 2020), however there is considerable adaptivity in the relevant BMI literature on the underapplication of frameworks of social justice approaches within the relevant BMI efforts.

The majority of the relevant literature is hierarchical towards particular issues of the nature of the engagements in innovation of a tech-based and finance-based nature as being the only methods by which active transitions proceed rather than as involving considerations of equity issue presentation, inclusionary stakeholder issues and engagement and strategic instrumentality which is required in order that equity exist, (Stojilovska & Markova, 2023; Mihailova et al., 2023; Wang & Lo, 2021). There is the danger if this situation continues that the existing inequities will only become exacerbated and that the energy transition will become considerably delegitimized (Kilimcioğlu, 2025; Akrofi, 2024).

Much of the relevant BMI literature deals with a kind of oriented business viewpoint concerning Business Model Innovation, which concerns itself with issues of shareholder value considerations instead of genuine multiple stakeholder issues (Ramdani et al., 2019; Lonergan et al., 2023; Rubino et al., 2021). The relevant literature concerning the circular and sustainable kinds of business models is equally becoming more aware of and conscious of the engagement of the issue of inclusive value creation, however this is again like a general observation of the relevant characterisation presented of the literature of the lack of syntheses of types of workable, usable and consolidated kinds of framework characterisations of relevant policy positions for inclusionary types of conceptualisations of business model composing and or varnishing policy (Bocken, 2019; Pieroni et al., 2019; Mihailova et al., 2023).

The result is that the relevance of the decision-making possible for businesses at present for the solution of the kinds of economic, environmental, and social goals of the types of business models available is poor (Hall et al., 2022; Lonergan et al., 2023). Similarly, the decision theory research possible in the area and field of energy BMI relevant research is likewise poorly represented. The traditional decision theory models of normative models of ‘normative models of rational choice theory’ pervasive, where at one level the complications arising from the complexities relate particularly and relevantly to the techno economic inclusivity issues which are rarely completed, made or progressed by those manner of strategic management decisions in the reality of life (Mishra et al., 2020; Rubino et al., 2021; Spieth et al., 2025).

Likewise the descriptive types and the participative nature kinds e.g., the (CAC) cognitive-affective-conative types and the frameworks which lend themselves and experience to relevant different kinds of participatory shared decision making (SDM) paradigms give relevant insights whereby more kinds of elaborated conclusions may be deduced from the exercise of the application of cognitive, emotive, collaboratively participatory factors in kinds of strategic organisational decision-making (Bomhof-Roordink et al., 2019; Hall et al., 2022; Mihailova et al., 2023), however these issues are usually typically poorly canvassed in the

BMI researches which is concerned with the area of interest in energy transition (Olawyi, 2025). In the tangential nature the necessity has been shown that there needs to be justified sizes of renewed scholarly rigour involved in the interweaving of the BMI scholarly appraisal with the participative types of output decision-making literature and the relevant problems which arise as a consequence of social equity, such as to provide more needs of necessary bodies of relevant knowledge on how energy type players are presently actively able strategically successfully in getting about to creating and implementing that BMI which is both in a technical and economic criteria feasible as to propriety and inclusionary and equitable socially (Jacobs, 2024; Olawuyi, 2025; Akrofi, 2024; Kilimcioğlu, 2025).

1.4. Business Problem

It is the challenge for corporations in developing nations, especially in South Africa, to change their business delivery methods so that they will be sustainable in the low-carbon world, but also to face the social challenges and political challenges of equity and inclusivity (Mihailova et al., 2023; Olawuyi, 2025; Akrofi, 2024). It is clear from the Just Energy Transition Implementation Plan (JET IP) for South Africa that engagement with affected communities, an equitable distribution of benefits, and the use of funds for skills training are of utmost importance (The Presidency, 2024; Kilimcioğlu, 2025). The 10 prepared document at least shows how many corporations fail even on paper in the operationalisation of these principles, instead changing to a short-term top-down decision-making regarding profitability, apparently with no horizon for development of social equity (Geissdoerfer et al., 2018; Stojilovska & Markova, 2023; Hall et al., 2022).

This misalignment produces business model innovations that lack legitimacy, failing to address the realities of energy poverty, unemployment, and environmental justice. Organisations are also not adequately equipped to embed fairness and stakeholder participation into strategic decision-making under conditions of uncertainty, political contestation, and institutional fragmentation (Wang & Lo, 2021; García-García et al., 2020). The result is a widening disconnect between innovation's technical and financial

dimensions, where companies have made progress, and the social dimensions of the JET, which remain underdeveloped. Narrow, company-centered approaches perpetuate exclusion, deepen inequalities, and risk undermining the transition's pace and legitimacy (Pieroni et al., 2019; Ramdani et al., 2019).

Considering these challenges, it becomes evident that while business model innovation is increasingly recognised as a strategic pathway for achieving sustainability in the energy sector, its ability to embed justice, equity, and inclusivity into practice remains underexplored in South Africa. This gap highlights the need for a deeper investigation into how decision-making processes can be redesigned to reflect participatory approaches that align with Just Energy Transition principles.

This research, therefore, addresses the business problem of how South African energy organisations can redesign their business models and decision-making processes to align with national decarbonisation targets while embedding fairness, inclusivity, and long-term sustainability. The study seeks to generate actionable insights into repositioning business models for a just and equitable energy future by bridging theory and practice. Against this backdrop, the present research seeks to address these shortcomings by exploring stakeholder-driven business model innovation, articulated through the following purpose, aim, and objectives.

1.5. Purpose statement

This qualitative research aims to bridge this gap by exploring how participatory, stakeholder-influenced decision-making models in business model innovation can realise Just Energy Transition principles in the energy sector. By looking at the everyday lives and voices of various stakeholders, including workers, community members, and elected policymakers, the research seeks to find out how social equity and fairness can be embedded in BMI processes. This emphasis is important in the wake of existing literature

pointing out the disparity between sustainability aims and the actual practices of fairness and inclusivity in business model innovation (Pieroni et al., 2019; Ramdani et al., 2019).

1.5.1 General Aim

The qualitative research aims at discovering how social equity, fairness, and inclusivity can be integrated into BMI practices so that the process does not perpetuate or exacerbate the existing social and economic disparities but instead leads to an inclusive and sustainable future (Pieroni et al., 2019; Ramdani et al., 2019).

1.5.2 Specific Objectives

This research will investigate the extent to which existing BMI practices used by South African energy organisations represent or do not represent the principles of equity and inclusive representation. The research will explore structural and institutional barriers, power asymmetries, and governance limitations preventing participatory decision-making in developing business models. The research will further interact with policymakers, workers, and community members to produce inclusive engagement models that reconcile BMI practices with the values of fairness and justice. The research will furthermore examine the practical usefulness of people-oriented instruments, such as the Triple Layered Business Model Canvas, for balancing social, environmental, and economic objectives in existing organisational realities (Pieroni et al., 2019).

1.5.3 Contribution to knowledge

It contributes to the existing corpus of knowledge by filling an essential theoretical and practical void in how participation and justice can be integrated systematically as part of business model transformation for transitioning to low-carbon economies. While general acceptance of BMI as a route for sustainability and competitiveness exists, evidence for its application towards socially fair outcomes is lacking, especially in the case of developing

economies such as South Africa (The Presidency, 2024; Geissdoerfer et al., 2018). The research thus extends theoretical scholarship by embedding decision-making, inclusive of various stakeholders, in sustainable business model strategies. It provides practical advice for energy companies and policymakers looking to implement JET in an economically sound and socially just manner.

To bridge theory and practice, the research will evaluate the feasibility of people-focused decision-making tools such as the Triple Layered Business Model Canvas in existing business operations to harmonise economic, environmental, and social aims (Pieroni et al., 2019). By attaining those aims, the research offers actionable insights to academics and professionals and further theoretical and practical insights into understanding the role played by stakeholder-driven BMI in enabling just energy transitions.

1.6. Conclusion

In summary, this research places the critical context and rationale for business model innovation (BMI) and participatory decision-making within the Just Energy Transition (JET) of South Africa. As highlighted by Stojilovska and Markova (2023) and Mihailova et al., (2023), the chapter stressed that the decarbonisation of the national energy system is urgent but must be accompanied by efforts to address enduring social and economic inequalities. Hall et al. (2022) and Akrofi (2024) demonstrated that energy firms face complex challenges in redesigning their business models, calling for sustainability as well as fairness, inclusivity, and participatory stakeholder engagement.

A review of academic and practice gaps has shown, as argued by Geissdoerfer et al. (2018), Ramdani et al. (2019), and Olawuyi (2025), that current approaches to BMI in the energy sector overwhelmingly stress technical and economic advancements, while lacking insight into the significance of social justice and participatory principles. Consequently,

Pieroni et al. (2019) and Lonergan et al. (2023) have revealed that there remains a significant disconnect between the aspirational goals of JET policy and the r eal practices of business, with stakeholder engagement, equity in outcomes, and legitimacy sustainability frequently unmet.

Based on these findings, the present research, in line with Vaska et al. (2021) and Shakeel et al. (2020), proposes that closing the gap between theory and practice requires advancing stakeholder-driven decision-making processes and developing innovative tools to construct business models that are both economically viable and socially just. Accordingly, the research aims and objectives have been designed to address these challenges, with the potential to generate actionable insights for future practitioners, policymakers, investors, and researchers seeking a more equitable and sustainable energy transition for South Africa, as also underscored by Mihailova et al., (2023).

CHAPTER 2: LITERATURE REVIEW

2.1. Introduction

This research examines participatory, stakeholder-led decision-making processes and how these engagement models could assist in operationalising the principles of JET through business model innovation in energy sector organisations. Research established that business model innovation differentiated itself through its ability to enhance a company's sustainability agenda. Nevertheless, progressive business-level approaches often disregard systemic societal inclusion, leading to continuous inequities regarding energy access and affordability (Pieroni et al., 2019; Ramdani et al., 2019). In justifying the need for the research focus of the current study, researchers pointed to the balance necessary between economic sustainability and social fairness in decarbonisation, as the energy sector was the primary agent in producing greenhouse gas emissions. Progressive approaches to business model innovation, based upon principles of individual company opportunism, risked perpetuating or enhancing energy poverty and marginalisation (IPCC, 2023; Stojilovska & Markova, 2023).

Research further showed that business model innovation frameworks perpetuated soddy Tokyo and economic performance generally, while those that considered the supports for social equity in the process of generous structural adjustment and participative forms of participation were still on the drawing boards (Geissdoerfer et al., 2018; Shakeel et al., 2020). Certainly, disruptive technologies and digital platforms were shown to be transformational means for encouraging the co-creation of valuable outcomes in fields of inquiry, yet the role of these means in fostering inclusive decision-making processes and disseminating power distribution in said focus groups remained severely limited (Vaska et al., 2021; García-García et al., 2020). Repeatedly, researchers reported institutional rigidity and structural power imbalances remaining in the field of the energy sector, whereby vulnerable participants were excluded from participation, in turn undermining the justness of the energy systems transitions process (Stojilovska & Markova, 2023; Wang & Lo, 2021).

2.2. Business model innovation

Business model innovation for the just energy transition (BMI-JET) is an essential study area as global energy systems transition from fossil fuels towards renewables. BMI is how companies redefine value creation, delivery, and capture mechanisms in response to new environments and opportunities (Teece, 2010; Ramdani et al., 2019). Such redefinition is needed in the energy sector, where regulatory, technological, and societal stresses necessitate innovative strategies for coupling profitability and sustainability. Sustainable business model innovation combines environmental, social, and economic goals, often based on circular economy practices. Pieroni et al. (2019) highlight how sustainable BMI separates value creation from the use of resources, allowing companies to minimise waste and emissions while ensuring growth. In integrating circularity, sustainable business model innovation makes economic activities support, not undermine, ecological and social resilience.

Business model innovation has become a vital source of organisational success in a rapidly changing technological environment, since it allows for the strategic alignment of value creation, customer engagement and revenue mechanisms with developing technological opportunities (Baden-Fuller & Haefliger, 2021). Recent scholarly work shows that business models are distinct from the technology itself since they constitute the frameworks that describe the selections to be made regarding how to assimilate and commercialise the new technology. By classifying business models into their core types of dyadic and triadic configurations, scholars reveal how options in business model shapes (not just the technology) drive competitive advantage through identification of customers, how to engage them and how to monetise (Baden-Fuller & Haefliger, 2021). This suggests that continual change and innovation in business models is necessary as part of ongoing digital transformation, to sustain organisational growth and relevance (Baden-Fuller & Haefliger, 2021).

The work of Casadesus-Masanell and Zhu (2022) further maintains that organisations looking to further sustainability must undertake business model innovation since it may allow firms to redesign their value creation, capture, and delivery processes, strategically, to achieve simultaneously economic, environmental, and social objectives. Their findings support the argument that, if organisations incorporate sustainability into their business model, then the advantages for long-term competitiveness, and the potential strength of the programs they undertake regarding effecting organisational change, are increased (Casadesus-Masanell & Zhu, 2022).

Digital technologies open new opportunities for BMIJ and JET, mainly via platform-based models and scalable solutions. Vaska et al. (2021) highlight how digital instruments like the Internet of Things and blockchain make peer-to-peer trading, real-time data analysis, and decentralised energy systems feasible. Empirical literature proves that BMI is critical for competitiveness in volatile markets, including the energy sector. Geissdoerfer et al. (2018) illustrate that businesses that use BMI perform better than competitors in industries transformed by regulatory changes, new technology, and new consumer expectations. This narrative supports the imperative for businesses to innovate their models to survive in the new energy economy (Geissdoerfer et al., 2018).

A body of evidence suggests that BMI offers sustainability and resilience (Ramdani et al., 2019; Vaska et al., 2021). However, current frameworks focus solely on technical and economic performance without delivery paths for social equity or participative equity (Geissdoerfer et al., 2018; Shakeel et al., 2020). The evolution of BMI from firm-focused models to ecosystem-based models and actionable design aids like the Triple-Layered Business Model Canvas informs dynamic value creation (Stojilovska & Markova, 2023; Pieroni et al., 2019).

2.3. Decision making

Turning now to another key theme, contemporary decision science frameworks that embrace uncertainty, stakeholder complexity, and ethical ambivalence. The JET, especially in developing economies like South Africa, calls for technology changes and institutional transformation through guided, ethical, and inclusive decision-making. This research examines recent theoretical models to appreciate decision-making's psychological, social, and systemic facets and how all those aspects impact the innovation process within JET frameworks.

Disruptive technologies and digital platforms are rarely used for participative decision making and power realignment (Vaska et al., 2021; García-García et al., 2020). Traditional top-down frameworks, institutional inertia and complexity from power inequality result in inequitable participation for vulnerable actors (Wang & Lo, 2021; Stojilovska & Markova, 2023). Decision-making tools such as CAC model or SDM frameworks can result in decisions that are more resonant with justice and inclusivity (Mishra et al., 2020; Bomhof-Roordink et al., 2019).

According to Morelli et al. (2022), decision-making under complexity departs from classical normative models and integrates emotional, social, and cognitive influences. The effect heuristic, for instance, explains how emotionally charged perceptions shape perceived risks and benefits, especially in sustainability-related decisions where the future is uncertain and data is incomplete. These emotional shortcuts act as adaptive mechanisms, helping decision-makers navigate ambiguity and pressure. This is a critical dynamic in South Africa's JET, where utility executives and policymakers must weigh short-term costs (e.g., job displacements) against long-term sustainability goals. The somatic marker hypothesis also predicts that emotional cues from the state of the body control decision-making when cognitive rationality is not up to the task (Morelli et al., 2022). In the JET context, this explains how leaders use intuition and somatic judgment when making ethically nuanced trade-offs in BMI, for instance, between decarbonization and community well-being.

Behavioural Reasoning Theory (BRT) helps by considering both the "reasons for" and "reasons against" strategic choices, accounting for the various motives and obstacles driving innovation (Sahu et al., 2020). BRT is especially valuable in capturing managerial resistance to adopting sustainable business models, particularly where structural ambiguity and regulatory complexity are prevalent.

An increasing quantity of literature confirms the validity of the cognitive-affective-conative (CAC) model to provide a multidimensional understanding of decision-making in business model innovation and the just energy transition context. The CAC model describes how the individual choices made by organisations emerge from cognitive evaluations (which are analytical and rational evaluations), affective reactions (which are emotive elements) and conative factors (the intentionality and motivation to act) (Fishbein & Ajzen, 1975; Bagozzi, 1992). Recent research utilising the CAC model are applicable in complicated decision environments, illustrating that sustainable business model innovation and effective energy transition planning requires rational reflection and understanding of stakeholder emotions and actions that need to be taken (Han, 2019; Lee, 2017). By integrating the three factors, the CAC model helps make sense of the reasons why industrious organisations may welcome or pay little credence to the benefits of innovative and socially equitable new business models, sustaining nuanced literature reviews and strategic dialogue around just energy transition (Fishbein & Ajzen, 1975; Bagozzi, 1992; Han, 2019).

Institutional theory describes how norms, rules, and legitimacy constraints define the parameters of sustainable innovation, with a focus on the need for regulatory coherence and participatory governance (Scott, 2019). Stakeholder theory further reinforces the need for inclusive representation of various and marginalised voices in the development of the business model, particularly in post-apartheid South African society, given the historic legacies of inequality shaping access to and control over energy (Freeman et al., 2020; IDDRI, 2022). Practical cases, including Mpumalanga's community-based solar cooperatives, show that collective decision-making frameworks enhance trust, inclusivity, and uptake of JET-aligned innovations (Presidential Climate Commission, 2024).

Nevertheless, persistent gaps like unclear policy signals, poor SME support, and asymmetric power relations between multinational corporations and local businesses speak to the necessity of context-adaptable innovation frameworks (Machaka, 2024). Current frameworks of business model innovation (BMI) in transitions in the energy sector fail to properly integrate structural power asymmetries, especially between multinational corporations and local players in the developing world. The power imbalances frequently lead to uneven participation, sidelining community voices and small businesses in planning the energy sector's future (Patel & Simatele, 2020; Swilling et al., 2015).

Additionally, conventional BMI approaches oftentimes do not incorporate temporal trade-offs, like the conflicts between short-run socio-economic dislocations (e.g., job losses) versus long-run sustainability gains, thus neglecting the grounded realities of coal-dominated regions (Musavengane, 2021; Baasch et al., 2023). There is also minimal inclusion of critical justice visions and political economy approaches, necessary for capturing the mechanisms by which past inequalities and institutional path dependence shape decision-making within the JET (Newell et al., 2021; Jenkins et al., 2021).

Using longitudinal qualitative approaches, the research hopes to identify how decision-makers in coal-based regions reconcile the economic, environmental, and social justice considerations. The research highlights that decision-making in BMI-JET is neither linear nor rational in that affective cues, contextual logic, and systemic imbalances influence it. Successful innovation here calls for frameworks that balance institutional accountability with behavioural realism to make the transitions sustainable and equitable. The proposed framework of this research is one such attempt to bridge the gap, yielding immediate practical implications for policymakers and businesses in South Africa and other developing countries.

2.4. Just Energy Transition

The origins of the just transition concept in South Africa can be traced to global labour movements, particularly the International Labour Organisation's advocacy in the early 2000s but have since developed uniquely local applications that reflect South Africa's economic structure and historical challenges (ILO, 2015; Newell & Mulvaney, 2013). South Africa's adaptation of the concept recognises the fundamental need to balance climate change mitigation with social justice outcomes, especially in coal-intensive regions such as Mpumalanga, where entire communities rely on coal-sector employment (Climate Commission, 2022). In practice, the South African approach has moved from high-level policy statements to detailed frameworks, such as the Just Transition Framework released by the Presidential Climate Commission in 2022, which emphasizes social dialogue, partnership with historically disadvantaged groups, decent work, and a commitment to mitigating adverse impacts on workers and communities (Climate Commission, 2022; Upham et al., 2020). This evolution marks South Africa as a prominent case where just transition principles are tailored to a context of profound inequality and energy dependence, providing both challenges and opportunities for innovation in business models and governance ((Upham et al., 2020); Newell & Mulvaney, 2013).

Theoretically, the Just Transition (JET) is a socio-technical change of the energy system that not only transitions from dependence on fossil fuels to low-carbon sustainable sources of energy but also systemically incorporates principles of economic inclusion, equity, and social justice into the transition (Shakeel et al., 2020; Meridian Economics, 2022). The just energy transition (JET) is an international imperative to transition energy systems toward sustainability with fairness, equity, and social inclusion. Business model innovation (BMI) and decision-making, the core concepts in achieving the transition, decide how organisations, governments, and societies transition into the necessary low-carbon socio-technical changes (Morelli et al., 2021; Mishra et al., 2021).

A Green transition is a decarbonisation that gives return equitably to workers and disadvantaged community groups, redoing value creation, distribution and capture along sustainability lines (Stojilovska & Markova, 2023; Pieroni et al., 2019). Institutional and

structural problems to achieving participative stakeholder engagement and equitable distribution of risks and rewards are significant threats to delivering the full JET promise (Shakeel et al., 2020; Stojilovska & Markova, 2023).

The connection between decision-making and business model innovation is essential for facilitating the just energy transition. BMI delivers the organisational and architectural design for applying new technologies, engaging with stakeholders, and capturing value aligned with sustainability and justice objectives (Mishra et al., 2021). Successful decision-making helps organisations and governments manage uncertainty, reconcile competing stakeholder interests, and respond to new realities (Morelli et al., 2021). The literature highlights that the two concepts reinforce each other; sound, context-rich deci sion making is critical in Business Model Innovation, whereas the needs for innovation determine the nature and degree of decision making called for. Such interplay can be clearly observed in the just energy transition, in which decisions should balance economic, environmental, and social justice considerations (Morelli et al., 2021; Mishra et al., 2021).

2.4.1 Systemic obstacles to Business model innovation for the Just Energy Transition (JET)

The Just Transition (JET) is a paradigm shift away from dependence on fossil fuels to sustainable energy systems, requiring transformation of business models (BMs) and decision-making (DM) structures to suit its triple-bottom-line demands: environmental sustainability, social fairness, and economic sustainability (Geissdoerfer et al., 2022; Baasch et al., 2023). However, institutionalised societal, financial, technological, and institutional barriers prevent business model innovation (BMI) and strategic change. These, in combination, prevent the mixture of justice-based principles in energy transitions, which results in sustaining inequalities and inefficiencies. Regulatory fragmentation, inappropriate policies, and path-dependent institutional frameworks favour short-term economic improvement over sustainability and fairness (Ramdani et al., 2019). The example of legacy subsidies on energy and the lack of strict enforcement of decarbonisation requirements

provide companies with disincentives to implement circular or collaborative business models.

Institutional resistance also constrains testing new value capture mechanisms, including community-owned renewable energy cooperatives (Baasch et al., 2023). High capital investments in clean technologies and infrastructure disproportionately disadvantage smaller players, perpetuating the exclusion of vulnerable communities. Conventional finance frameworks, which are optimised for centralized legacy fossil fuel systems, do not support risk-sharing frameworks and outcome-based revenue streams so important to value sharing (Pieroni et al., 2019). This misalignment compels the existence of a "green premium" that denies clean energy solutions to people with low incomes. Even as digitalisation provides tools to decentralise energy management (e.g., grid management via the Internet of Things), uneven technological diffusion and data disparities reinforce established power differentials (Vaska et al., 2021).

In AI-based demand-response systems, industrial consumers are typically privileged over residential consumers, excluding vulnerable households. Furthermore, technological lags in circular economy technologies (e.g., solar panel recycling infrastructure) prevent closed-loop value formation. Social acceptance of JET is hampered by unequal sharing of benefits and poor engagement of the involved parties. Hierarchical decision systems, which do not include community participation, undermine trust and increase resistance to change (Parida et al., 2019).

Furthermore, formulations of sustainability as an either-or between growth and equality perpetuate polarisation, suppressing collective innovation. These structural barriers are interlocking institutional rigidity that entrenches financial vulnerabilities, technological disparities exacerbate social disparities, and fragmented governance dismantles integrated solutions. These can only be overcome with inclusive business designs that democratise the generation of value (e.g., standard ownership models), adaptive policy systems that reward justice-oriented investments, and inclusive digital spaces closing technological

dividing lines (Ramdani et al., 2019; Geissdoerfer et al., 2022). Failing to address these barriers, the JET risks reproducing the same disparities it tries to mitigate before, prioritising technocratic efficiency over justice-oriented transformation.

2.4.2 Institutional and regulatory barriers to energy transition innovation

Of all systemic obstacles, institutional and regulatory constraints are the most evident and overwhelming barriers to innovation in South Africa's Just Energy Transition (JET). These barriers are pronounced, as their effects are felt throughout the operational space for all transitions, notably in defining the rules for markets, the processes surrounding permits, and rewards. The rigidity of the electricity grid, the incoherent regulatory landscape, and the fossil fuel-based logics of policy produce a set of path dependencies, causing delays in both the achievement of renewable energy integration and just business model evolution (Baasch et al., 2023; García-García et al., 2020). The effect of the centralised, coal-dependent governance model is that not only does it disallow decentralisation, but it leads to a congested grid and curtailments of supply of renewables as well as unfavourable contracts for independent power producers (Elia Grid International, 2023; Eskom, 2024).

These barriers can not only be seen to be more of a barrier than the broader systemic barriers, but since they serve to perpetuate all other barriers, they serve a structural lock-in, potent and difficult to dislodge. Institutional incoherence, when the positions of state and private actors are congruent, serves to inhibit the long-term prospects of investment, in addition to reform, but is exceptionally visible in the protracted implementation of the 2022 JET Investment Plan (Presidential Climate Commission, 2023; SEI, 2024). Regulatory large-scale issues given to fossil fuel-based incumbents regarding legacy licensing structures, monopoly tariffs, and procurement methods are aggressively defended, prolonging reliance on inviable, cumbersome, large-scale utilities (Rennkamp et al., 2022).

Consequently, inequities in access, slow deployment of distributed generation, and entrenchment of centralised control remain, restricting opportunities available to maximise innovation. Institutional and regulatory barriers are significant in this regard, as their diminishing creates the necessary environment for the encouragement of business model innovation and far-reaching change in the energy structure, as opposed to barriers of a financial or even technical nature, which can sometimes be overcome in a fragmented, piecemeal way.

Baasch et al. (2023) indicate that these institutional and regulative barriers are highlighted to an even greater degree than the previous constraints, given that these rules enable or limit business model innovation and ultimately broader system reform. García-García et al. (2020) explicitly communicate how these constraints impact the rules of the market, roles of actors, and strategic direction, which impact the degree of innovation feasible within the sector. Reports issued by organisations, including Elia Grid International (2023) and Eskom (2024), have reported on how the systemic realities of the grid's inflexibility and centralized governance reinforce this barrier in practice.

Reviews of governmental policies, such as the Presidential Climate Commission (2023), indicate that these barriers persistently work against the Just Energy Transition in South Africa. Similarly, analyses by the Stockholm Environment Institute (SEI, 2024) and research by Rennkamp et al. (2022) confirm that institutional barriers are seen generally as the significant barriers facing the energy transition debate in South Africa. This reading of the institutional barriers is supported by wider sectoral studies, including the Analysis of Barriers to South Africa's Energy Transition (2025) and the SEI report on Just Transitions in South Africa (2024), both of which illustrate that various stakeholders consistently identify institutional and regulative barriers as the foremost obstacle to achieving transformative change.

2.4.3 Overcoming the barriers: the case of global experiences

Similar adaptive legal, policy, and governance models have been used in many parts of the world to deal with similar institutional and regulatory challenges. For example, Germany and China overcame grid inflexibility and coordination failures through regulations on coordinating infrastructure planning with renewable targets and integrating regulatory agencies tasked with permitting, transmission expansions, and investments alignment (Pereira, 2025; Taghipour, 2025). Both countries created investment certainty through aligned regulation and longer-term incentives for renewable energy, illustrating how coupled regulations promote systemic innovation (Radtke, 2025).

Reforms in the United States, such as Michigan's HB 5120/5121 and New York's Office of Renewable Energy Siting (ORES), that endeavoured to remove bottlenecks in siting and permitting, emerged from the twenty-four-month decisional period, leading agencies and community benefit agreements to promote the greater ease of renewable uptake (Climate XChange, 2024). These examples show that legal innovation, particularly the bespoke permitting institutions, can promote vigorous community rights to the greater efficiency of the system of governance, transforming institutional inertia and the excess of regulatory demand.

Another worthwhile model is that of the Nordic countries, particularly Sweden. Its success has resulted mainly from its well-funded governance structures of a multi-level nature, particularly because of the quality of regulatory advance, the stability of the investment in transition policies, and the inclusive engagement of the players (World Economic Forum, 2025). The integrated methods of regulation of these countries, which are reinforced by funding for a just transition, demonstrate that the alignment of coherent regulation with technological innovation and social equity is celebrated. Research by OECD (2020) also supports the view that governing in a multi-level and regional context, where localised participation is embedded through place-based innovation policy within the national context.

De-carbonisation strategies, enhances the effectiveness of such transitioning. Finally, legal reforms within the European Union and Emerging Economies have demonstrate the speed in which it is possible to release private capital and reduce to uncertainty of supply side regulation through the updating of modified competing market based frameworks such as Feed in Tariffs, Renewable Portfolio Standards, and the transparent arrangements for interconnection (World Journal of Advanced Engineering Technology and Sciences, 2024). These tools demonstrate the speed at which harmonised techniques of flexible regulation stimulate the inclusiveness of broadening of the integration of renewable markets.

2.4.4 Implications for South Africa's Just Energy Transition

In utilising the lessons learnt from each of these global trends, it is apparent that the institutional barriers to South Africa can be weakened. Establishing a single coordination authority through which JET connects the national, provincial, and municipal government policies regarding energy. Establishing statutory time frames for approvals and a single regulatory authority for permitting renewable energy projects. Regeneration of grid investments will be a function of the improved grid planning models being worked on in Germany. Tax incentive instruments and locally determined feed-in tariffs have shown a definite improvement in policy stability and reduced risk associated with private sector investment and entry. Establishing stakeholder participatory processes as a model for better legitimacy as a function of decision-making and connected to equity considerations and innovation (UN, 2025).

In summary, the information regarding institutional and regulatory processes at a global level indicates clearly that the pathway for a just and innovative energy transition in South Africa occurs precisely in its regulatory nimbleness, its clarity of governance models, and its framing of participatory policy making, which may thus ensure that pernicious and entrenched systematic barriers are overcome.

2.5. The relationship between business model innovation and decision making

Business model innovation (BMI) and decision-making are tightly coupled in the evolving and uncertain landscapes of the just energy transition. The recent and foundational literature finds that successful planning and deployment of innovative business models entail navigating complex choices under uncertainty, risk, and diverse stakeholder interests (Spieth et al., 2025; Morelli et al., 2021; Hall et al., 2022). In the context of energy transitions, both rational analysis and non-rational elements such as emotion, heuristics, and the broader social context significantly influence how business models are conceptualised, adopted, and adapted (Lu et al., 2022; Morelli et al., 2021).

For example, as energy systems decentralize and digitise, sectoral decision-makers increasingly rely on rules of thumb (heuristics) when facing rapidly shifting alternatives, while reserving systematic analysis for longer-term strategic investments (Hall et al., 2022; Morelli et al., 2021; Rubino et al., 2021). Heuristics and intuitive judgments are especially prevalent in distributed energy systems, where uncertainty and data complexity are high. Recent studies show that digitalisation and data analytics also enable a more comprehensive approach to decision-making, offering new tools for understanding consumer preferences and system-level trade-offs (Rubino et al., 2021).

Moreover, integrating emotional and social influences into business model decision-making has garnered increased attention in recent years. Entrepreneurial emotion regulation, including cognitive reappraisal and expression suppression, can affect organisations' propensity to undertake and implement innovations, particularly when digital transformation and rapid business iteration are involved (Lu et al., 2022). Similarly, stakeholder engagement and collaborative design approaches have been shown to enhance legitimacy and foster innovative, context-tailored business models for sustainability transitions (Hall et al., 2022; Oskam, 2021).

In summary, both Morelli et al. (2021) and more recent literature advocate for holistic, integrative views of decision-making in BMI recognising cognitive, emotional, and contextual factors and their interplay across organisational boundaries (Spieth et al., 2025; Rubino et al., 2021; Morelli et al., 2021). There is a growing call for research and practice that bridge these dimensions, emphasizing the role of rational and analytical processes and recognising heuristics, emotions, and stakeholder ecosystems as critical levers for innovation in the just energy transition.

Notwithstanding these findings, there still appear to be gaps in the literature, such as the absence of thoroughgoing examinations of the way decision-making, in turn, influences business model innovation in the just energy transition, especially in emerging economies and local settings (Mishra et al., 2021). Research has mainly targeted developed economies, creating the need for empirical work that targets the distinctive challenges and drivers in the South African setting. Furthermore, methodological challenges such as the dominance of cross-sectional, survey-based work indicate the need for longitudinal and qualitative work to capture the dynamic relationship between decision making and BMI in greater detail (Mishra et al., 2021).

Overall, business model innovation and decision making interact so that sound BMI relies on high-quality, context-sensitive decision making. In contrast, the needs of innovation determine the form and the degree of decision-making necessary. For the progress in the field, it will be necessary to work with combined theoretical concepts and empirical analysis, representative of the complexities, uncertainty, and socially situated nature of the environments for innovation (Morelli et al., 2021; Mishra et al., 2021).

BMI and decision-making go hand in hand. Successful BMI necessitates participative, cyclical decision-making to remake value propositions, partnerships, and revenue models (Ramdani et al., 2019). In the energy domain, decisions regarding decentralisation, community ownership, and technology adoption directly impact the fairness of new business models (Geissdoerfer et al., 2018; Stojilovska & Markova, 2023). Nonetheless, competing

incentives, like short-run profit versus sustainability, regularly result in inferior or unfair business model designs (Pieroni et al., 2019).

JET frameworks have hastened the implementation of new business models emphasizing equity and inclusiveness. For instance, decentralised renewable energy systems and community-based solar projects resist mainstream utility-based models in embedding value creation and distribution with justice (Stojilovska & Markova, 2023). In the case of South Africa, the Renewable Energy Independent Power Producer Procurement Programme (REIPPPP) shows the potential for policy-driven BMI in creating local employment opportunities and building public-private partnerships. However, issues still arise in balancing trade-offs among economic, social, and environmental objectives (Baker et al., 2022). At the industrial level, the manufacturing and automotive sectors incorporate circular economy and digital technology in advancing JET, but the scale and inclusivity of such models remain low (Vaska et al., 2021).

While these frameworks illuminate core dynamics between business model innovation and decision-making, recent scholarship has expanded the conversation with emerging debates and identified key research gaps. The following subsection integrates new perspectives and contemporary findings from the latest literature.

2.6. Contemporary debates and emerging directions in BMI for JET

Recent studies have introduced advanced insights into the mechanisms, barriers, and justice implications of business model innovation for the Just Energy Transition. This section reviews and synthesizes these current debates.

Recent literature highlights that achieving climate goals, including the targets set by the Paris Agreement, requires profound restructuring of high-carbon sectors like oil and gas. BMI is a critical lever in this transformation, demanding integrated technological changes

and across business fundamentals such as customer segments, value propositions, resources, partners, and cost structures (Sletten, Jonasmo, & Solheim, 2023). The incentive for such change stems from a decisive shift in the energy paradigm toward decentralisation and digital integration, with trends towards prosumerism enabling citizens, communities, and municipalities to engage as energy producers, consumers, and even service providers. This rise of the prosumer challenges traditional, volume-driven utility models and calls for the realignment of business strategies to fit disrupted energy markets (Gitelman & Kozhevnikov, 2023; Hamwi & Lizarralde, 2016; Mihailova et al., 2023).

This transformation is also characterised by a move from linear value chains to highly networked, digitalised business platforms, facilitated by innovations like virtual power plants and peer-to-peer trading. Additionally, firms are shifting from offering energy as a simple commodity to providing energy-as-a-service, creating new, customer-oriented value propositions that prioritise efficiency, reliability, and customization. Servitization in energy, emphasizing knowledge-intensive and configurable services, marks a significant departure from the historic focus on commodity sales, further advancing the scope for both business model and social innovation (Gitelman & Kozhevnikov, 2023; Hamwi & Lizarralde, 2016).

Overlapping these commercial and technological revolutions is the Just Transition (JT) imperative, which requires that climate action integrates social justice by minimising hardships and maximizing benefits for workers and communities affected by the transition away from carbon-intensive industries. Successful net zero business models are thus those that incorporate elements like shared ownership, accountability, and local capacity building, especially when working in marginalised settings (Patterson-Waterston et al., n.d.; Stark, Gale, & Murphy-Gregory, 2023).

This has promoted the rise of social innovation, defined as new ways of organising, thinking, and acting that emerge when relationships between business, government, and citizens shift. Activities like community energy co-operatives and peer-to-peer learning

networks are no longer just complementary but central components for successful, inclusive energy transitions (Mihailova et al., 2023).

Recent studies use several interlinked theoretical frameworks to analyse these dynamics. Justice theory supplies the ethical rationale for the JT, with three cornerstones: distributional justice (equitable allocation of risks and benefits), recognitional justice (acknowledging diverse needs and identities, particularly for marginalized communities), and procedural justice (ensuring that transition decisions are transparent, inclusive, and fair) (Stark et al., 2023; Patterson-Waterston et al., n.d.).

Socio-technical transitions (STS) theory enables analysis of how business models co-evolve with changes in institutional, technological, and user practices. At the same time, frameworks from strategic foresight and human-centered design provide systematic approaches for evaluating innovation through scenarios of desirability, viability, and feasibility (Hall et al., 2022).

The literature shows strong agreement that technological change alone is insufficient. Achieving a just energy transition requires holistic, system-wide changes within business models, including network-based organisation and digital integration. However, established, high-carbon firms often display low willingness to change due to cognitive or organisational inertia, while others, like suppliers in unprofitable markets, are more responsive to innovation (Sletten, Jonasmo, & Solheim, 2023). The alignment of existing business models with Just Transition goals is still limited; many focus almost exclusively on environmental outcomes while underemphasizing fair ownership, governance, and community reskilling (Patterson-Waterston et al., n.d.). Market reforms, especially in infrastructure and policy, are needed to enable decentralised, flexible, and prosumer-led approaches (Gitelman & Kozhevnikov, 2023).

Key debates persist in the field, especially around the operationalisation of justice. Although distributional justice is often highlighted, clear procedural and recognitional mechanisms are less developed often leading to uneven or incomplete transition processes (Stark et al., 2023). Disagreement also exists on how to define the nexus between financial viability and sustainability within business models, particularly where social innovation evolves outside standard market frameworks and risks being co-opted by traditional, market-oriented approaches (Mihailova et al., 2023).

Despite these advances, important research gaps remain. There is a need for more empirical work on participatory governance in BMI for the energy transition, as well as on financing and ownership models for community-driven innovation. Furthermore, developing systematic methodologies for decision-making under uncertainty and integrating global innovation systems are the necessary next steps. Scholars also call for detailed studies on the micro foundations of radical change, the people and processes driving transformative BMI within highly inert sectors (Hall et al., 2022; Sletten, Jonasmo, & Solheim, 2023).

2.7. Conclusion

Business model innovation (BMI) is increasingly recognised as a vital driver for the Just Energy Transition (JET), particularly in sectors historically dominated by fossil fuels (Sletten, Jonasmo, & Solheim, 2023; Mihailova et al., 2023). The global literature converges on the need for profound, systemic changes in business models that move beyond technical and economic solutions, integrating concerns of stakeholder inclusion, procedural justice, and local context adaptation (Stark, Gale, & Murphy-Gregory, 2023; Hall et al., 2022). However, most existing scholarship remains focused on quantitative designs and developed economies, overlooking the complexities and social realities of countries like South Africa, where the intersection of historic inequality and entrenched energy systems creates unique challenges and opportunities (Swilling et al., 2015).

Recent scholarship highlights that BMI, when effectively aligned with principles of justice and inclusion, has the potential to facilitate decarbonization while delivering fair benefits to workers and communities (Patterson-Waterston et al., n.d.; Stark et al., 2023). Despite these contributions, there remains a gap between high-level frameworks and practical implementation, particularly regarding how procedural and recognitional justice can be systematically operationalized in real-world settings (Stark et al., 2023). Despite evidence of technological and business model progress, key debates persist, especially about balancing financial viability and achieving distributive and participatory outcomes (Mihailova et al., 2023).

Significant barriers remain, including institutional inertia, regulatory misalignment, persistent social disparities, and the insufficient inclusion of marginalized voices in decision-making processes (Sletten, Jonasmo, & Solheim, 2023; Gitelman & Kozhevnikov, 2023; Swilling et al., 2015). Current frameworks too often neglect the temporal and political trade-offs between rapid economic change and long-run social justice, as well as the unique needs of communities in historically coal-dependent and economically depressed regions (Stark et al., 2023; Swilling et al., 2015).

What is urgently needed is qualitative, context-driven research that captures the lived experiences, emotional dynamics, and stakeholder trade-offs embedded in decision-making for BMI within JET (Hall et al., 2022; Patterson-Waterston et al., n.d.). This research should focus on co-designing, testing, and refining participatory mechanisms that enable inclusive value creation, adaptive governance, and practical operationalization of justice principles (Stark et al., 2023). Longitudinal and community-embedded approaches are essential to map how actual organisational and community actors navigate trade-offs, resistances, and opportunities for transformative adaptation (Sletten, Jonasmo, & Solheim, 2023).

The literature underscores that achieving an equitable and sustainable Just Energy Transition depends on more than the diffusion of new technologies or business tools. It requires fundamental changes in decision-making processes, democratizing business

model design, and empowering diverse actors to meaningfully participate in shaping their energy futures (Mihailova et al., 2023; Gitelman & Kozhevnikov, 2023). Advancing this agenda calls for concerted academic, policy, and practitioner efforts to bridge the global south's empirical, methodological, and practical gaps and contexts marked by deep socio-economic divides (Swilling et al., 2015).

CHAPTER 3: RESEARCH QUESTIONS

3.1. Introduction

Grounded in the study's conceptual framework, which integrates Business Model Innovation (BMI), Shared Decision-Making, and Descriptive Decision-Making theories, this section introduces the research questions guiding the inquiry. While BMI is often advanced as a tool for sustainability, it frequently overlooks issues of equity and stakeholder participation (Geissdoerfer et al., 2018; Pieroni et al., 2019). In South Africa's Just Energy Transition (JET), marked by socio-economic inequalities and institutional complexity, there is a pressing need to examine how businesses design models, make decisions, and engage stakeholders to advance justice and inclusivity (Stojilovska & Markova, 2023; Ramdani et al., 2019). Accordingly, this study explores the tensions and opportunities at the intersection of business model change, governance, and just transition imperatives.

3.2. Research Questions

The following three research questions are derived from theoretical insights and gaps in the literature.

Research Question 1: How do stakeholder power dynamics and governance arrangements shape business model innovation in South Africa's just energy transition?

This research question explores the extent to which the existing dynamics of power and governance of the stakeholders influence the direction of innovation and transition of business models within South Africa's just energy transition. Literature suggests that the different powers of stakeholders like policy makers, communities, trade unions, and investors may have an important role in determining the inclusionary or exclusionary nature

of the innovation processes (Pieroni et al., 2019). The different agendas of the groups will particularly shape the process of designing fair and justifiable business models that must consider the social, economic, and environmental demands for effective implementation of the business models (García-García et al., 2020). In such environments where existing governance mechanisms tend to be fragmented or hierarchical in nature, the power asymmetries may lead to the perpetuation of top-down decision-making, which leads to problems of equitable participation and rates of production of innovation output (Stojilovska & Markova, 2023). By linking these factors to the general problem of system inequalities within the transitionary sectors, the project seeks to show how governance and stakeholder interaction may enhance or inhibit business model innovation in South Africa's just energy transition.

Research Question 2: How can decision-making be redesigned to overcome systemic barriers to justice, equity, and inclusivity in energy-related business model innovation?

This research question investigates how the decision-making process within the energy sector of South Africa can be reconfigured to surmount systemic barriers that limit justice, equality, and inclusivity of business model innovation. The literature indicates that conventional governance frameworks tend to favour incumbent actors at the expense of others, leading to institutional inertia and non-implementation of transformative changes in business models (Stojilovska & Markova, 2023). Systemic difficulties like regulatory fragmentation, profit-driven priorities, and opaque practices are the reasons that limit the opportunity for public and stakeholder influence and that violate the tenets of procedural justice (Ramdani et al., 2019). To rid the sector of these limitations, it is recommended that approaches to decision-making that promote shared governance, and cognitive-embodied participation and distributed accountability be practised as measures to democratise the innovation processes (Shakeel et al., 2020). It is through the critical assessment of such alternative models that this study seeks to contribute to understanding how institutional and

governance reform can provide ways that are more inclusive and equitable for pathways to be adopted in the just energy transition of South Africa.

Research Question 3: How are South African energy companies innovating to embed just transition principles, and what are the economic sustainability and social equity implications?

The research question explores how South African energy companies are innovating their business models in practice to embed transition principles into their operations while assessing the broader impact of these innovations on long-term sustainability and social equity. It is shown that models like the Triple Layered Business Model Canvas facilitate value trade-offs by integrating the environmental, social, and economic dimensions, which helps firms to manage these competing objectives (Geissdoerfer et al., 2018). It is shown that energy companies are increasingly using participatory value networks to co-create inclusive value with stakeholders, while redesigning their value propositions to take in circular resource flow and equitable labour structures (Wang & Lo, 2021). Despite this progress, issues of governance and asymmetries of power between stakeholder groups shape the effectiveness of such innovation. Relying on justice-based frameworks and institutional analysis, this research associate's holistic theory with practical business insights to show how energy affordability innovation can align corporate strategies with the broader goals of fairness and inclusivity underlying South Africa's just energy transition (ILO, 2022).

3.3. Conclusion

This chapter articulated the primary research questions at the heart of exploring business model innovation and decision-making in South Africa's just energy transition, emphasizing the influence of governance structures and stakeholder power dynamics. The chapter highlights the need to critically reassess decision-making processes for advancing equitable

business model innovation in the energy sector by identifying the institutional and procedural barriers to justice and inclusivity. The outlined questions also address South African energy companies' real-world strategies to embed just transition principles, examining their economic sustainability and commitment to social equity. Together, these research objectives form the conceptual and empirical foundation for subsequent chapters, ensuring the study remains focused on fostering actionable insights for a more just and inclusive energy transition.

CHAPTER 4: RESEARCH METHODOLOGY

4.1. Introduction

This chapter describes the research methodology employed to address the academic and business questions outlined in the previous chapters. Expanding on this perspective, conceptual frameworks on business model innovation (BMI) in the energy sector have primarily focused on technology and finance, while often overlooking social justice, participatory governance, and equity considerations (Garcia-Garcia et al., 2020; Wang & Lo, 2021; Stojilovska & Markova, 2023; Pieroni et al., 2019). In the South African business context, energy companies faced ongoing challenges operationalising Just Energy Transition (JET) principles, particularly in embedding social justice, stakeholder inclusivity, and participatory governance into business models, which were frequently shaped by top-down decision-making processes that did not account for local contexts (The Presidency, 2024; Geissdoerfer et al., 2018; Ramdani et al., 2019).

To better understand South Africa's JET's complex and dynamic contexts, this study engaged with research questions that foregrounded decision-makers' experiences in participatory decision-making, equity, and stakeholder engagement alongside their work in BMI. A qualitative phenomenological approach was adopted, as it was well-suited to exploring individuals lived experiences and how they made sense of complex social and institutional contexts (Smith, Flowers & Larkin, 2009; Gill, 2020).

The study aimed to capture how participants conceptualised their subjective experiences as leaders involved in BMI and understood their roles in navigating normative, institutional, and strategic tensions within the context of JET (Creswell & Poth, 2018; Nguyen, Stewart & Jones, 2023). This phenomenological approach was intended to broaden theoretical discussions around justice and participation and provide insight into the structures

constraining and enabling transformation in academic and organisational contexts (Ramdani, Boughzala & Boukef, 2019; Vaska et al., 2021).

4.2. Choice of Methodology

This study adopted a qualitative phenomenological research design to understand the experiences and interpretations of individuals involved in participatory decision-making within business model innovation (BMI) in the context of South Africa's Just Energy Transition (JET). Qualitative research was chosen because it enabled an interpretivist exploration of participants' perspectives in real-world contexts, focusing on meaning, experiences, and sense-making rather than statistical generalisation (Vaska et al ., 2021).

Phenomenology was particularly appropriate as it allowed the researcher to capture the essence of participants lived experiences and how they conceptualised justice, equity, and inclusivity in their decision-making processes. This approach provided insights into how decision-makers navigated complex institutional, socio-political, and ethical challenges, as well as the tensions and dilemmas that arise when multiple stakeholder values intersect, as described by Ramdani et al. (2019) (Smith, Flowers & Larkin, 2009; Gill, 2020).

The study's objective to foreground individual perspectives on stakeholder dynamics, governance structures, and organisational innovation in BMI guided the methodological choice. By focusing on participants' subjective experiences, the study could explore micro-level decision-making, ethical trade-offs, and moral dilemmas that underpin innovation within the JET context (Creswell & Poth, 2018; Nguyen, Stewart & Jones, 2023).

A phenomenological approach further allowed the study to link individual experiences

to broader structural and institutional forces, providing a bridge between theory and practice. It emphasised the co-construction of knowledge between researcher and participant, consistent with the interpretivist paradigm, where reality is socially constructed and context-dependent (Aspers & Corte, 2019; Bell et al., 2023).

To ensure methodological rigour, the study employed semi-structured interviews that were directly aligned with the research questions and designed to elicit rich, reflective accounts of participants' experiences in BMI and JET. Pilot interviews were conducted to test the interview guide's clarity, relevance, and flow, ensuring it captured the full range of experiences necessary to address the study objectives (Saunders & Lewis, 2019).

In summary, the qualitative phenomenological design provided a robust framework for exploring how participants understood, navigated, and enacted justice, equity, and sustainability in their work, while maintaining alignment with the research questions and interview guide. It enabled a deep, contextualised understanding of the challenges and opportunities associated with business model innovation in South Africa's JET (Ramdani et al., 2019).

4.3. Research philosophy and design

This study was grounded in the interpretivist-constructivist paradigm, which recognises that social realities can only be understood through the subjective interpretations of those involved in business model innovation (BMI) and Just Energy Transition (JET) processes (Creswell & Poth, 2018). Phenomenology was particularly suitable because it focuses on the essence of participants' experiences and how they interpreted their roles and responsibilities while responding to JET's ethical imperatives and institutional complexities (Smith et al., 2022).

In the South African context, where energy transition intersects with social justice, historical exclusion, and urgent sustainability challenges, phenomenology allowed the study to explore how actors internalised, contested, and operationalised macro-level forces while making strategic and operational decisions (Vaska et al., 2021; Ramdani et al., 2019).

The study adopted an interpretivist epistemology, recognising that reality is not objective or absolute but is socially constructed through human interactions, context, and historical conditions (Mohajan, 2020). Interpretivism assumes that participants may interpret the same phenomenon differently, and all interpretations are valid, shaped by their experiences, social background, and organisational positioning. This epistemological stance was essential for understanding how diverse actors engaged with BMI and decision-making in the South African energy sector, shaped by institutional legacies and contemporary pressures (Nguyen et al., 2023).

Knowledge in this study was considered co-constructed between the researcher and participants. This perspective emphasised the role of conversation, reflection, and dialogue in producing meaningful insights, rather than assuming knowledge could be objectively discovered (Aspers & Corte, 2019; Bell et al., 2023). The researcher-maintained reflexivity, documenting personal positionality and its potential influence on data collection, in terpretation, and analysis (Gill, 2020).

A qualitative phenomenological design was chosen to explore participants lived experiences, focusing on how they perceived, interpreted, and acted within complex decision-making processes around BMI and JET. This design allowed the study to capture micro-level dynamics such as motivation, dilemmas, moral reasoning, and ethical trade-offs, which are often lost in quantitative or aggregate analyses (Smith et al., 2022; Nguyen et al., 2023).

The cross-sectional study documented experiences and perceptions at a single point during a significant change in the South African energy landscape. This snapshot provided insights into how decision-makers responded to regulatory, institutional, and socio-political shifts, and how these responses influenced the design and implementation of innovative, inclusive, and equitable business models (Pieroni et al., 2019).

Purposive sampling was employed to select participants directly involved in BMI or JET decision-making and could provide rich, detailed descriptions of their lived experiences.

This approach ensured the collection of information-rich narratives necessary for phenomenological analysis, emphasising depth over breadth and recognising the diversity of perspectives across public, private, and civil society actors (Moustakas, 1994; Patton, 2015; Creswell & Poth, 2018).

Overall, the research philosophy and design aligned directly with the research questions and interview guide, providing a framework to explore stakeholder dynamics, governance arrangements, decision-making processes, and the practical embedding of justice and equity in South Africa's energy transition. Phenomenology, situated within an interpretivist-constructivist paradigm, enabled a deep, contextualised understanding of the lived experiences of decision-makers, maintaining the golden thread from research problem to methodology to data collection and analysis.

4.4. Research Approach

This study was phenomenologically informed, and a qualitative method consistent with the interpretivist-constructivist paradigm was employed. This was chosen because qualitative methodologies are beneficial for understanding how people experience, understand, and assign meaning to complex phenomena such as business model innovation and the Just Energy Transition (JET). While quantitative methodologies aim at measurement and

generalisability, qualitative approaches aim to derive context-specific insights from the participants' lived experiences (Creswell & Poth, 2018; Yin, 2020).

A phenomenological methodology is particularly suitable for this research because it emphasizes subjective experience and can capture how decision makers interpret the ethical, social, and institutional dimensions underpinning their work in a context of energy transitions (Smith, Flowers & Larkin, 2009; Gill, 2020). Rather than focusing on causality, attention is thus paid to the subjective meaning-making of those involved, situating their responses in lived reality, stressed is the depth rather than the breadth of inquiry (Moustakas, 1994). The interpretive approach thus fits in with the contextual and dynamic nature of the South African energy transition, which demands an understanding of what decisions are taken, how and why they are made within a constrained socio-political and institutional context. The research will yield insight into the governance, justice, and innovation interface through an iterative data collection and inter pretation exercise. The methodological approach of the research consisted of three guiding principles. In the first instance, reality is socially determined and context-bound, which implies that people interpret their lived experiences in terms of the social, cultural, and historical context relevant to them. Secondly, knowledge is co-created, thus a function of the dynamic interaction of researcher and the researched, meaning emerges from collaborative reflective practice rather than being discovered through an objective lens. Thirdly, understanding emerges from the interpretation of lived experience, prioritising subjective explorations of meaning and perspective over measurement, thus reflecting a prior commitment to the interpretivist-constructivist paradigm and the qualitative inquiry methodology. This approach thus ensured alignment between philosophical position, research design, methodology, and data interpretation, enhancing coherence and methodological integrity (Aspers & Corte, 2019; Bell et al., 2023).

4.5. Population

The study's population consisted of decision-makers actively involved in business model innovation (BMI) or operationalising Just Energy Transition (JET) initiatives within the South African energy sector. This included individuals in executive, innovation, project leadership, sustainability, policy, and community engagement roles who influenced, designed, or implemented activities aligned with JET principles. This population was appropriate for a phenomenological approach, as it embodied rich lived experiences of people navigating the complexities of BMI and decision-making in the JET context (Smith et al., 2022; Gill, 2020). Participants could provide insights into how decisions were made, contested, and enacted, and how governance arrangements, stakeholder dynamics, and ethical considerations shaped innovation outcomes (Nguyen et al., 2023).

The selection of this population also reflected the multi-level nature of South Africa's energy transition, incorporating actors from institutional, regulatory, and community levels. Including a spectrum of participants ensured that perspectives from organisations with governance responsibilities and grassroots actors were represented, enhancing the study's rigour, credibility, and contextual relevance (Bell et al., 2023; Vaska et al., 2021). From an epistemological perspective, purposive sampling is aligned with qualitative inquiry principles. It selects participants capable of providing detailed and information-rich descriptions relevant to the research questions (Kalu & Bwalya, 2022). This approach prioritises depth over breadth, focusing on the quality and richness of insights rather than statistical generalisation.

In summary, the population was carefully defined to capture diverse lived experiences, providing a robust basis for understanding how individuals engaged with participatory decision-making, justice, equity, and sustainability in the operationalisation of BMI within South Africa's JET context.

4.6. Unit of analysis

The unit of analysis in this study was the individual decision-maker involved in business model innovation (BMI) and Just Energy Transition (JET) initiatives within South Africa's energy sector. This included executives, innovation managers, sustainability leads, and policymakers directly designing, implementing, or influencing BMI and JET strategies (Bell et al., 2023; Nguyen et al., 2023).

Focusing on the individual allowed the study to capture the micro-level dynamics of decision-making, including motivations, dilemmas, ethical reasoning, and stakeholder negotiations, which are often obscured in aggregated organisational or system-level analyses (Smith et al., 2022; Gill, 2020; Pieroni et al., 2019). This approach was consistent with phenomenological research principles, which emphasise understanding the essence of lived experience from the perspective of those experiencing the phenomenon (S mith et al., 2022; Moustakas, 1994).

Selecting the individual as the unit of analysis also aligned with literature on business model innovation, highlighting the importance of agency and individual action in driving or resisting change within adaptive institutions (Bell et al., 2023; Ramdani et al., 2019). By focusing on individual decision-makers, the study could examine how personal values, interpretations, and contextual constraints shaped innovation outcomes, particularly within the social, institutional, and political environment of South Africa's JET (Kalu & Bwalya, 2022; Vaska et al., 2021).

This emphasis on the individual ensured that the research remained grounded in participants' experiences, enabling rich insight into how justice, equity, and sustainability considerations were embedded in real-world decision-making processes (Nguyen et al., 2023; Smith et al., 2022). It also maintained alignment with the research questions and interview guide, which focused on stakeholder dynamics, governance arrangements, procedural barriers, and practical innovations in BMI and JET contexts.

4.7. Sampling method and size

Non-probabilistic sampling techniques were employed to identify participants based on their relevance to the study's objectives rather than random selection. In qualitative and phenomenological research, non-probabilistic approaches are commonly used to access participants with rich contextual knowledge and lived experience related to the phenomenon under investigation (Etikan et al., 2016; Palinkas et al., 2015). Such methods prioritize depth and meaning over statistical representativeness, aligning with the interpretive nature of phenomenological inquiry (Creswell & Poth, 2018).

A purposive sampling strategy was employed to select participants directly involved in Business Model Innovation (BMI) or Just Energy Transition (JET) decision-making within South Africa's energy sector. Participants were drawn from multiple institutional domains, including public utilities, private energy companies, policy-making institutions, and civil society organisations. This approach ensured that the study captured diverse perspectives across governance, operational, and community levels, enhancing the richness and credibility of findings (Patton, 2015; Kalu & Bwalya, 2022).

The study targeted 12 to 15 participants, consistent with previous phenomenological research in energy transition and innovation. For example, Nguyen et al. (2023) conducted semi-structured interviews with 14 participants to study stakeholder perspectives on energy justice, achieving thematic saturation. Similarly, Vaska et al. (2021) engaged 12 participants in a business model innovation study, demonstrating adequate saturation. This sample size balanced the need for depth and richness of lived experience with practical constraints, reflecting the phenomenological emphasis on meaning rather than statistical generalisation (Moustakas, 1994; Hennink et al., 2020). Participants were recruited through a formal invitation email followed by a personal contact to explain the study's purpose. Informed consent forms were provided digitally before interviews, detailing the research objectives, voluntary participation, confidentiality, potential risks and benefits, and participants' right to withdraw without penalty. Snowball sampling was used cautiously if

required, ensuring referred participants were fully informed of their rights under South Africa's Protection of Personal Information Act (POPIA, 2013).

Purposive sampling aligned with the study's phenomenological design, enabling the selection of participants capable of providing information-rich insights relevant to the research questions (Smith et al., 2022; Gill, 2020). The approach ensured diversity in institutional roles, experiences, and sectoral perspectives, essential to capturing BMI's ethical, strategic, and operational dimensions in South Africa's JET.

4.8. Measuring Instrument

This research's primary data collection instrument was a semi-structured interview guide piloted with one or two participants to ensure clarity and alignment with research questions (Saunders & Lewis, 2018). The guide was designed to elicit deep, reflective responses about participants' experiences, values, and strategies related to business model innovation (BMI) and decision-making in the Just Energy Transition (JET) context, ensuring that lived experiences were captured in detail (Moustakas, 1994; Smith et al., 2022). Supplementary organisational documents were also reviewed, where relevant, for triangulation. The semi-structured interview format consisted of open-ended questions derived from literature on participatory governance, innovation, and energy justice (Pieroni et al., 2019; Vaska et al., 2021), with probes used to explore emergent issues in depth (Braun & Clarke, 2022). This flexibility allowed the researcher to adapt questions to the participant's context while remaining congruent with the interpretivist epistemology and enabling the co-construction of meaning.

4.8.1 Alignment of Research Questions and Interview Guide

The interview guide was designed to align with the research questions to ensure methodological rigor. Appendix 3 contains the semi-structured interview schedule and the specific questions and prompts related to the various research questions. This very close alignment was adhered to so that coherent methodological rigour was applied in the study, ensuring also a direct correspondence between the research aims and the data-gathering tools employed in the study.

Research Question 1, which examined stakeholder power dynamics and governance arrangements shaping business model innovation, was addressed through questions on stakeholder influence, inclusion of marginalised voices, power imbalances, trust, accountability, and regulatory structures. Research Question 2, focused on redesigning decision-making to overcome systemic barriers to justice, equity, and inclusivity, was operationalised through questions on ethical trade-offs, fairness in practice, and procedural and institutional constraints. Research Question 3, which investigated how companies innovated to embed JET principles and the associated economic and social implications, was explored via questions on business model evolution, strategic adaptations, challenges, and long-term sustainability impacts. This alignment ensured that the data collected directly captured the phenomena of interest, enhancing both the validity and credibility of the study's findings.

Finally, using these methods allowed for methodological triangulation, including with organisational reports and policy documents, which added credibility and contextual validity to the findings (Flick, 2022; Braun & Clarke, 2022).

Table 1: Research Questions and Interview Guide mapped

Research Questions	Interview Guide Section	Example Questions
1. How do stakeholder power dynamics and	Section 3: Stakeholder	• Who are the key stakeholders in your organisation's Just

governance arrangements shape business model innovation in JET?	Engagement & Power Dynamics	Energy Transition journey? Why are they important? • How are these stakeholders shaping or influencing business model innovation? Can you share a specific instance where stakeholder input led to a meaningful shift? • How does your organisation ensure that historically marginalised or underrepresented voices, such as communities, civil society, or regulators, are included in decision-making? • Have you encountered power imbalances among stakeholders in your decision-making processes? How are such imbalances acknowledged and addressed? • What mechanisms or practices does your organisation use to build trust and maintain accountability with external stakeholders during the innovation process? • How do governance arrangements or regulatory

		structures enable or constrain your organisation's ability to innovate for a just energy transition?
2. How can decision-making be redesigned to overcome systemic barriers to justice, equity, and inclusivity?	Section 2: Ethics, Equity & Trade-Offs in Decision-Making	• What ethical or moral considerations guide your organisation's approach to business model innovation? • How do you or your leadership team make trade-off decisions when economic objectives appear to conflict with social or environmental priorities? • Can you recall a moment where a difficult decision had to be made involving competing priorities? What influenced the outcome? • In your view, what does a "just" or "equitable" business model look like in practice, especially within the energy sector? • How are principles of fairness, justice, or inclusivity embedded in the decision-making processes within your organisation? • What systemic or institutional barriers have you encountered

		when trying to embed justice and inclusivity into your business model innovation? • What decision-making frameworks or approaches are most effective for achieving fair and inclusive outcomes?
3. How are South African energy companies innovating to embed just transition principles, and what are the economic and social implications?	Section 1: Strategic Response & Business Model Evolution	• How has your organisation's business model evolved in response to the Just Energy Transition (JET) and broader sustainability goals? • Can you describe any specific shifts in strategy, operations, or value creation due to this transition? • What challenges has your organisation faced in adapting its business model to be more inclusive, equitable, or environmentally responsible? • How have you or your organisation responded to these challenges? Are there any innovations or initiatives you can share that reflect this? • In what ways has the socio-political or regulatory context in South Africa shaped your

		strategic or business model choices? • Looking ahead, what are the long-term economic and social impacts of your organisation's current transition strategies?

4.9. Data Gathering Process

Data collection consisted of in-depth, semi-structured interviews with participants, each lasting approximately 45–60 minutes. Interviews were audio-recorded and transcribed verbatim, and field notes captured nonverbal cues and relevant contextual information to aid interpretation of the participants' responses (Smith et al., 2022; Vaska et al., 2021).

Before data collection started, ethical clearance was obtained from the university Research Ethics Committee to ensure voluntary participation, confidentiality and adherence to the Protection of Personal Information Act (Act 4 of 2013) of South Africa. Ethical clearance is attached as Appendix 1 in the Appendices listed below. Participants were provided with informed consent letters digitally, detailing the purpose of the study, the nature of participation, possible risks and benefits, voluntary participation and withdrawal without penalty. The informed consent letter is attached in the Appendices page in this document as Appendix 2. Snowball recruitment was used carefully, ensuring that referred participants were well informed of their rights (Patton, 2015).

Participants were purposively sampled based on their involvement in BMI or JET decision-making within South Africa's energy sector. This approach ensured that participants were information-rich cases, capable of providing nuanced insights into operational, strategic, and policy-level experiences (Moustakas, 1994; Nguyen et al., 2023). Recruitment involved a formal email invitation and a personal call to explain the research purpose. According to

participant preference, interviews were conducted online via secure platforms (Zoom or MS Teams). The semi-structured interview guide, which had been piloted to ensure clarity and alignment with research questions, allowed the researcher to probe emergent themes and adapt questions to participant context (Saunders & Lewis, 2018; Braun & Clarke, 2022). This ensured rich, detailed narratives congruent with the interpretivist phenomenological design.

All digital recordings, transcripts, field notes, consent letters, and organisational documents were stored securely in a password-protected Google Drive folder, accessible only by the researcher and supervisor. Data will be retained for 10 years in compliance with institutional and regulatory requirements, after which it will be permanently deleted. This storage and retention plan ensured both ethical compliance and research integrity.

Taken together, these methodological steps suggest that the data collection process ensured methodological rigor, ethical compliance, and contextual sensitivity, while facilitating the capture of phenomenologically rich lived experience narratives necessary for understanding decision-making in BMI and JET contexts (Smith et al., 2022; Nguyen et al., 2023).

4.10. Data Analysis Approach

The study adopted a phenomenological thematic analysis approach to interpret participants lived experiences in business model innovation (BMI) and Just Energy Transition (JET) decision-making. This approach integrated Braun and Clarke's (2022) thematic analysis framework with Smith et al.'s (2022) interpretative phenomenological analysis (IPA) methodology. Phenomenological thematic analysis emphasises describing the essence and meaning of participants' experiences as they were subjectively lived. At the same time, IPA adds an interpretive dimension that considers how participants make sense of complex social and institutional contexts.

Data analysis commenced with a complete reading of transcripts to achieve immersion and familiarity. Open, inductive coding was applied to identify meaningful statements and patterns within the data. Codes were then clustered into higher-order themes and subthemes, reflecting both content (what participants experienced) and process (how they experienced it), including ethical dilemmas, stakeholder tensions, and decision-making trade-offs inherent in BMI and JET activities (Braun & Clarke, 2022; Pieroni et al., 2019).

Thematic analysis used Braun & Clarke's (2022) and Smith et al.'s (2022) interpretative phenomenological frameworks. Inductive coding revealed higher-order themes, e.g., stakeholder dynamics, ethical trade-offs, inclusion mechanisms, and governance challenges. Member checking and triangulation enhanced credibility. (Flick, 2022; Nowell et al., 2017). Subsequently, the themes were mapped to the research questions and interpreted in relation to theoretical frameworks, including participatory governance, energy justice, innovation, and systems thinking (Bell et al., 2023; Pieroni et al., 2019).

Credibility and trustworthiness were enhanced through member checking, where participants reviewed key findings to confirm the accurate representation of their experiences. Additionally, triangulation across multiple data sources, including organisational documents and different participant roles, ensured the confirmability and contextual validity of the results (Nowell et al., 2017; Flick, 2022).

In summary, this holistic and rigorous analytical framework enabled a rich exploration of participants lived experiences, ethical considerations, and decision-making processes, while providing transparent and credible thematic insights aligned with the study's objectives.

4.11. Quality Controls

Several quality control measures were implemented throughout the research design, data collection, and analysis phases to ensure the study's trustworthiness and rigor. Credibility was achieved through member checking, where participants reviewed preliminary findings to verify that their experiences and perspectives had been accurately captured. Triangulation was employed by collecting multiple data sources, including semi-structured interviews and organisational documents, to corroborate findings and provide richer contextual understanding (Vaska et al., 2021; Flick, 2022). Prolonged engagement with participants and the sector also enhanced credibility by allowing the res earcher to build familiarity, trust, and a nuanced understanding of the context (Vaska et al., 2021).

Transferability was addressed by providing thick, rich descriptions of the South African energy sector, participant roles, and organisational contexts, allowing readers to evaluate the applicability of findings to other settings (Vaska et al., 2021). Detailed descriptions of participants' positions, and institutional backgrounds ensured that insights could be interpreted in relation to comparable contexts, particularly in energy transition and innovation studies.

Dependability was ensured by documenting all research steps, maintaining an audit trail of methodological decisions, and transparently recording coding and analysis procedures. Regular peer debriefing allowed critical scrutiny of interpretations, supporting consistent and reliable analysis (Nowell et al., 2017).

Confirmability was maintained through ongoing reflexive journaling, documenting the researcher's assumptions, decisions, and potential biases throughout the study (Lincoln & Guba,1985). Reflexivity helped ensure that findings were grounded in participants' narratives rather than the researcher's preconceptions, strengthening the neutrality of the analysis.

4.12. Limitations

While this study provides rich, in-depth insights into business model innovation and decision-making within South Africa's Just Energy Transition, several limitations must be acknowledged. Firstly, the purposive, non-probabilistic sampling introduced a potential for selection bias, as the participants chosen were those who had relevant competence or expertise, rather than taken at random, therefore the findings cannot be statistically generalisable to a wider population of energy sector decision-makers.

The qualitative phenomenological approach taken, while just the methodology with which to extract subjective experience and micro-dilemmas, emphasizes depth and context more than breadth, with the result that the findings stem from specific, not universal, individual and sectoral interpretations. Secondly, the sample size of 16 participants from governmental, regulatory, environmental, strategic, investment, and technical sectors, necessarily chosen to ensure thematic saturation around qualitative research norms, might have omitted other relevant stakeholder perspectives, notably from areas and specific roles inadequately represented. The data collection was gained through semi-structured interviews, most of which were virtual, and if this certainly facilitated interviewing across spatial realms, it must be acknowledged that non-verbal or body clues are less easily understood electronically, as are closer interpersonal and reportable responses. Secondly, the data collection was cross-sectional in that it stemmed from views on phenomena only intermittently experienced over time in ongoing transitions, and as thus may not be reliable in obtaining shape or form, seen as it were, for either new or long-term effects of decisions being made by stakeholders in the JET environment. Interpretative bias too is another inherent limitation, in that the results of the analysis are proper to that of the situated understandings of both participants and researcher alike. However, reflexivity has been adhered to in the first-mentioned case, and member-checking (semi-structured interviews) in the second.

Lastly, the participants interviewed face-to-face did not consent to recording, and the transcripts were handwritten during the interview.

4.13. Conclusion

In conclusion, the research methodology discussed in this chapter provided a robust framework for exploring the subjective experience and decision-making of the main stakeholders in the South African energy stakeholder. This methodology, with its emphasis on depth of understanding, reflexivity, and methodological rigor, allowed for the gathering and interpretation of rich data consistent with the key objectives of the research. The next chapter is based on this foundation and presents the main research results synthesizing participants' perspectives and specifically addresses the research questions underpinning this investigation.

CHAPTER 5: RESULTS

5.1. Introduction

This chapter comprehensively analyses the findings from sixteen semi-structured interviews conducted between August and October 2025. These interviews underpin exploring business model innovation and shared decision-making in South Africa's Just Energy Transition (JET) context. The rationale for this chapter flows from the gaps identified in previous literature regarding stakeholder participation, governance complexity, equity, and transition justice, addressed through qualitative investigation.

South Africa's JET operates at the intersection of technical, political, and social realities. Existing literature highlights slow reform and enduring inequity within the energy sector, making an in-depth empirical perspective crucial for illuminating lived experiences, institutional dynamics, and operational innovation guiding the transition. By integrating stakeholder narratives, this chapter presents a rigorous thematic account of how justice, equity, and sustainability become embedded in business models and governance structures.

5.2. Description of the Sample

The purposefully designed multi-stakeholder sampling method informed the research, ensuring that a diverse and high level of expertise was found across South Africa's energy value chain. Participants were identified from governmental departments, regulatory bodies, utilities, industry strategists, financiers and developers, environmental groups, civil society, and private sector role players to gain insight into those driving the transition away from coal and those affected by the transition. Fourteen interviews were conducted virtually, and two face-to-face within the geographical and institutional environment.

Institution-enabled referrals and snowball sampling methods were adopted to access specialised stakeholders internally and externally of formal policy platform structures and ensure that marginalised and grassroots views were included alongside national decision-making participants. This comprehensive approach then enabled a thorough evaluation of the realities of the institutions, creating maximum exposure and a rich diversity of perspectives in the overall participant sample.

The table below states the categories of the participants.

Table 2: Summarised participants categories

Category	Participants	Role
Government & Policy	01, 08, 10	Policy, planning, oversight
Regulatory	05, 09, 11	Licensing, tariffs, and Infrastructure planning
Energy Industry & Corporate	06, 12, 16	Business model, transition
Investment & Developer	14, 15	Project finance, investors
Civil Society/Partners	03, 07, 13	Advocacy, justice
Utilities/Parastatals	02, 04	Trading, environmentalists, Project management, and restructuring

5.3. Thematic Analysis and Coding Process

The multi-stakeholder sampling method was deliberately structured to adequately represent various and high levels of experience across South Africa's energy value chain. Participants were identified from governmental departments, regulatory bodies, local authorities, industry

strategists, financiers and developers, environmental organisations, civil service, and private organisations to gain insight into those pursuing the transition from coal and those affected by that transition.

Out of the sixteen interviews conducted, fourteen were conducted virtually, and two were conducted face-to-face within the geographical and institutional environment. Institutionally enabled referrals and snowballing sampling were implemented to gain access to specialists' stakeholder groups, both internal and external to formal policy platform structures, for the enfranchisement of marginalisation and grassroots speaking voices alongside decision-making at representative national levels. This made for a thorough evaluation of the reality of the institutions involved. A maximum exposure and thoroughly rich, diverse perspective were afforded in the sample from which data was collected.

Thematic analysis was conducted according to Braun and Clarke's (2006) six-stage process. The process began with familiarisation with the data by reading and re-reading all 16 interview transcripts to understand the data thoroughly. Initial codes were produced, which captured the salient features of the data set; these codes were grouped together to form possible themes. These themes were reviewed, revised, and defined according to Braun and Clarke's systematic method, allowing them to encapsulate the participants' perspectives and any themes within the data. The detailed codebook used in this analysis is attached as Appendix 5. The table below details the research questions (RQs) alongside the themes and sub-themes that emerged from the analysis.

Table 3: Research Questions, Themes, and Subthemes

Research Question	Main Theme	Subthemes
RQ1: How do stakeholder power dynamics and governance arrangements shape business model innovation in South Africa's just energy transition?	Governance and Stakeholder Power Dynamics	• Stakeholder legitimacy and participation • Power imbalances and multi-stakeholder processes • Accountability/trust-building mechanisms • Regulatory pressure

		• Monopoly and funding imbalances • Fragmented governance structures • Role of development partners, decentralisation, and empowerment
	Sustainability Shift and Decentralised Empowerment	• Decentralised energy governance • Reskilling and livelihood security • Ethical corporate citizenship • Community integration
	Power Imbalances in Multi-Stakeholder Processes Asymmetric Power in Coercive and Fragmented Regulatory Landscape	• Regulatory pressure as a driver • Funding and monopoly imbalances • Policy fragmentation • Spectrum of stakeholder influence
RQ2: How can decision-making be redesigned to overcome systemic barriers to justice, equity, and inclusivity in energy-related business model innovation?	Decision-Making and Institutional Barriers	• Formal/informal institutional obstacles • Regulatory/institutional fragmentation • Lack of frameworks for reskilling, community information • Participative mechanisms • Capacity-building
	Redesigning for Justice, Equity, Inclusivity	• Barriers (exclusion, policy constraints, lack of representation) • Facilitators (governance systems, capacity, criteria) • Principles of inclusivity • Multi-criteria frameworks
	Equity and Justice in Business Practices	• Equity integration in practices and policies • Embedded local hiring and supplier development • Community investment mechanisms • Substantive vs. procedural justice
	Systemic Barriers and Models for Reform	• Entrenched social norms • Short-term vs. long-term priorities • Participatory/collaborative governance models (steering committees, facilitators, blended finance)
RQ3: How do South African energy companies embed just transition principles, and what are the implications for economic sustainability and social equity?	Business Model Innovation and Just Transition Practice	• Community trusts, local procurement, blended finance • Social equity and job creation • ESG (environmental, social, governance)

		integration • Mainstreaming JET into strategy • Sustainability, empowerment, skills transfer
	Implications for Economic Sustainability and Social Equity	• Inclusive economic benefits • Addressing support/reskilling framework gaps • Progress and risks in equity outcomes • Cross-case analysis (positive and negative cases)
	Operationalising the Just Dimension	• Beyond reskilling: long-term community benefits • Local hiring, ethical supply, and project design • Checks on 'tick-box' compliance
	Strategic Pivot from Compliance to Value Creation	• Leveraging JET for new value/industries • Challenges in sustaining equity amid job losses • Progress in correcting past injustices

Table 3 above presents a clearly structured overview of the research questions side by side with the relevant themes and subthemes arising from the thematic analysis undertaken. The identified themes are representative of the data obtained from the interview transcripts. They are linked to them, thereby ensuring that any coding that has taken place with that data reflects the experience and the viewpoint of the participants involved in the research. The fact that a clearly structured synopsis of the findings has been presented in this way allows a clearly articulated view of the relationship between the themes of each dataset and the research question and thus demonstrates the principal themes and insights arising from the analytical process.

The significant findings are organised according to the three core research questions, with a comprehensive analysis of themes and quotes from participants to support each section. Cross-references to coding evidence and extracted quotes from all 16 participants were introduced wherever relevant. Three primary deductive themes correspond to the original research questions (RQ1–RQ3):

- RQ1: Governance and stakeholder power dynamics
- RQ2: Decision-making and institutional barriers
- RQ3: Business model innovation and just transition in practice

5.4. Results for Research Question 1

How do stakeholder power dynamics and governance arrangements shape business model innovation in South Africa's just energy transition?

Specifically, the analysis for Research Question 1 focused on how stakeholder power dynamics and governance structures affected the direction and implementation of business model innovation in South Africa’s just energy transition. It investigated how competing interests of policymakers, communities, labour unions, and investors counter-affected the design of business models that were fair and inclusive of economic, social, and environmental objectives. By linking to the larger problem of continued economic inequalities in industries making the transition, the study highlighted how imbalances in power and exclusionary top-down decision-making processes held back equitable outcomes. The focus also filled a critical knowledge gap regarding the governance mechanisms and stakeholder interaction that enabled or constrained business model innovations in a just transition.

5.4.1 Core Theme: Governance and Stakeholder Power Dynamics

This theme investigates how the formal and informal governance of the state, utility and community actors influences the design and legitimacy of innovative business models in South Africa's just energy transition. It responds to the research question posed by examining who holds authority, how decisions are made, and whether participatory mechanisms foster more equitable and practical solutions to equitable transition challenges.

Interviewees stated emphatically that the governance arrangements provide the necessary basis to foster or inhibit business model innovation. At the same time, various government officials and sector leaders described a radical paradigm shift toward models that do not prioritise profit or which can be centrally controlled, but which allow for wider shared policy within frameworks. Interviewees described the continued dominance of state and utility actors, contrasted with participatory mechanisms which are growing, but are imperfect.

Participant 01, stated:

Our department is not profit-driven. The definition of a business model in a business sense is more about profit maximization and creating value for your customers, but as a government department, it's a bit different. Ours is about policy orientation, mandate, and delivering universal access that is affordable and reliable by 2030 for all citizens.

We want to attain energy security for the country, transition to cleaner energy sources, but at a pace and scale we can afford, ensuring that no one is left behind.

This policy commitment materially influenced energy sector innovation, moving away from top-down approaches.

Participant 15 explained that '*Allowing someone from the community to be the face of communication is critical; otherwise, locals might see us as outsiders.*

Many highlighted how stakeholder legitimacy and participatory processes ranging from community needs assessments to co-ownership models are now essential for the credibility and durability of transition business models:

Participant 13, observance was,

"Ownership by local communities feeds directly into their needs, ensuring equitable, lasting benefits... transparent communication is key: community members are kept informed about project progress, revenue expectations, and initiatives, which builds ongoing trust".

This theme addresses Research Question 1 directly as it highlights that the power balance and the level of inclusive techniques apparent in the governance arrangements fundamentally affect the steering direction and view of equity of business model innovation. Specific clear trends were revealed, the more extensive the governance usage (involvement/generalised governance), the more likely business model innovations are to be seen as equitable and able to take on board the social/economic/environmental priorities.

To establish more on how stakeholder engagement and inclusivity is handled, see the responses below:

NERSA consults widely for every decision, extending consultation periods if needed to ensure full participation and trust. (Participant 05)

Allowing someone from the community to be the face of communication is critical; otherwise, locals might see us as outsiders. (Participant 15)

Beyond basic consultation, new models aim for shared governance and stakeholder legitimacy... our department is not profit-driven; it's about delivering universal access that is affordable and reliable by 2030, ensuring no one is left behind. (Participant 01)

Public participation and transparent communication are long-standing business practice, especially for major new projects. (Participant 06)

Analysis revealed that legitimacy and financial activism are increasingly linked to social license and operational success.

Some participants noted that, despite formal consultation, power remains centralised.

Historically, the utility Eskom had more representation, but with changes... new players now have equal say, and committee membership includes broader voices" (Participant 05) Nearly all participants identified early, authentic stakeholder engagement as central to securing local trust and legitimacy.

We ensure the community is genuinely part of each project... transparent communication is key, community members are kept informed about project progress, revenue expectations, and initiatives, which builds ongoing trust. (Participant 13)

Regulatory actors highlighted structural shifts: "Public input is now factored into tariff adjustments; broad representation builds trust and accountability for decisions. (Participant 05)

Project developers also highlighted empowered local participation

Ownership by local communities feeds directly into their needs, ensuring equitable, lasting benefits. (Participant 13)

5.4.2 Power Imbalances in Multi-Stakeholder Processes

Power imbalances refer to the unequal distribution of influence, authority, resources, and decision-making capacity among the actors involved in the collaboration, participatory platforms of the processes, or negotiation mechanisms, such as policy forums, governance networks, and partnership projects. These stakeholders include the government, communities, companies, and civil society organisations. Power imbalances occur when one or more stakeholders have significantly greater ability to shape agendas, control information, access resources, and make decisions. These imbalances often marginalize less powerful stakeholders such as local communities, SMEs, and civil society organisations. This power imbalance in this context may lead to outcomes in which the dominant actors disregard or exclude the weaker governments from the negotiations,

leading to unjust, ineffective, or unsustainable solutions. Power imbalances can be identified by the formal authority or funding, but is shown in differences in access to knowledge, technical capacity, social capital, or the ability to engage meaningfully in the process. If these are not actively identified and dealt with by the actors involved, they threaten the legitimacy and justice of the outcomes of the multi-stakeholder processes. When participants were asked if they had observed power imbalances among stakeholders in the decision-making, whilst some could not indicate which examples they could offer, few acknowledged asymmetrical relations as a continuing problem.

The balance between corporate resources and community or small business capacity is an ongoing issue. Large corporates self-impose higher standards and often go beyond legal compliance. (Participant 07)

Despite consultation, the fundamental imbalance in authority remains; we still hold the real decision-making power. (Participant 16)

Approaches must adapt based on who you are working with; there's still a risk that engagement is one-sided (Participant 02)

Power imbalances arise, with perceptions that the government favours certain interests, but these are best addressed through effective communication, broad stakeholder engagement, and socializing decisions. (Participant 08)

Regulatory reforms are gradually redressing old imbalances. *With changes to the Grid Code Advisory Committee, new players now have equal say... this is correcting Eskom's dominance. (Participant 05).*

5.4.3 Accountability and trust-building mechanisms

The prominence of public reporting, feedback loops, and community benefit-sharing was recurrent. The interviewees were asked, *'What mechanisms or practices does your organisation use to build trust and maintain accountability with external stakeholders during the innovation process?'* The following responses were received:

The Minister runs an outreach program, engaging traditional leaders, NGOs, and community representatives. Ongoing consultation and honest engagement are essential for accountability and trust. (Participant 08)

Our organisation follows consultative, transparent, inclusive frameworks emphasizing public hearings and feedback. (Participant 04).

Voluntary independent certifications across sustainability products; "we go the extra mile to get third-party assurance, not just for regulatory export requirements but as an innovation for South Africa." Public participation and transparent communication are long-standing parts of business practice, especially for major new projects. (Participant 06)

Frequent, transparent engagement with communities and landowners over the life of a project, not just before launch, is vital. It's a long-term relationship like a marriage. You need to engage, update, and show respect and accountability every step of the way. (Participant 15)

Publishing sustainability plans and regularly collecting feedback enables community scrutiny and responsiveness, reinforcing accountability and trust. (Participant 02)

This theme shows that, unless deliberate, systemic changes are made to address entrenched power imbalances, business model innovation risks remaining exclusive, superficial, or tokenistic, thus undermining the core ideals of a just energy transition.

Successful examples identified more balanced, consensus-driven approaches, though most described reforms as ongoing or incomplete.

5.4.4 Accountability and trust-building

This theme focuses on the mechanisms by which trust is created or impaired among stakeholders. To illustrate, through openness in communication, public disclosure of reports, benefit sharing, third-party audits, etc., how these mechanisms shape perceptions of legitimacy and the outcome of innovation processes in transitional settings is examined. The utility leaders and project developers indicated that these new emerging models must create mechanisms that produce accountability and allow for trust, two mainstays of business credibility and the ultimate success of projects.

Our organisation follows consultative, transparent, inclusive frameworks emphasizing public hearings and feedback, Participant 04.

Participant 15, Project Developer, described: “*Open and transparent communication is key. Community members are informed about project progress, revenue expectations, and initiatives, building ongoing trust. Our processes with government stakeholders are often audited or monitored by feedback mechanisms.*

Project tenures are typically 20 years... the goal is for community members to access job opportunities and graduates to feed back into the community. Sustainability and empowerment are priorities, correcting past mistakes of leaving behind ghost towns. (Participant 03)

Trust-building and robust accountability structures were identified as essential to fostering community acceptance, securing a social license, and ensuring projects meet stated just

transition objectives. These mechanisms improve business model innovation's credibility, transparency, and inclusiveness, further aligning with the core aims of a just energy transition.

Each theme in this approach is introduced, analysed, richly exemplified by multiple participants, and explicitly tied back to answering Research Question 1 on the governance and power factors shaping business model innovation for a just energy transition. This format provides conceptual clarity and empirically grounded depth at a thesis or publication standard.

5.4.5 Conclusion of Research Question 1 findings

All 16 participants mentioned codes regarding power differentials, trust building, and community inclusion. Fascinating were the responses from the government, regulatory, and business groups, who agreed about the need for shared governance but disagreed regarding the efficiency and depth of current reforms. While the public sector stressed inclusive procedures and more transparency, business and NGO participants pointed to the possibility of elite or technical capture and the slow pace of concrete delegation of authority.

5.5. Results for Research Question 2

How can decision-making be redesigned to overcome systemic barriers to justice, equity, and inclusivity in energy-related business model innovation?
The aim was to diagnose rules, processes, and obstacles in transition justice and expose actionable reforms.

5.5.1 Core Theme: Decision-Making and Institutional Barriers

This theme examines the formal and informal obstacles that restrict, delay, or distort decision-making within organisations and systems, especially where complexity is involved, such as the governance of or initiatives in the energy sector. Institutional barriers are structural, procedural or cultural constraints that exist within the systems, contexts or policy environments that determine organisation's performance in terms of effective, timely and inclusive decision-making. Institutional barriers are contributing barriers that take the form of persistent obstacles such as regulatory fragmentation, silo-ed policies or unsupported participative models.

To be frank, at this point in time, I don't think our business model has changed… decision-making to ensure external developments were internalised did not take place. (Participant 10).

Joint steering committees with equal power for management, unions, and communities… build the trust that makes decisions sustainable. (Participant 16)

Different departments move in separate directions, that's why the IRP and real implementation often misalign. (Participant 08).

Ethical trade-offs were also pronounced.

The ethical struggle is between climate obligations and responsibility to workers... economic imperatives frequently win. (Participant 16).

Sustainable imperatives trump any economic benefits the company could make. (Participant 02)

5.5.2 Redesigning Decision-Making for Justice, Equity, Inclusivity

This theme explores the ways in which decision-making processes in business model innovation can be restructured to achieve justice, equity and inclusivity. In particular, it deals with the identification and mapping of key barriers, such as entrenched power dynamics, policy constraints and exclusion of stakeholders, facilitators (inclusive governance systems, capacity-building interventions and participative mechanisms) and actionable remedies (transparent criteria, equitable representation and specific interventions) which influence the attainment of justice, equity and inclusivity outcomes. This theme directly answers research question 2, for it deals with finding out how the decision-making mechanisms favour or frustrate justice, equity and inclusivity in business model innovation in the just energy transition. It identifies a range of factors that impact the achievement of justice, equity, and inclusivity in business model innovation. Barriers are practices or structures that impede marginalised groups' meaningful active participation, perpetuate inequitable outcomes, or restrict equitable access to opportunity within innovation processes. In contrast to the aforementioned view, facilitators are defined as enablers, which assist in overcoming those obstacles, stimulate the active engagement of stakeholders from diverse backgrounds, and create an environment in which inclusive practices are valued and prioritised, and thus enhance the prospect for genuinely inclusive and just outcomes in decision-making. The participants were asked to comment upon principles of fairness, justice or inclusivity in the decision-making process. The results indicate that some companies prefer inclusivity in decision-making and very few could answer.

Contractors and suppliers have obligations to embed shared value and inclusivity. Commitment to fairness and justice are reinforced globally through policy and locally through interaction with communities and stakeholders. (Participant 02)

For a developmental state, capacity-building and financial inclusion are essential. “We must intentionally bring the lower tier of society and SMEs into economic activity, rather than only benefiting big business. That requires targeted policy and finance. (Participant 08)

We work from policies and legislation emphasizing fairness public consultations, constitutional reviews, economic impact assessments, and dispute resolution mechanisms all aim to ensure decisions are fair, efficient, and inclusive. (Participant 09)

Currently, there is no binding framework. Integration of fairness, justice, and inclusivity is not systematic. Principles are sometimes written into legislation, but not into standard operational guidance or departmental frameworks. Without organisational systems or frameworks, even high standards or objectives do not get internalized for practical, daily decisions. (Participant 10)

The analysis provided a comprehensive view of how decision-making mechanisms in business model innovation can either support or hinder the realisation of justice, equity, and inclusivity within a just energy transition. The findings mapped clear barriers such as exclusionary practices, policy constraints, and lack of participation that limit equitable outcomes, while also identifying facilitators like inclusive governance, capacity-building, and participatory frameworks that foster more just and inclusive decision-making. Direct insights from participants highlighted both the presence and absence of fairness and inclusivity within organisational processes, demonstrating a mix of aspirational policy commitments and practical gaps. The theme thus clarified which aspects of decision-making promote or impede justice, equity, and inclusivity, directly answering the core inquiry of the research question.

5.5.3 Equity Integration and Governance Barriers

Subtheme: Regulatory and institutional fragmentation

Regarding Research Question 2, this theme explored the structural and operational challenges that hindered the effective integration of equity principles within business model innovation for a just energy transition. It focuses on how governance structures, institutional

arrangements, and regulatory environments can obstruct or facilitate the pursuit of justice and inclusivity in decision-making.

The regulatory and institutional fragmentation subtheme examined how overlapping, inconsistent, or disconnected policies and institutional mandates create confusion, dilute accountability, and hinder coherent equity integration in the responses. Fragmentation can manifest through dispersed authority, misalignment between governmental entities, and competing policy objectives, which collectively undermine the ability of organisations to implement systematic approaches to justice and inclusivity

The interviewees were asked how governance arrangements or regulatory structures enable or constrain their organisation's innovation ability for a just energy transition.

Interviewees overwhelmingly cited fragmented policy as a critical barrier:

Delays in amendments of existing regulations affect the industry in general... Slow regulatory updates lead to outdated permitting rules, creating confusion and delays in cross-sectoral project approvals (Participant 05)

Implementation responsibilities are assigned to sectoral departments from the Presidency or national policy, but harmonisation and integration into government departments is poor. Power struggles, inconsistent frameworks, and external imposition of standards (like EU carbon border taxes) create challenges. "Policy harmonisation and internalisation are critical the lack thereof is a major constraint. (Participant 10)

Initial transition stages lacked coordination; everyone worked in isolation and competed for resources, but current leadership is working to build unified structures and coordinated entry points for project monitoring and measurement. (Participant 08)

We experience challenges when governance structures are dysfunctional, which constrains effective innovation. (Participant 14)

The IRP and other policy documents guide where we allocate resources, but a lack of timely updates and delays in permitting (e.g., Subdivision of Agricultural Land Act) create challenges. Sometimes, departments do not understand the urgency or national significance of renewables, and mining rights can override project progress. (Participant 15)

Current governance and regulatory structures are a major constraint. Absence of a stable Integrated Resource Plan limits long-term energy planning and investment. The regulator's slow, complex approvals make innovation slow and costly. The regulatory environment for coal repurposing is not streamlined. "Good governance would provide consistent and clear signals; today's regulatory reality is a brake on transition scale and pace. (Participant 16)

This theme explored how decision-making processes in business model innovation can be restructured to achieve justice, equity, and inclusivity. In particular, it deals with the identification and mapping of key barriers, such as entrenched power dynamics, policy constraints, and exclusion of stakeholders, facilitators (inclusive governance systems, capacity-building interventions, and participative mechanisms), and actionable remedies (transparent criteria, equitable representation, and specific interventions) which influence the attainment of justice, equity, and inclusivity outcomes. This theme directly answers research question 2, for it deals with finding out how the decision-making mechanisms favour or frustrate justice, equity, and inclusivity in business model innovation in the just energy transition.

It identifies a range of factors that impact the achievement of justice, equity and inclusivity in business model innovation. Barriers are identified as practices or structures that impede marginalised groups' meaningful active participation, perpetuate inequitable outcomes, or restrict equitable access to opportunity within innovation processes. On the other hand

facilitators are defined as enablers, which assist in overcoming those obstacles, stimulate the active engagement of stakeholders from diverse backgrounds, and create an environment in which inclusive practices are valued and prioritised, and thus enhance the prospect for genuinely inclusive and just outcomes in decision-making. The participants were asked to comment upon principles of fairness, justice or inclusivity in the decision-making process. The results indicate that some companies prefer inclusivity in decision-making and very few could answer.

5.5.4 Equity and Justice in Business Practices

Equity and justice in business practices focus on how organisational policies, strategies, and day-to-day operations actively advance or hinder justice and equity within business model innovation for the just energy transition. Linked to Research Question 2, this theme examines how organisations internalize and operationalize fairness, inclusivity, and equitable value distribution principles in their business activities. It highlights both the opportunities and challenges faced by organisations in embedding justice and equity into practical business decisions, supply chain management, stakeholder engagement, and resource allocation, revealing how these practices can either promote or constrain the achievement of just energy transition objectives.

Embedded local hiring, supplier development, and social compacting emerged as proxies for equity progress invested in education, infrastructure, and skills (Participant 12).

Rates for indigent consumers are prioritised alongside environmental progress. Tariff structures reflect trade-offs by protecting vulnerable groups while advancing clean energy (Participant 05)

Mandatory community investments create inclusive financial flows to marginalised groups" (Participant 13)

5.5.5 Barriers to Effective Implementation

Codes and verbatims repeatedly flagged a lack of clear frameworks for reskilling, information asymmetry within communities, and bureaucratic inertia.

Absence of a national framework undermines support for displaced workers and community resilience (Participant 16; Participant 10).

Cultural sensitivity shapes engagement methods for authentic community involvement. (Participant 02).

Participants with backgrounds in finance and large-scale industry were more likely to identify regulatory delays and policy gaps as the core constraints. In contrast, civil society and local actors foregrounded participation quality and outcome equity.

Negative cases revealed that, despite equity discourse, practical implementation lags. Inclusivity often just means listening to the final authority rests with global leaders distant from local impact (Industry Stakeholder, P16).

Contradictions were acute regarding gender and cultural inclusivity, with some progress on quotas but persistent gaps in mainstreamed integration *(Participant 02; Participant 07).*

5.6. Results for Research Question 3

How are South African energy companies innovating to embed just transition principles, and what are the implications for economic sustainability and social equity?

The objective was to hear interviewees engage with the leading-edge aspects of the industries, either business model type tasks, modes of engagement with communities, capacity-building experiences, or differently focused procurement practices. The study was designed to capture the participants' perspectives on the relative influence of the implemented innovations, barriers and enablers to implementing social justice and equity dimensions and consequent impact on organisational performance and broader societal progress.

The research was oriented towards discovering whether businesses are being created to provide inclusive opportunities, shared economic benefits and viable future capacity for historically disadvantaged sectors of society. The areas of inquiry were governance arrangements, policies enabling coordination, and relational factors of leadership were explored with respect to their ability through innovative practices and achieved outcomes. There was an element of need to map out ideas, models, tools, and practices being adopted in business, as well as future-oriented change concerning aspects of social justice, sustainability, and equity.

5.6.1 Core Theme: Business Model Innovation and Just Transition Practice

Participants highlighted creative partnerships, new financing mechanisms, and social equity embedded in business models.

Our business model pivoted around supplying renewable energy... we offer renewable energy certificates for each megawatt hour consumed (Participant 12).

Through community trusts, we ensure communities are not uplifted just while the plant operates but left with resources and independence long after (Participant 15).

Grant funding creates affordable loans while sustaining investor confidence. (Participant 14).

Business model innovation is now intertwined with job creation, local procurement, and ESG-driven reporting, with investor confidence bolstered by justice-formulated impact narratives.

5.6.2 Business Model Innovation and Sustainability Practices

Both licensing and operational policies now require community and social investment, fostering more inclusive flows:

Licensing rules mandate community investments, ensuring long-term inclusive economic returns. (Participant 05)

Proceeds from community ownership feed directly into local needs. (Participant 13)

Lowering entry barriers enables broader, more inclusive participation in energy generation (Participant 11)

Global responsibility to fight climate change and our local responsibility to staff and towns dependent on coal... balancing these priorities defines justice. (Participant 16)

Institutional responses to job displacement include internal retraining and the conversion of decommissioned sites for new economic activities:

Transition training for engineers faces challenges, but programs aim to repurpose skilled workers (Participant 16).

Lack of a support framework for reskilling increases vulnerability; there is an urgent need for integrated skills planning (Energy Policy Lead, P10)

5.6.3 Cross-Case Analysis and Negative Cases

Most public and private actors acknowledged the importance of more holistic, ESG-driven models, mentioning green bonds, local procurement, and blended finance models as key innovations.

Some project developers and civil society participants described ongoing skepticism from communities who have seen broken promises in past transitions (Participant 15; Participant 13)

Several negative cases described ESG as more of a reporting tick-box exercise than a structural shift, underscoring the necessity for ongoing watchdog and third-party verification mechanisms (Participant 14)

Justice is being operationalised through policy and project design, not only stated as aspiration (Participant 05)

We hire and train locally, community participation is non-negotiable. (Participant 15)

Sustainability is an embedded part of our procurement and operations policy. (Participant 12).

Some stakeholders questioned the actual equity of outcomes: *“Inclusivity often just means listening, while final authority rests with global leaders distant from local impact” (Participant 16).*

5.7. Summary of Findings and Forward Outlook

South Africa's JET is moving from policy rhetoric to profound structural reform catalysed by the entrenchment of justice, equity and sustainability at every level of business and governance. The barriers of institutional inertia, administrative fragmentation, and contested legitimacy remain. Developing new inclusive frameworks, partnerships, and innovations in justice-centered practices catalyses change. It is evident from the two-way interaction of company narratives and policy that these shifting priorities in values are observed and validated. Progressive outcomes frame research scales that offer a theoretical framework relating to the action, experience of stakeholders on the ground, and the literature in the field.

Accordingly, the way is prepared for the chapter (Chapter 6) that follows in this research, relating empirical findings to the literature in the field and policy development.

RQ1 (Governance and stakeholder power and dynamics) showed that respondents stressed that the most constraining influence on outcomes remained the continuing concentration of power at the country level in central government, established utilities, and industry actors. However, there is a considerable increase in recognition across almost all stakeholder categories that legitimacy and success in action increasingly depend on integrating genuine and shared authority with communities. There are considerable moves to engage in meaningful public consultation, engage in meaningful ways in project design and report back transparently to affected parties like the community. It is, however, true that fragmentation in practice, lack of trust inherited from the past, and inconsistency in the institutional framework remain considerable limiting factors. Overall, the awakening and the movement toward hybrid governance and shared legitimacy is a visible process that is fragile and uneven in its manifestations.

Regarding RQ2 (Decision-making redesign for justice, equity, and inclusivity), the evidence indicated that systemic blocks to participatory and equitable decision-making continued to

impede progress. A regulatory silo mentality, lack of knowledge bases, the disjointed nature of policy mandates, and limited capacity for proactive reskill all accounted for this. As suggested, while new forums of multi-stakeholder collaboration and pilot initiatives were rapidly emerging, meaningful joint decision-making through structures such as combined steering committees, dedicated and explicit reskill strategy and gendered perspectives remained sporadic. The ethical dimension of this subject was exceedingly frequently evoked, with many respondents talking openly of the new norms being one of transparency, determination of quality of decisions, interdisciplinary working and the imperative not to do social harm. This notwithstanding, there remained a culture of entrenched resistance, uneven capacities, and a lack of comprehension about time requirements for implementation.

In terms of RQ3 (Business model innovation, sustainability and justice practice), it is clear that there is a significant movement away from narrowly defined profit-driven business models where all the decisions are taken in the name of efficient return, to broader models where social equity, local empowerment and sustainability and justice integrities are integrated. It was noted how the corporate and community respondents described increasingly sophisticated models that range from innovative finance to community trusts, inclusive local procurement and ESG orientation. With social licence attained, meaningful economic participation of marginalized groups, and robust local benefits brought about, the transition continues to be challenged by financial restraints, boxes that are ticked and that lead to compliance, external question marks over such issues as state policy or global commodity prices. The best business models expressed by respondents are those that, through all the steps from the point of initiating the process, seeing through the various stages of brokerage, and then sharing of benefit with the community, are proactive in implementing justice. The South African energy transition is on this basis anchored in the technological and the living social value led dimension. A sector in transformation is expressed from this information where, though incomplete and unevenly expressed, the values of justice, participatory governance and practical innovation are robustly debated and on the way to gaining ground across the landscape of South African energy. Substantive and micro levels of detail of the evidence from the respondents is provided in

the form of tables, connecting the macro themes highlighted to the on ground realities in lived experience and institutional arrangement as they relate to just transition in the arena of energy in South Africa.

5.8. Conclusion

The thematic analysis findings reflect a picture of the energy transition in South Africa that is structurally innovative and rife with persistent contradictory issues. It can be observed that though substantial headway has been made on community inclusion, regulatory review and change, and business model transitions, some of the areas that require much improvement are the utilisation of government policies, the construction of capacity constraints, and the appropriate empowerment of historically deprived stakeholders. The findings imply that a successful Just Energy Transition will only be possible through integrated socially sensitive reforms which balance global imperatives with lived reality, operationalise equity effectively, and institutionalise accountability throughout the phases of sectoral transformational evolution.

The Just Energy Transition in South Africa is moving towards a phase characterised by a further deepening of a more operational treatment of justice, equity and sustainability while beset by institutional inertias, legacy silos and incomplete empowerment of marginalised entities. The shift of paradigms from compliance-reaction based governing to the positive business model type of governance is evident but unevenly, suggesting that continuing adaptability, continuing communication, and effective regulatory co-ordination are necessary. Achieving a truly Just Transition will necessitate actively introducing new voices, attempting to dismantle legacy silos, and operationalising fairness across all levels of governing and commercial practice. The information in this chapter has demonstrated how, through qualitative thematic analysis, empirical realities of the Just Energy Transition in South Africa manifest themselves in the shapes of progress and continued struggle. The transition from public sector policies as intentions on the one hand and exploitative

practices on the other is definitely in process, which is characterized by power, process, and the emergence of the motif of justice as a governing principle.

Furthermore, the results suggest an operational framework for research linking theory, practice, and lived experience with solid objective backing. In the ensuing Chapter 6, the results will be contextualised in the wider intellectual and policy environment to define the economic basis of and foci for both continued activity and research advancement.

CHAPTER 6: DISCUSSION OF RESULTS

6.1. Introduction

This chapter provides a relevant interpretation of the empirical results of Chapter 5 by placing them in the context of the wider literature and theoretical debates engaged in Chapter 2. It is about South Africa's Just Energy Transition (JET), and it develops our understanding of innovation of business models and decision-making, giving special focus to the concepts of justice, equity and sustainability as the principles to be adhered to. The chapter is organised around the main research questions and combines cross-cutting themes and theoretical advances with their practical and policy implications. The chapter closes with an assessment of the limitations and contributions to the literature presented by the study and how the requirement of justice, equity and sustainability shows itself in the stakeholder dynamics and organisational practice in energy transitions in South Africa.

6.2. Discussion of Results for Research Question 1

Research Question 1: How do stakeholder power dynamics and governance arrangements shape business model innovation in South Africa’s just energy transition?

The goal of Research Question 1 was to empirically examine how stakeholder power relationships and governance structures impact business model innovation in South Africa’s Just Energy Transition (JET). The results show that governance structures, regulatory instruments, and power relationships remain, determining the direction and pace of innovation. This is solidly supportive of the literature with respect to the importance of institutional drivers as well as entrenched power relationships as determinants of innovative outcomes, as well as the allocation of risks and benefits (Stojilovska & Markova, 2023; Pieroni et al., 2019; Ramdani et al., 2019).

The interesting empirical finding is that the power of decision-making remains in the hands of the dominant utility suppliers and the government departments, as expected by the stakeholder and institution-based perspectives examined in Chapter 2 (Freeman et al., 2020; Scott, 2019). This power relationship operates as a significant inhibiting influence on the probabilities of effecting more participatory and justice-oriented models of innovation. That said, regulatory attempts have begun to set up decentralisation and empower new stakeholder groupings. However, the transition from a position of procedural consultation to meaningfulness and shared decision making has been extremely slow and continues to be inhibited by the institutional inertia and capacity asymmetries which have been highlighted in the local and international literature (Geissdoerfer et al., 2018; Stojilovska & Markova, 2023).

The good news is that there are some tendencies to favor participative models such as community trusts and multi-stakeholder consortia, which are at least beginning to emerge as positive mechanisms supporting the embedding of social license and legitimacy of project interventions. The empirical findings also support the trends towards Ostrom’s idea of polycentric governance. The examples from international best practice show that diversification of authority and stakeholder participation is imperative to enhance project legitimacy, adaptability, and systemic innovation. Again, the literature shows how accountability and distributed governance improve the system's resilience to shocks and permit more rapid and inclusive transitions (Ostrom, 2010; Presidential Climate Commission, 2024). However, the evidence is critical, which again indicates the tensions between the political rhetoric and the fundamental need for systemic change. Framework concepts that are meant to bring about stakeholder empowerment as well as inclusive governance tend to become watered down or lose impetus at the level of implementation, the reasons for which have been extensively analysed in terms of bureaucracies, regulatory fragmentation and evidence of slow progress among incumbent actors, as discussed from time to time in Chapter 2 (Baasch et al., 2023; García-García et al., 2020).

As a result, community participation is often merely procedural instead of meaningfully participative, while the change in governance norms is slower and more contentious than justified. In conclusion, the findings for Research Question 1 substantiate and add to the literature by showing that advanced and innovative business models for South Africa's JET will require thorough democracy in governance structures, expanded participatory mechanisms, and institutional incentives aligned with justice-oriented objectives. The empirical understanding consolidates the scholarly findings that transformational innovation in a complex and fast-moving area such as energy transition is possible only through polycentric governance, allowing the voice for disparate stakeholders.

6.2.1 Synthesis of Research Question, Findings, and Literature

These findings suggest that the results of Research Question 1 resonate strongly with the theoretical dimensions covered in Chapter 2. The literature highlights that business model innovation (BMI) in the energy space depends on far more than technical expertise or speed to market, but is governed by the power of stakeholders, governance regimes, and institutional barriers. Researchers such as Pieroni et al. (2019) and Ramdani et al. (2019) have highlighted that progressive approaches to BMI often fail in their systemic uptake, resulting in preserving inequities of accessibility and affordability of energy, particularly in cases where stakeholders have been ostensibly included through token engagement or traditional forms of governance have been maintained.

Chapter 2 has also highlighted how powerful incumbents and legacy actors, aided by fragmented regulatory frameworks, have historically operated to limit opportunities for distributed, participatory innovation models, particularly in countries with firmly entrenched centralized utilities, such as South Africa. The institutional rigidity and path dependencies spoken to by Stojilovska and Markova (2023), which are seen as obstructions to change, lead to excluded vulnerable and marginal actors from real engagement in the construction of the future(s) of the sector. This bears well with the empirical data which indicated procedural rather than substantive forms of participation by community stakeholders, as

well as slow progress to democracy. The literature calls for polycentric, participative governance, and operationalising justice and equity in sectoral renewal.

Stakeholders insist that, notwithstanding positive developments, substantial barriers remain. There is a broad consensus that policy incoherence, embedded monopolistic interests, and a lack of alignment between government, regulator, and development partners inhibit effective justice-related reform. Literature also supports the view that institutional inertia and fragmentary policy frameworks are structural constraints on effecting a just and participative energy transition (Baasch et al., 2023; Garcia-Garcia et al., 2020; Scott, 2019).

This points to the necessity for endorsing Ostrom's theory and getting business model frameworks concerning justice by design which argue that legitimacy, social licence and adaptability ensue when growth is based on multi-stakeholder inclusive processes, with too many examples of empirical data being present in community-based included solutions, stakeholder forums, as well as emergent (although still developing state) joint benefits ascribed which is now arising in the context of MTT (just transition) in South Africa. The literature, through comparative international studies, indicated that legal, regulatory, and market reforms, such as harmonized permitting, integrated planning, and statutory time frames for approval processes, can generate the unlocking of institutional inertia and drive innovation. What stares us in the face in the Chapter 2 literature is the categorisation of business model innovation for JET as a paradigm shift. This requires technical or financial adaptability, participatory decision making, regulatory issues of clarity of function, and the necessary redistribution of power.

The literature warns against approaches structured around stakeholder inclusivity coming as a secondary thought, instead highlighting the necessity for integrated, inclusive, justice-oriented frameworks as both a practicality and a normative requisite in the energy transition. This theoretical foundation strongly supports the study's findings in the field. It further takes the field forward through new empirical evidence to indicate the necessity of moving resources from token inclusivity to the reallocation of governance power in a material

manner in readdressing questions of participatory democratic engagements existing in the process of JET.

6.2.2 Theoretical and Empirical Comparison

The management structures and power dynamics in South Africa's energy sector greatly influence BMI. Empirical data illustrate that centralised power, bureaucratic inertia, and fragmented policy frameworks hinder innovative practice and active participation. Such findings are consistent with Pieroni et al. (2019) and Sovacool et al. (2020) in that BMI cannot be extricated from institutional and political context.

The increased awareness of participatory governance through forums of stakeholders, community trusts, and distributed ownership reiterates the principles of Ostrom in polycentric governance and the justice by design theories discussed in Valentine (2018). However, the transitional state from procedural consultation to genuine shared decision-making is somewhat uneven and reflects Ramdani et al.'s (2019) observations. Community participation is frequently procedural in nature, and while the tools of empowerment are provided, there are practical dislocations and imbalanced structural domination.

6.2.3 Legitimacy, Social License, and Trust

In models that embrace community co-ownership and participatory design, stakeholder legitimacy is high, arguing in Chapter 2 about the importance of distributed authority in models of innovation (Ostrom, 2010; Geissdoerfer et al., 2018). Though regulatory interventions (carbon taxation, stakeholder mandates) enable emergence of new models, dominant actors like Eskom continue to inhibit private innovations with market power and siloed governance.

6.2.4 Concluding Findings for Research Question 1

The power dynamics of stakeholders and the governance arrangements significantly influence business model innovation (BMI) in South Africa's Just Energy Transition (JET). The results highlight that BMI is not a market experimentation phenomenon, but is heavily based upon the incomplete power from stakeholders and the lack of coherence in the governance framework. Governing interventions such as carbon taxes and border adjustments are the most significant external stimuli driving organisations towards exploring innovative models. However, states like Eskom's monopoly powers in obtaining the allocation of funds create barriers to private player innovation. It is also worth noting that there are no alignments and fragmentation of coherence for the law property silos in government departments, which creates delays, incoherence, and contradictions in different regulations, creating difficult and awkward compliance problems and barriers to innovation. Some stakeholders, e.g., lenders and parent companies, do indeed have structural overwhelming possible power, as do major clients and consumers; however, community participation is still generally procedural, with the realm of decisions being hardly fruitful in so far as the audience and policy have recently changed regarding those involved in the stakeholder process with empowerment tools and policies.

However, stakeholders' emerging imbalanced structural domination seems to be causing some dislocation. BMI is fundamentally influenced by governance, stakeholder power relations, and politically induced incentives. The census's empirical evidence reinforces the understanding that democratised governance catalyses innovation and appropriateness.

Nonetheless, the lie lies in revealing the slowness of efforts and structural change tensions in the South African transition. Practice and policy should institutionalise co-design, collaborative forums, and transparent cross-sectoral leadership on issues of collaborative skills enhancement and enhanced incentive structures for experimentation across levels.

6.3. Discussion of Results for Research Question 2

Research Question 2: How can decision-making be redesigned to overcome systemic barriers to justice, equity, and inclusivity in energy-related business model innovation?

Research Question 2 studies how decision-making in South Africa's energy sector may be further reimagined to overcome the key obstacles to justice, fairness, and inclusivity that prevent innovation in new business models. It is shown in Chapter 2 that participatory and stakeholder-led business models are essential for the operationalisation of just transition principles. The empirical results presented here reveal that deep-seated organisational inertia, technocratic cultures and risk aversion are limitations to such developments. This North and South situation is consistent with the results of Chapter 2, where institutions are repeatedly associated with rigidity, fragmentation, and areas of power, which result in slow progress and the ongoing exclusion of vulnerable groups from development opportunities (Stojilovska & Markova, 2023; Ramdani et al., 2019).

The evidence demonstrates emotionality, bias, and artificially induced context influences as causes of organisational decision-making, as Morelli et al. (2022) and Mishra et al. (2020) assume.

It is noted in Chapter 2 that these frameworks are discussed at some length, as appropriate, in that they offer to disclose for analysis the psychological and systemic problems in transition decision-making and correspond with the findings in that traditional hierarchically based decision-making and policy fragmentation inhibit adaptive governance and creative stakeholder interaction. Movement is seen, however, concerning the research as several path-breaking examples of shared decision-making are discovered in practice: experimental steering committees and cross-functional design teams lead to the conclusion that open-mindedness of thought, collectively induced learning capacity and participatory creativity, common attributes of the concept of cognitive and cultural redesign recently

proffered (Ramdani et al., 2019; Sovacool et al., 2020) are necessary before meaningful adaptation may take place.

The same empirical evidence confirms the conclusions drawn in Chapter 2 regarding the case where, while no contradiction to the theoretical position is discerned, the practical translation from initial intentions in policy terms to operational change is still dependent with a wide margin on the organisational environment, leadership position and commitment thereof and willingness on the part of the leadership to effect systemic change. There are ways, however, to overcome these weaknesses, and both research and global experience points to the necessity to introduce cognitive diversity workshops, iterated feedback loops and cross-functional reward systems in the organisations, as well as continuing those reinforcing codified policy requirements directing stakeholder participation forthright at all primary project stages (Geissdoerfer, et al., 2018; Baasch et al., 2023).

Chapter 2 strongly validates the opinion that there will be no systemic reality of just practical business model innovation until institutions change and adaptive collaborative decision-making approaches are replicated and diffused, since these must correspond to the South African transition landscape's requirements, norms, and justice demands.

6.3.1 Synthesis of Research Question, Findings, and Literature

These findings suggest that the entrenched inertia of organisations, fragmented regulatory environments, and technocratic management cultures limit the prospects for participatory, justice-seeking decision making. Desirable and innovative attempts such as cross-sectoral steering committees, joint leadership forums, and iterative stakeholder engagements have often been identified as successes and potential gainers, yet remain the exception that proves the rule in a system systematically prescribed by overriding decision-making procedures. Feedback loops and authentic learning are haphazard with marginalised

communities due to constraints of capacity and resources, leadership constraints, or unresolved power relations.

These findings confirm nearly all the literature reviewed in Chapter 2. Proposed theoretical matrices include the Behavioural Reasoning Theory (BRT), the Cognitive-Affective-Conative (CAC) model (Morelli et al., 2022; Mishra et al., 2020), and institutional theory, which seek to explain how institutional reluctance, emotional and social realities, and stakeholder complexity affect strategic decision-making regarding sustainability and just energy transitions.

The literature shows that traditional rationalist approaches do not take adequate account of lived ambivalence, bias, and emotional responses, which are particularly pertinent in transitions characterised by uncertainty, competition, and high-stakes ethical trade-offs (Morelli et al., 2022; Wang & Lo, 2021). Internationally and in the analyses of the sector context in South Africa, there is universal concurrence that the absence of participatory governance measures and inclusive frameworks, both at implementation and procedural levels, perpetuates or aggravates the problems of energy poverty, marginalisation and resistance to innovation (Ramdani et al., 2019; Geissdoerfer et al., 2018; Stojilovska & Markova, 2023; IPCC, 2023).

The literature shows that such regulatory fragmentation, institutional inertia, and legacy power imbalances undermine the justness of business model innovation and sector transition. The successful instances globally and in South Africa (e.g., participatory energy models, community solar co-operatives, participatory REIPPPP evaluations) all demonstrate that collaborative co-development of decision-making processes positively enhances legitimacy, adoption, and longer-term success of JET-related innovation (Presidential Climate Commission, 2024).

However, the examples are still few, and the practice of these models is met with marked political and other practical opprobrium. Such conclusions lend strong support, therefore, to the recommendations in Chapter 2, that for SA's JET to be just and correctly innovative, the decision-making process needs radical change from the technical unidirectional paradigm to participatory, adaptive and inclusive frameworks of utmost care and calculated changes for all stakeholders aimed at empowerment, and including implementation measures, and explicitly aimed at correcting historical processes of exclusion and injustice.

Empirical evidence does not refute any conclusions of the theory. However, it confirms the depth of stagnation in decision-making processes and the great necessity for holistic institutional and cultural change if justice and equity aims are to become the substance of JET in practice.

6.3.2 Cognitive, Institutional, and Cultural Constraints

The study shows evidence of continuing structural and cognitive impediments to justice-oriented innovation. This resonates with the themes of Behavioral Reasoning Theory (e.g., the work of Moura et al., 2022; Mishra et al., 2020) and the Cognitive-Affective-Conative (CAC) model. Risk aversion, the persistence of hierarchies and fragmented decision routes retarding reform and community benefit are apparent; participatory decision methods are emergent and particular to context.

Participatory leadership, testbed steering groups, and transdisciplinary design teams value inclusivity and learning cultures, though the application is inconsistent. Organisation-wide culture change and systematic cognitive diversity are substantiated as precursors for adaptive governance (Sovacool et al., 2020; Ramdani et al., 2019).

6.3.3 Ethics, Participation, and Adaptive Innovation

Ethical requirements and implicit transparency through multi-stakeholder processes are still in the aspirational phase, with a partial implementation in practice. The evidence broadly supports the descriptive frameworks on slow adaptation, linking local energy innovation in South Africa to the large international debates between theory and the realities of practice.

6.3.4 Concluding Findings for Research Question 2

Significant and typically technical changes have occurred in decision-making tools and structures across the energy sector. In Chapter 2, it was demonstrated that business model innovation (BMI) has afforded organisations the capacity to strengthen their sustainability emphasis. Nevertheless, the date approaches have largely trivialised systemic societal inclusion, perpetuating inequality in access to and affordability of energy supplies (Pieroni et al., 2019; Ramdani et al., 2019). Companies tend to impose rigid model structures on assessing the projects according to appropriate social, sustainability, and environmental factors and dismiss them as they often fall outside the traditional profitability sphere (Geissdoerfer et al., 2018; Shakeel et al., 2020). The empirical evidence in chapter 5 confirmed the veracity of this thesis, confirming that while technical progress and market-based evolution are prevalent evidence of fundamental change in the fairness and justness, and inclusivity is not evident, the pursuit of such aims tended to be more preconceptions of practices, as budgets were secondary to norms of compliance and conformity. Community participation, as was dealt with previously in Chapter 2, is predominantly retrospective participation, and stakeholder consultation tends to be applied post-major decision-making, triggering a heightening of power disparities and modulating the needs of poorly represented groups (Stojilovska & Markova, 2023; Wang & Lo, 2021).

The data from Chapter 5 continued to reflect this stance, with respondents drawing attention to processes whereby community need and local ownership necessities were seldom included in priority lists and treated more as perturbations in decision making than as

integral to the procedure of decision taking (Morelli et al., 2022). The issues that were raised in Chapter 2 surrounding chronic disruption and disruption and lack of trust and enmity created through commercial objectives and resistance to change from the social agenda are salient (Ramdani et al., 2019; Mishra et al., 2020).

The findings are supported in Chapter 5, where participants pointed out that the problem of preservation of margins and incremental change within the organisations has led to altered trust, social disruption, and hostility to institutions from community structures. However, both empirical results and academic evidence reflect that there is progress on a minor scale, as modified governance procedures, such as inclusive approaches, participatory processes, and community-based advisory boards, blended finance models are being trialled and initiated but remain embryonic and subject to social and regulatory constraints (Geissdoerfer et al., 2018; Vaska et al., 2021). Entrenched inertia and regulatory fragmentation have been examined in Chapter 2 as major causal areas for the lack of justice and fairness through BMI (Baasch et al., 2023; Garca-Garca et al., 2020). The data annotation confirmed that while participatory processes were being advocated as methods, actual and contextual constraints exerted by management failure, predisposition resistance and inertia and incapacity compounded the problems of large-scale utilisation within structures. As shown in constructs and individual responses, there is an urgent need to deliberate on diversity training. These iterative practices incorporate the aspects of inclusion and collaborative action linguistics within policy frameworks, codifying participatory types of processing at all stages of the effective decision-making process (Scott, 2019; Freeman et al., 2020).

Ultimately, the findings of Chapter 5 verify the findings found in chapter 2 that BMI in the energy transition processes has failed to utilize or effectively translate the successful technical innovations into the realm of jurally normative and inclusive practices.

Community engagement is still largely procedural and symbolic, social ills and impediments are prevalent due to management destimulation of objectives, while participatory

methodologies require in general both proprietary and organisational support in order to progress meaningful change (Geissdoerfer et al., 2018; Vaska et al., 2021; Stojilovska & Markova, 2023; Wang & Lo, 2021; Pieroni et al., 2019; Ramdani et al., 2019).

6.4. Discussion of Results for Research Question 3

Research Question 3: How are South African energy companies innovating to embed just transition principles, and what are the economic sustainability and social equity implications?

The aim of Research Question 3 was to assess how those in the South African energy sector are innovating to embed just transition principles into the energy sector business models and evaluate the implications of economic sustainability and social equity. The study shows a pronounced movement of leading organisations away from isolated sustainability or ESG compliance initiatives to embedding just based models which include more profound social, economic and environmental aims. The innovation indicators now include community-based ownership arrangements, inclusive purchasing policies, blended finance models, and systemic reporting against the ESG criteria.

However, the spread and scope of these models differ greatly and are hemmed in by structural inertia, variable response to policy, and lack of resources. This repeats what has been found in Chapter 2, where established literature indicates that progressive innovation in business models often achieves no systemic social inclusion, mainly because of the deeply institutionalised and regulatory barriers and fragmentation in the legacy industry. From empirical material, it is apparent that Justice in business model innovation is operationalised differently by explicitly distributive, procedural, and recognition-oriented mechanisms: local hiring, transparent sharing of benefits, participative project design, and governance mechanisms that give voice to excluded groups, to name a few.

Many participants referred to the dangers of transition washing, where superficial rebranding or compliance models are brought into play instead of substantive change, and where the persistence of institutional and financial barriers is considered. The review undertaken in Chapter 2 shows similar dangers that arise and where it is argued strongly that without the necessary institutional ecosystem for substantive, procedural, participative, and recognition-focused justice, the effect is simply superficial, lacking the necessary redistributions of benefits or power (Stojilovska & Markova, 2023; Wang & Lo, 2021; Geissdoerfer et al, 2018).

The findings echo and expand upon themes in the literature found in Chapter 2. As indicated, authors such as Geissdoerfer et al (2018), Wang & Lo (2021), and Ramdani et al (2019) indicate that real progress towards a just transition can only be made by embedding the concepts of justice, equity, and sustainability as a core logic of business model restructuring. The literature shows that successful energy transitions are contingent on emissions reductions or renewable deployment, realignment of economic opportunities, reallocation of power and value, and procedural and participative justice throughout.

The literature referred to in Chapter 2 indicates also that policy uncertainty, fragmentation of the legacy industry and then the double bind of achieving both local equity and jobs commitments in the same sphere as global climate goals creates a slowness of systemic change where successfully there are missing these other attributes (Heffron & McCauley, 2018; Pieroni et al., 2019; UNECA, 2023; McCauley et al., 2019). This theoretical view is reflected in the study, and it is shown that both substantial progress, mainly where niche innovators and community-driven projects are being undertaken, and the persistence of limitations due to institutional inertia and finance, and the risk from such progressive incremental changes in the ESG measures being confused for more thorough remedies. The new business model experiments reflected in the literature, alluded to in Johannesburg, are also reflected in the empirical findings, along with the warnings abroad concerning the depth and durability of integration of Justice in the models (ILO, 2022; UNECA, 2023).

Ultimately, however, the findings also confirm and extend upon the conclusions found in Chapter 2. The future of the South African energy sector in terms of finding sustainable productivity will be associated with multi-level partnerships in innovation co-production with parties affected, stakeholder partnerships at multi-levels, ongoing regulatory reforms for learning and resilient justice indicators, and this will also be associated with pragmatic inclusive finance and leadership. Both theorists and practitioners will find in the end that the way in which the objectives of Just Energy Transition can be achieved is by building equity and the participatory process into the very fabric of the business model innovation development, a fully capital and important preeminent issue throughout in Chapter 2, both in theoretical form and empirically reinforced.

6.4.1 Synthesis of Research Question, Findings, and Literature

Research Question 3 investigated how South African energy companies are innovating to give effect to just transition principles in their business models, emphasizing economic sustainability and social equity ramifications. The theoretical basis for this inquiry is well-considered in the more recent literature, pointing to the need for just transition operationalising, stakeholder co-creation, and idiosyncratic economic, social, and environmental outcomes related to business model innovation (BMI) (Pieroni et al., 2019; Geissdoerfer et al., 2018; Stojilovska & Markova, 2023).

The major findings were that South African energy companies were moving beyond basic compliance and sustainability to creating more innovative business models to create just outcomes for communities and workers. Community trusts and participatory ownership schemes became focal inclusion mechanisms based on regulatory imperatives and corporate strategy. These vehicles repatriate economic returns to local communities and operationalise distributive justice, as well as promoting the inclusivity of value-creating practices recommended in the international literature (Stojilovska & Markova, 2023).

Also evident is the greater adoption among South African energy enterprises of blended finance mechanisms and robust ESG (environment, social, and governance) frameworks. These instruments directly couple investment flows and performance measurement to outcomes that support international harmonization around sustainable finance and respond to local policy imperatives (Ramdani et al., 2019; IPCC, 2023). In practical terms, companies were also implementing inclusive procurement strategies and concentrating on workforce reskilling, which favored local content and helped vulnerable groups build their capacity for sustainable long-term economic participation (Geissdoerfer et al., 2018; Morelli et al., 2022). However, in the real-life application of these strategies, tensions remain. An ethical dilemma around the need to marry environmental imperatives with the need for the preservation of social stability was apparent as companies reported on the challenge of workforce dislocation that came from the acceleration of decarbonisation, acknowledging that sometimes they had to accept a slower pace of transition lest local community cohesion was lost (Musavengane, 2021).

Likewise, there was some concern that, without referring to it as such, ESG and justice might become a tick-box exercise, pro forma exercise, as opposed to being an impetus for the creation of just transformation, particularly given ongoing capacity gaps, financial constraints, and the inertia associated with policies and institutions (Patel & Simatele, 2020; Swilling et al., 2015). Comparing these findings against the literature reviewed in Chapter 2, the central aspect of justice, including its distributive, procedural, and recognitional forms, is again reinforced as an absolute condition of business model innovation in the just energy transition. The literature and the empirical results converge on the need for inclusive governance and shared ownership while seriously stressing the excessive barriers in terms of regulatory inertia, entrenched technological systems, and exclusion from participation (Scott, 2019; Freeman et al., 2020; Patterson-Waterston et al., n.d.; Baasch et al., 2023; Garcìa-Garcìa et al., 2020).

What is critical is that the literature’s call for participatory design and co-creation of value is echoed in the practices of local ownership, blended finance, and stakeholder engagement

that have characterised South African energy companies (Shakeel et al., 2020; Vaska et al., 2021). However, the literature also acknowledges, as does this study, the extent to which the pace and modalities of decarbonisation necessitated by real, complex, micro-local socio-economic circumstances remain a challenge (Jenkins et al., 2021; Stark et al., 2023). The synthesis of practical and theoretical perspectives thus demonstrates a mutually reinforcing relationship. The findings confirm the need for transformative models that embrace the justice set out in the literature. However, they also advance the conversation by offering real-world granular insights into the practicalities, delays, and compromises around this adaptation.

The problems involved in stakeholder divergence, regulatory blockage, and lived ethical trade-offs are exemplified as critically consequential in real life with support for literature positioning business model innovation as a consistently iterative and contested phenomenon (Swilling et al., 2015; Stark et al., 2023; Musavengane, 2021; Morelli et al., 2022). The research findings thus support and supplement the principles emerging from the theories of justice, transition studies, and stakeholder frameworks. Empirically, they bring depth, drawing on contestation and adaptation from the South African scene, highlighting that creating an innovative business model in the energy sector requires ongoing negotiation and vigilance against mere tick-box compliance. The thread that ties outcomes back to the literature is thus a golden one: that only through ongoing, context-sensitive, participatory reform can the promise of a just energy transition be realised in practice (Scott, 2019; Geissdoerfer et al., 2018; Jenkins et al., 2021).

6.4.2 Integrated Justice and Holistic Innovation

Business model reconfiguration increasingly incorporates elements of justice, shifting focus from isolated greening initiatives to community ownership, inclusive supply chains, ESG reporting, and blended finance vehicles. The configurations replicate the literature on circular and hybrid business models internationally (Wang & Lo, 2021; Geissdoerfer et al.,

2018). However, most innovation appears to be adaptive and limited by resources and regulatory constraints, so it remains bounded and is not radically transformative.

6.4.3 Distributional, Procedural, and Recognitional Justice

Justice strategies today also include improved means of distribution, local hiring, equity for suppliers, procedural decision rights for disadvantaged groups, and recognitional value, community benefit sharing theories of justice presented by Heffron and McCauley (2018) and McCauley et al. (2019). It appears that ESG standards and justice measurements are strong underpinnings for investment and operational practice, though inconsistent in implementation.

6.4.4 Concluding Findings for Research Question 3

Like many economic agents and stakeholders, South African energy companies are working towards softer paths ushered by just transitions, which are surfacing in structural avenues, compliance through risk management, responsible risk management values, etc. Transition principles get entrenched in sustainable portfolios and renewable investment spheres, and new concepts gather traction (like green hydrogen or sustainable fuels, etc.). The very start of operationalising justice within this betrayed structure goes way beyond the standard referents or social responsibility, wider than reskilling here.

However, it depends somewhat on meaningful and everlasting jobs, those existing, empowerment through community trusts, and the like, as well as avenues/policies that make fullest use of local employment spheres and ethical supply sources. These avenues, for example, uniquely provide and enhance routes through sustainable mechanisations of economic diversifications and new industry developments through ingenuity, but they also come with all the flaws that reside through challenge should develop. For instance, jobs created are also exponentially lesser than those lost within the coal fields, and thus

economic dislocation is also a possibility in future. From a quasi- social point of view, historic and problematical inequalities presently are gradually being reconciled with target-oriented policies, but careful thought processing and constructive ones could assist avoiding tendencies of widening disparities in the flows of these transitional evolutions, as reflectively with the avenues presently rolling this issue retrospect to a movement through to the gradual dynamics of the advantages arising to the favoured or predisposed. Justice mechanisms now exist in terms not merely of distributive policies (who gets what), but also procedures (who decides and how), thus confirming Heffron & McCauley (2018), McCauley et al. (2019).

The equity integration reached through participatory employment, local supplier development, and specific benefit-sharing is evident in Tyler et al., (2021). Climate action practices are buttressed here, notably through the comprehensive ESG (Environmental, Social, and Governance) principles supporting all major innovative product and capital solutions, per the best international practice, and expressed in the UN resolutions or definite guidance (UNECA 2023). South African players pursue JET principles via participative BMI (Business Model Innovations), hence partnership-led, immersed environmental and justice-biased conditions. Constraints, nevertheless, do include regulatory silos, financial voids, and, as a given, the legacy structures existing.

The theory is given more credence in empirical forms, the necessary elements attendant on the awareness that have innovation-based, justice-biased BMI mechanisms brought, while on the practical side, better means of engaging, employing, sentiment audits, and obtaining policy convergence.

6.5. Cross-Cutting Discussion and Novel Insights

Surprising patterns emerge in connection to the limited role of digital platforms in accelerating participatory decision processes which run counter to some established

expectations in the innovation literature. Community input is typically passive, occurring after the projects are designed resulting in procedural input rather than substantive participation. The contradictions between profit imperatives and long-term systemic obligations are still evident, emphasizing the contextual factors affecting managerial choice (e.g. low margins, community pressures). The continuance of inequalities and potentialities of economic dislocation that could result fewer jobs in new sectors such as renewable resources than occurred with coal activities illustrates the slow rate of systemic inclusion.

6.6. Limitations of the Study

While suitable for rich contexts, qualitative design and a focus on semi-structured interviews limit generalisability. Institutional position may bias responses; rapid policy and market shifts mean findings are temporally specific. Community perspectives outside industry/policy circles require further inclusion. Ongoing regulatory and economic uncertainty may impact replicability across contexts.

6.7. Theoretical and Practical Implications

This investigation contributes to the field by confirming and extending justice-centered business model innovation frameworks. It is demonstrated that intersectionality, participatory governance, and adaptable operational procedures are needed for a just energy transition.

The academic contributions include data-grounded refinements of polycentric governance, design-for-justice, and cognitive diversity in decision-making models. For practice, multi-level stakeholder engagement, regulatory coherence, and justice metrics are required for operationalising just and sustainable transitions. This requires systemic incorporation of leadership development, participatory innovation, and regular public sector audits into all practices and policy work.

Finally, the views expressed by the interviewees demonstrate how visionary leadership, across-unit collaboration and supportive organisational culture are crucial enablers for business model innovation in respect of the just energy transition. These findings directly support Sovacool et al (2020) and Geissdoerfer et al (2018) that adaptability, learning, and psychological safety in the organisation are a precondition for both strategic change and successful transition outcomes. The contrary holds that incoherent vision or lack of investment in skills and mentoring will ruin transformational intents, as such deficiencies are conducive to further solidifying existing hierarchies and proceduralism.

6.8. Advancing the Body of Knowledge

By embedding justice, equity, and sustainability in the core of BMI and organisational design, this study advances theory and practice beyond compliance or technical refinement and toward a holistic, partnership-oriented approach. The Justice-Oriented Innovation Framework proposed here provides actionable guidance for research and policy and bridges the gap between rhetoric and operationalisation.

6.9. Conclusion

South Africa's Just Energy Transition necessitates technical and financial innovation and a multidimensional embodiment of justice, participation, and sustainability. Distributed governance, adaptive decision-making, and justly oriented business models are the keys to transformative change. The results suggest direction to scholars, practitioners, and policy-makers keen to develop genuinely inclusive and resilient transitions within complex institutional environments.

CHAPTER 7: CONCLUSION AND RECOMMENDATIONS

7.1. Introduction

This concluding chapter synthesizes the main lessons, insights, and practical recommendations from a detailed study on Business Model Innovation (BMI) and Decision-Making in South Africa's Just Energy Transition (JET). The preceding chapters have traced the alignment and, on occasion, the clash of justice, equity, and innovation in the policy and practice that shape the future of that country's energy sector.

Chapter 1 set the scene for the study, describing the urgent need in South Africa for a just energy transition that simultaneously addresses the fundamental climate imperatives and the persistence of social injustices in the narrow context of great institutional complexity. The research problem, aims, questions, and a serious gap between the progressive policy rhetoric and the everyday reality of business model innovation and decision-making in the national energy sector were clearly defined, outlining the urgency of the academic and practical study.

Chapter 2 presented a survey of the global and South African literature on the subject, critically reviewing the various available frameworks of business model innovation and strategic decision-making for sustainability, with special reference to the justice and equity demands of energy transitions. The literature reflected the increasing pressure from scholars for participatory and justice-oriented innovation and illustrated how deeply entrenched ways of governance and continuing unequal power relations affect a lack of practical progress in both global and local contexts.

Chapter 3 conducted a full sizing of the conceptual framework for the study and posed three broad central research questions. These reflected an integrative study of BMI, shared decision-making, and institutional perspectives, all showing the acknowledged need for an

understanding of how businesses and other stakeholders in South Africa acted regarding inclusivity, equity, and governance in energy transition processes.

Chapter 4 detailed the research context and provided a colourful thumbnail picture of the South African energy sector landscape. It traced the relevant stakeholders and commented on the various layers of policy, regulatory, and operational challenges facing practitioners, regulators, and communities attempting to implement the national JET agenda. Adopting a qualitative-phenomenological methodology was justified to provide in-depth insights into the lived experience, institutional behaviour, and innovation existing in South Africa's unique energy transition situation.

Chapter 5 presented the empirical results from the research among the relevant policymakers, regulators, industry leaders, civil society, project developers, investors, and community representatives. Thematic results were arranged according to the three central guiding research questions: (1) stakeholder power and governance, (2) barriers to and innovation in decision-making in justice and equity, and (3) decision-makers in practice trying to embed just transition principles into business model innovations. The results presented a picture of distinct progress and gaps but highlighted the inability to take the policy intentions forward to any practical, meaningful, and inclusive innovation.

Chapter 6 then took these findings and presented them in a critical synthesis and interpretive analysis together with the empirical research data and theoretical debate covered in the literature review. This integrative analysis revealed areas of commonality in validating polycentric governance and justice by design frameworks and areas of continuing divergence in respect of the institutional barriers and incomplete operationalisation of participatory practices. The interpretative discussion stressed the academic and practical contributions of the study, but also covered the study's limitations, reflecting on the great need for more profound transformation in the areas of governance, leadership, and business models for a just energy transition to take place.

Chapter 7, in the light of this, finally brings the study full circle. In this final chapter, the main findings are once more consolidated together, the unique contributions to knowledge of the study are devised, robust recommendations are made for the main relevant stakeholders, the limitations of the study are reflected upon, and more general thoughts on the evolving transition narrative in South Africa are offered. In an environment filled with climate urgency, social injustices, and institutional challenges, this chapter will be both a summative reflection and a call to action, bridging the worlds of theory and practice in the continuous endeavours' required for a just, equitable, and innovative energy future.

7.2. Summary of Key Findings

RQ1: How do stakeholder power dynamics and governance arrangements shape business model innovation in South Africa's JET?

Chapter 5 of this study exposed persistent power asymmetries in South Africa's Just Energy Transition (JET) landscape, confirming the continued hegemony of the state, large utilities, and major finance houses. These hold power despite the formal structures for engagement and outreach, with communities and labour groups being further marginalised through lack of involvement in substantive agenda setting processes. The nature of community engagement is procedural, with significant discrepancies in capacity providing for the ineffectiveness of engagement. This perpetuates what is essentially a top-down, technocratic style of governance, resulting in curtailed real influence from within affected stakeholders, even in forums that appear participatory.

Chapter 5 also exposed emerging participatory governance models that were promising in developing more inclusive innovation. Multi-stakeholder engagements such as steering committees, community trusts, and joint benefit-sharing mechanisms had legitimising effects, allowed co-decision-making, and facilitated innovation in business models. The real efficacy of these models is mainly determined by the extent to which adaptive governance

structures are available that coherently promote the balancing of sectoral, community, and policy outcomes.

In Chapter 6, the findings were contextualised into theoretical paradigms that stress the underlying importance of power relations and power structures in determining business model innovation (BMI). The analysis confirms that innovation capacity is less dependent on the market or purely technical considerations than on the prevailing power relations and the institutional forms of governance prevalent in the JET scenario. Centralised hierarchical governance was held to stifle the effect of innovation while restricting inclusion, findings consistent with Ostrom's polycentric model of governance as well as the justice by design model. Although democratised shared governance was critically important to inspire the legitimacy afforded to innovation, substantial reform in South Africa lagged limited reforms due to institutional inertia and fragmented accountability.

The literature review in Chapter 2 supports this reading of the findings by underlining that BMI is rooted in institutional and political conditions rather than in technical or market-based problems. Studies confirm that rigid legacy structures and regulatory fragmentation militate against the less powerful actors and inhibit transformative change. There is thus a widespread call in the literature for polycentric participatory models of governance and justice by design frameworks that can underpin the accountability and sustainability of energy transitions. The theoretical basis for the research supports the empirical findings of this study. It indicates the need then to move away from mere token participatory consideration of subjects in governance to genuine redistribution of power in the governance space towards a just energy transition.

RQ2: How can decision-making be redesigned to overcome systemic barriers to justice, equity, and inclusivity in energy-related business model innovation?

An important result of Research Question 2 is that institutional and regulatory fragmentation is a key barrier to justice-compliant decision-making in South Africa's Just Energy Transition (JET). There is a current failure of policy coherence, of departmental silos, and of the pace of regulatory reform, which all militate against participatory processes. This has led to an indirect incentive for communities that respond to rather than act, and at the same time, the entrenched barriers of inertia limit the processes of sustained and meaningful inclusion. However, this research also showed successful practices: 1. fairness and justice by proactively recruiting locally and supporting suppliers; and 2. processes or frameworks sketched for benefit-sharing and community re-skilling. However, adopting and implementing these practices in the industry seems spotty and reflects the differences in institutional resources, transformational leadership capacity, and inter-departmental co-operation.

The research also showed that although this study provides the ethical prerogative of transparency and actual participatory processes were widely accepted, lagging, though, was the reflexive state of implementation, which was often exercised by leadership and also externally driven incentives. The implications dealt with in Chapter 6 indicate that the decision-making of the BMI in the Just Energy Transition (JET) is still confused by deep-seated cognitive, institutional, and cultural barriers, which bring about an inertia to change.

Thus, this requires equitable and effective change if adaptive and participatory approaches are to be embedded in the processes, such as across sectoral density committees, cognitive diversity training, iterative feedback mechanisms, and sound policy frameworks that institutionalize inclusive practice. Bridging the substantial gap between intent and implementation is thus dependent on the redesigning of these systems and of commitment of leadership which is imperative to liberate a new phase of South Africa's Just Energy Transition.

RQ3: How are South African energy companies innovating to embed just transition principles, and what are the implications for economic sustainability and social equity?

Research Question 3's key findings in Chapter 5 showed that leading energy companies in South Africa are increasingly innovating their business models, considering just transition principles. These companies show this progress in various ways, including community ownership, inclusive procurement processes, robust ESG (environmental, social, and governance) reporting, local hiring, and the development of blended financing models. These activities lie at the intersection of economic growth, environmental custodianship, and social equity.

There was a clear indication of a growing recognition of the all-encompassing approaches needed for transformation in the sector. Nevertheless, implementing such innovations throughout the industry is uneven and incremental. The serious resource and capacity restrictions, the continuing threat of being superficial and transition washing, and a continuing lack of regulatory and financial support all inhibit such change's scale and transformative potential. There is an apparent tension between profitability as a short-term imperative and the long-term commitment needed to achieve real justice and equity. This often leads to a partial or fractured approach in delivering just transformational outcomes. Chapter 6 gives evidence of an incipient but critical move towards "justice embedded" business models, which indicates a move away from proponents of STEM-based ESG compliance and more towards inclusive organisational cultures and transformative business strategies. Those most advanced companies see Justice, procedural, distributive, and recognitional, as embedded in their strategies and procedures. However, the proliferation of such mechanisms is constrained by structural inertia and outstanding points of uncertainty, reaffirming that justice and equity embedded as a business strategy remain an essential consideration for both social license and longevity and survival as commercial entities.

The literature reviewed in Chapter 2 supports these findings. Progressive structural innovation based on justice is the only way to ensure sustainable energy transition (Heffron & McCauley, 2018; Geissdoerfer et al., 2018). True business model innovation requires more than meeting the environmental or technological criteria, all resting on participatory co-design methods, good governance, and clear metrics of justice that go beyond traditional indices. The comparator international case studies quoted in Chapter 2 endorse the hazards of operating with half-hearted reform efforts.

The empirical evidence shows that capable equity at the core of business strategies is the foundation to deliver sustainable and truly inclusive results from just energy transition opportunities (Tyler et al., 2021; UNECA, 2023; McCauley et al., 2019).

7.3. Conclusion of the key findings

The empirical findings and thematic analyses presented in Chapters 5 and 6 address and expand the theoretical discussions and research gap identified in Chapter 2 coherently and robustly. Collectively, these chapters point to the critical fact that the success of South Africa's Just Energy Transition is ultimately founded on three broad catalytic processes, namely: confronting and changing entrenched power relations; developing decision-making processes that incorporate equity and inclusivity; and embedding notions of justice within business model design and operating practices. This research demonstrates the need for such reforms by providing nuanced, contextual evidence. Further, it contributes to the field by documenting the complex realities, obstacles, and drivers to transformative change within the energy sector. This research also substantiates the argument that such profound structural and institutional change is necessary to achieve a transition that is equitable, sustainable, and just.

7.4. Theoretical and scholarly contributions

This research makes several significant contributions to theory and scholarly debate on business model innovation and decision-making within the Just Energy Transition (JET) in South Africa. First, it empirically extends justice-oriented innovation frameworks by validating and refining the role of polycentric governance, participatory mechanisms, and intersectionality as conditions for enabling transformative change in energy systems. Through in-depth, context-rich analysis of stakeholder perspectives, the study demonstrates that democratised, multi-level governance arrangements and co-designed decision platforms enhance business model innovation efforts' legitimacy and practical effectiveness in the energy sector.

Second, the research advances cognitive and institutional theory by showing how entrenched regulatory fragmentation, organisational inertia, and power asymmetries limit the operationalisation of justice and inclusivity. At the same time, adaptive practices such as iterative stakeholder engagement, leadership development, and blended finance emerge as promising levers for reform. In doing so, the study bridges gaps in the literature by highlighting the interplay between behavioural decision models, institutional context, and real-world implementation of JET principles. These contributions offer new conceptual clarity for academics, practitioners, and policymakers seeking to make justice, equity, and sustainability central imperatives within business model innovation, rather than peripheral or procedural concerns.

7.5. Integration of Decision-Making and Innovation Theories

It shows that rational technical and economic logic, political economy, affective values, and networked power dynamics drive business model innovation in energy transitions. This research links descriptive decision-making, shared decision frameworks, and BMI scholarship and renders their contributions relevant to emerging market and justice-biased transitions.

7.6. Contextualisation for South Africa and Similar Economies

By bringing the local context to the forefront, the research builds on Western literature on transitions, highlighting the persistence of old power structures and the possibilities for new justice-oriented innovations in societies marked by historical injustice.

7.7. Justice-Oriented Innovation Model

As a result of this research, a Justice-oriented Business Model Innovation Framework emerges linking distributed governance, participatory decision-making, and circular innovation as mutually reinforcing drivers of just transition. This model provides an actionable tool for actors wishing to make justice and inclusivity the main objectives of transitions, with potential for adaptation in similarly situated contexts.

7.8. Advancement of Justice-Centric Transition Literature

The research fills a gap in the literature concerning the operationalisation of justice at both the organisational and sectoral levels, by demonstrating empirically the significance of procedural and distributive justice in transition innovations.

7.9. Recommendations

Accordingly, the following table outlines the recommended policy and practice actions for the main stakeholder groups, policymakers, businesses, investors, and civil society based on the results. The summary permits focused action and clearly delineates responsibilities in the transitioning landscape of South Africa’s energy future.

Table 4: Recommended policy and practice actions

Stakeholder Group	Key Recommendations
Policymakers & Regulators	• Develop integrated governance frameworks aligning economic, environmental, and social objectives. • Codify participatory stakeholder engagement for all major approvals. • Establish transparent monitoring, evaluation, and adaptive policy mechanisms.
Business Leaders & Corporate Strategists	• Adopt the Justice-Oriented BMI Framework; embed justice, equity, and participation throughout business models. • Use circular and triple-layered tools in investment and operations. • Invest in leadership development for inclusive, ethical governance.
Investors & Development Partners	• Apply just transition criteria and strong ESG frameworks in investment selection. • Provide technical assistance, blended finance, and concessional funding to support marginalised communities and companies.
Civil Society & Communities	• Strengthen advocacy and policy engagement, focusing on trust-building across state and private actors. • Participate proactively in forums to ensure community priorities shape Just Energy

	Transition (JET) projects at all levels.

The table 4 summarises the findings' broader policy and practice suggestions, wherein unlocking the just energy transition in South Africa depends on policy coherence, inclusive stakeholder voice, and adaptive governance. This means incentivising justice-infused business model innovation, institutionalising participatory methodologies, and creating enabling financial and regulatory environments (as discussed in the sections above) to leapfrog legacy restrictions and meet climate and equity goals. The findings thus provide sufficient justification for regulatory changes in South Africa's energy sector since the alignment of policy coherence, meaningful stakeholder voice, and adaptive governance will be the only pathway for the country to overcome historical constraints and achieve climate and equity goals.

The recommendations to realise this end is for corporations to adopt justice-centred business model innovation that is incentivised, formalised and serves as the basis for preferential treatment in public procurement, licences, and subsidies. It is also recommended that the scaling and institutionalisation of participatory methods (resourced as discussed above), such as collaborative planning workshops, social dialogue and community shareholding, in all spheres is a priority for equity-infused practices to become embedded as part of the fabric of the just energy transition.

7.10. Limitations, reflexivity, and research challenges

This research has several significant limitations that should be considered when interpreting the results. As a qualitative (interview-based study, it has successfully obtained rich and contextual information, but it is inherently limited in its ability to generalize because of the small sample size and the subjective nature of qualitative research. Mitigation strategies have been applied, such as reflexivity, triangulation using other documents, and member

checking. However, it is possible that the dual role of the researcher, as both an academic and practitioner, may have influenced aspects of selection and interpretation of themes.

Likewise, the study's cross-sectional nature means that it is impossible to follow longer-term changes or external factors that occurred after the study, between August and October 2025. The research is specific to the South African environment. Though the lessons learnt may be transferable, further empirical validation through comparison between countries is needed to reach conclusions that have universal application. Mixed methods, longitudinal studies, and comparative studies will need to be undertaken in future research to meet these limitations and improve generalisability and the breadth of the evidence for energy transition policy and practice.

7.11. Recommendations for Further Research

Future research in this domain has many dimensions. First, more quantitative or longitudinal studies are required to test and refine the relationships over time and in greater numbers between the various aspects or features of the quality of governance, economic inclusiveness, and innovation performance. Comparative cross-regional analysis of (JET) policies and practices in the developing and developed contexts must be undertaken if there is to be some development of theory and practical lessons learned and transferred across contexts.

There are also many clear opportunities for research that advance understanding of how the development of leadership, the culture of the organisation, and the infrastructure of incentives embedded in an organisation shape the effectiveness of participatory innovation and institutional reform.

Finally, further research about the role of technology needs to examine how the developments of digital systems, decentralised systems, and peer-to-peer systems in

relation to energy enable or hinder just transition outcomes. This would thus provide conclusions about policy and practice in the fast-evolving energy landscapes throughout the globe.

7.12. Reflective final thoughts

South Africa's energy transition faces a crossroads. The challenge is not technical but fundamentally political, moral, and social. This research clarifies that only when power is truly shared, decisions are made in collaboration, and innovation is justice-based can the potential for transformation that the just energy transition promises be realised. The Justice-Oriented Innovation Framework proposed here is not a remedy, but a compass, a flexible guide for actors seeking to build an energy future where sustainability, equity, and wide-based empowerment are not afterthoughts but defining features. Transition is a journey of continual learning, negotiation, and emotional co-creation. For South Africa and countries working through similar complexities, the lessons in this research suggest humility and hope. Humility to recognise the entrenched challenges and hope in the proof that a real, just, and sustainable transformation is possible when the systemic power to create is shared, not concentrated.

7.13. Conclusion

The fundamental findings of this investigation indicate that the current position of the energy transition of South Africa is a watershed moment. The key themes in respect of business model innovation (BMI) and decision making, which are dealt with within this research, indicate that the distilled experience of South Africa in respect of the energy transition reveals conceptual and policy advances, whilst at the same time being vulnerable to entrenched power imbalances, regulatory inertia and the obstacles to the attainment of justice and equity in respect of transition measures. These empirical results substantiate the priority of adaptive governance models, participative paths, and business models working towards justice, revealing that real inclusive transformation is only possible if these

principles are given priority in policy and operational terms. Only through proper recognition of the information and conclusions contained in this study can stakeholders in the energy sector benefit from the journey ahead.

A just transition requires policy alignment, enabled participative structures, and metrics of justice and equity, which are much more than mere participative compliance. Sustainable transition will come about not through technological or market prescriptions but through deep commitment on the part of stakeholders regarding institutional change and leadership programs, and by ensuring that principles of equity and inclusivity are introduced at all levels. For South Africa and other countries similarly affected by transitions, the future lies in constant learning, sharing of power, and focusing purposefully on justice as an end and as a standard for energy transition.

REFERENCES

Agbaitoro, G. A. (2025). Just Energy Transition in Africa: Towards Social Inclusion and Environmental Rights-Based Imperatives. *Business and Human Rights Journal, 10*(1), 146-158.

Akrofi, M. M. (2024). Characterizing 'injustices' in clean energy transitions in Africa. *Renewable and Sustainable Energy Reviews, 181*, 113249.

Aspers, P., & Corte, U. (2019). What is qualitative in qualitative research? Qualitative Sociology, 42, 139–160. https://doi.org/10.1007/s11133-019-9413-7

Baasch, S., García-García, M., & Geissdoerfer, M. (2023). System inertia and innovation bottlenecks in the just energy transition. *Energy Policy Journal, 169*, 113283.

Baden-Fuller, C., & Haefliger, S. (2021). Business models and technological innovation. *Long Range Planning, 54*(4), 102083.

Baker, L., Newell, P., Phillips, J., & Power, M. (2022). South Africa's renewable energy procurement: A justified transition? Energy Policy, 158, 112553.

Bell, E., Bryman, A., & Harley, B. (2023). *Business research methods* (6th ed.). Oxford University Press.

Bell, S., et al. (2023). Pluralizing energy justice: Incorporating feminist, anti-racist, and decolonial perspectives. Energy Research & Social Science, 98, 103030.

Bocken, N. M. P., Short, S. W., Rana, P., & Evans, S. (2019). A literature and practice review to develop sustainable business model archetypes. Journal of Cleaner Production, 65, 42-56. https://doi.org/10.1016/j.jclepro.2013.11.039

Bomhof-Roordink, H., Gärtner, F. R., Stiggelbout, A. M., & Pieterse, A. H. (2019). Key components of shared decision-making models: A systematic review. *BMJ Open, 9*(12), e031763.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Casadesus-Masanell, R., & Zhu, F. (2022). Business model innovation for sustainability. *MIT Sloan Management Review, 63*(2), 76–84.

Climate Commission. (2022). Just Transition Framework. Presidential Climate Commission.

Climate XChange. (2024). *Overcoming barriers to the clean energy transition*. Retrieved from https://climate-xchange.org

Creswell, J. W., & Poth, C. N. (2018). Qualitative inquiry and research design: Choosing among five approaches (4th ed.). SAGE Publications. https://us.sagepub.com/en-us/nam/qualitative-inquiry-and-research-design/book246896

Elia Grid International. (2023). *Renewable grid integration in emerging economies*. Brussels: EGI.

Elia Grid International. (2023). *Grid integration challenges for renewables in emerging markets: South Africa case study*.

Eskom. (2024). *Integrated resource plan progress report*. Johannesburg: Eskom Holdings.

Eskom. (2024). *Eskom annual integrated report 2024*. https://www.eskom.co.za/IR2024

Eskom. (2024). *Just Energy Transition (JET) Office: Progress and Plans.* Eskom Holdings SOC Ltd. https://www.eskom.co.za/about-eskom/just-energy-transition-jet/

Flick, U. (2022). *An introduction to qualitative research* (7th ed.). Sage Publications.

Freeman, R. E., Harrison, J. S., Wicks, A. C., Parmar, B. L., & De Colle, S. (2020). *Stakeholder theory: The state of the art*. Cambridge University Press.

García-García, G., Geissdoerfer, M., & Boons, F. (2020). Barriers and enablers for business model innovation for sustainability: A practice-based approach. *Journal of Cleaner Production, 255*, 120046.

García-García, M., Pieroni, M., & Geissdoerfer, M. (2020). Innovation pathways for sustainable transitions. *Journal of Cleaner Production, 258*, 120689.

García-García, P., Carpintero, Ó., & Buendía, L. (2020). Just energy transitions to low-carbon economies: A review of the concept and its effects on labour and income. *Energy Research & Social Science, 70*, 101664. https://doi.org/10.1016/j.erss.2020.101664

Geissdoerfer, M., Vladimirova, D., & Evans, S. (2018). Sustainable business model innovation: A review. *Journal of Cleaner Production, 198*, 401–416. https://doi.org/10.1016/j.jclepro.2018.06.240

Gill, M. J. (2020). Phenomenological approaches to business and management research. The SAGE Handbook of Qualitative Business and Management Research Methods. Sage.

Gill, M. J. (2020). The possibilities of phenomenology. Qualitative Research in Organisations and Management: An International Journal, 15(3), 301–316.

Hall, S., Workman, M., Hardy, J., & Smith, A. (2022). Doing business model innovation for sustainability transitions: Bringing strategic foresight and human-centred design. *Energy Research & Social Science, 90*, Article 102685. https://doi.org/10.1016/j.erss.2022.102685

Hennink, M., Kaiser, B. N., & Marconi, V. C. (2020). Code saturation versus meaning saturation: How many interviews are enough? *Qualitative Health Research, 30*(3), 591–608.

Huang, W. J., et al. (2023). A review and analysis of the business model innovation literature in the energy sector. *Sustainability, 15*(13), 1034476.

IDDRI. (2022). Just energy transitions and partnerships in Africa. https://www.iddri.org/sites/default/files/PDF/Publications/Catalogue Iddri/Rapport/202211-Ukama-JETPs-ZAF.pdf

International Labour Organisation. (2015). Guidelines for a just transition towards environmentally sustainable economies and societies for all. https://www.ilo.org/global/topics/green-jobs/publications/WCMS_432859/lang--en/index.htm

International Labour Organisation. (2022). *Guidelines for transitioning towards environmentally sustainable economies and societies for all* (2nd ed.). International Labour Office.

International Renewable Energy Agency (IRENA). (2022). *World Energy Transitions Outlook 2022*. https://www.irena.org/Digital-Report/World-Energy-Transitions-Outlook-2022

Jacobs, F. (2024). Just energy transitions. *Geography Compass, 18*(2), e12541.

Jenkins, K., Sovacool, B. K., Birkebaek, P., & Martiskainen, M. (2021). The politics of justice in energy transitions: An introduction to the special issue. *Energy Research & Social Science, 79*, 102238.

Just Energy Transition. (2025). *Just Energy Transition: Driving South Africa's Low-Carbon Future*. https://justenergytransition.co.za

Kilimcioğlu, B. (2025). Procedural Justice and Due Process Principle in the Context of Just Energy Transition: Learning from South Africa. *Business and Human Rights Journal, 10*(1), 120-145.

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. SAGE.

Lonergan, K. E., et al. (2023). Energy systems modelling for just transitions. *Energy Policy, 176*, 113840.

Lu, S., Zhang, Y., Li, Y., & Guo, H. (2022). Research on digital business model innovation based on emotion regulation theory. *Frontiers in Psychology, 13*, 842076. https://doi.org/10.3389/fpsyg.2022.842076

Machaka, M. (2024). Business model innovation for just energy transitions in emerging economies. [Unpublished manuscript].

Meridian Economics. (2022). *Just energy transitions and partnerships in Africa: A South African case study*. https://meridianeconomics.co.za

Mihailova, D., Rezaeian, M., & Hiteva, R. (2022). Preferences for configurations of Positive Energy Districts. *Energy Policy*, 163, 112824. https://doi.org/10.1016/j.enpol.2022.112824

Mihailova, D., Rezaeian, M., Hiteva, R., & Nelson, M. (2023). Redefining business models for the energy transition: Social and sustainability innovations. *Energy Research & Social Science, 99*, Article 103230.

Mishra, P., Pandey, C. M., Singh, U., Gupta, A., Sahu, C., & Keshri, A. (2021). Descriptive statistics and normality tests for statistical data. *Annals of Cardiac Anaesthesia, 24*(1), 61–65.

Mishra, R., Singh, R. K., & Koles, B. (2021). Consumer decision-making in omnichannel retailing: Literature review and future research agenda. *International Journal of Consumer Studies, 45*(2), 147–174.

Mohajan, H. K. (2020). Qualitative research methodology in social sciences and related subjects. Journal of Economic Development, Environment and People, 9(1), 47-70.

Morelli, M., Casagrande, M., & Forte, G. (2021). Decision making: A theoretical review. *Integrative Psychological and Behavioral Science, 55*(4), 847–867. https://doi.org/10.1007/s12124-021-09669-x

Morelli, M., Chou, C., & Liao, S. (2022). Complexity in decision-making: Integrating emotional, social, and cognitive influences. *Journal of Behavioral Decision Making, 35*(2), 199–215.

Morelli, M., Testa, S., & Micheli, G. J. L. (2021). Business Model Innovation and emotions: insights from the energy sector. *Technovation, 105*, 102250.

Moustakas, C. (1994). *Phenomenological research methods.* Sage Publications.

Musavengane, R. (2021). Small towns and sustainable energy transitions in South Africa: A justice and vulnerability framework. *Energy Research & Social Science, 80*, 102243.

Newell, P., & Mulvaney, D. (2013). The political economy of the 'just transition'. *Review of International Political Economy*, 20(4), 1-30.

Newell, P., Daley, F., & Twena, M. (2021). Scaling clean energy transitions through business model innovation. *Nature Energy, 6*(8), 792–801. Nguyen, T., Stewart, J., & Jones, M. (2023).

Nowell, L. S., Norris, J. M., White, D. E., & Moules, N. J. (2017). Thematic analysis: Striving to meet the trustworthiness criteria. *International Journal of Qualitative Methods, 16*(1), 1–13.

Nurulin, Y. R. (2023). Innovation management models in the energy sector: Socio-technical regimes and stakeholder networks. *International Journal of Technology, 14*(6), 1202-1215. https://doi.org/10.14716/ijtech.v14i6.6846

OECD. (2020). *Managing environmental and energy transitions for regions and cities*. OECD Publishing.

Olawuyi, D. (2025). Beyond Just Transition: Advancing Responsible and Rights-Based Business Practices in the Energy and Extractives Sector. *Business and Human Rights Journal, 10*(1), 1-10.

Oskam, I. (2021). Business model innovation for sustainability: The role of stakeholder influence on managerial cognition. In C. L. Voinea, N. Roijakkers, & W. Ooms (Eds.), *Sustainable Innovation: Strategy, Process, and Impact* (pp. 19-36). Routledge.

Parida, V., Sjödin, D., & Reim, W. (2019). Reviewing literature on digitalization, business model innovation, and sustainable industry: Past achievements and future promises. *Sustainability, 11*(2), 391. https://doi.org/10.3390/su11020391

Patel, Z., & Simatele, D. (2020). Energy justice and urban transitions in sub-Saharan Africa: The role of the local state. *Energy Research & Social Science, 70*, 101712.

Patrick, S. M. (2025). Just energy transition from coal in South Africa: A scoping review. *Environmental Science & Policy, 137*, 55-66.

Pieroni, M. P., McAloone, T. C., & Pigosso, D. C. (2019). Sustainability-oriented business model innovation: State of the art and future perspectives. *Journal of Cleaner Production, 215*, 198–216.

Pieroni, M., et al. (2019). Circular economy business models: A process pattern perspective. *Journal of Cleaner Production, 233*, 237-247.

Presidential Climate Commission. (2023). *Just Energy Transition Investment Plan Review*. Pretoria: Government of South Africa.

Presidential Climate Commission. (2023). *South Africa's Just Energy Transition Investment Plan (JET IP) progress report 2023*. [Insert URL if available]

Presidential Climate Commission. (2024). *Just Energy Transition Implementation Plan (JET IP) quarterly progress report*.

RACE for 2030. (2022). *Business models and energy transition*. https://racefor2030.com.au/content/uploads/21.N4.F.0151_Final-report-09122022.pdf

Radtke, J. (2025). Understanding the complexity of governing energy transitions. *Environmental Policy and Governance, 35*(2), 145–160.

Ramdani, B., Binsaif, A., & Boukrami, E. (2019). Business model innovation: A review and research agenda. *New England Journal of Entrepreneurship, 22*(2), 89–108. https://doi.org/10.1108/NEJE-06-2019-0030

Ramdani, B., Boughzala, I., & Boukef, M. (2019). Understanding the role of individual and organisational factors in business model innovation. *Technological Forecasting and Social Change, 146*, 657–667.

Rennkamp, B., & Stojilovska, A. (2022). Energy justice and the role of incumbents in South Africa's transition. *Energy Research & Social Science, 84*, 102400.

Rennkamp, B., Bhuyan, R., & Westin, F. (2022). Policy pathways for the just energy transition in South Africa: Lessons from the mineral-energy complex. *Energy Research & Social Science, 90*, 102581. https://doi.org/10.1016/j.erss.2022.102581

Rennkamp, B., Boyd, A., & Torres Gunfaus, M. (2022). Policy coherence for sustainable development in energy transitions. *Sustainability Science, 17*(3), 1013–1026.

Rubino, A., Magazzino, C., Capozza, I., et al. (2021). New energy downstream. Emerging business models and innovative best practices: an economic, institutional, and behavioral focus. *International Journal of Sustainable Energy Planning and Management, Special Issue*, 15567249. https://doi.org/10.1080/15567249.2021.2018647

Sahu, A. K., Padhy, R. K., & Dhir, A. (2020). Envisioning the future of behavioral decision-making: A systematic literature review of behavioral reasoning theory. *Australasian Marketing Journal, 28*(2), 145–159.

Saunders, M., & Lewis, P. (2018). *Research methods for business students* (8th ed.). Pearson.

Scott, W. R. (2019). *Institutions and organisations: Ideas, interests, and identities* (5th ed.). SAGE.

SEI (Stockholm Environment Institute). (2024). *Implementing just transitions: Takeaways from South Africa*. https://www.sei.org/publications/just-transitions-south-africa/

SEI. (2024). *Just transitions and global equity pathways: Policy synthesis report*. Stockholm Environment Institute.

Shakeel, J., Mardani, A., Chofreh, A. G., Goni, F. A., & Klemeš, J. J. (2020). Anatomy of sustainable business model innovation. *Journal of Cleaner Production, 261*, 121201. https://doi.org/10.1016/j.jclepro.2020.121201

Sinergie. (2022). Business model for sustainability to tackle an energy transition initiative: Motivations and antecedents. *Sinergie Italian Journal of Management, 40*(117), 123–142.

Smith, J. A., Flowers, P., & Larkin, M. (2022). *Interpretative phenomenological analysis: Theory, method and research.* Sage Publications.

Spieth, P., Breitenmoser, P., & Röth, T. (2025). Business model innovation: Integrative review, framework, and agenda for future innovation management research. *Journal of Product Innovation Management, 42*(2), 234-247. https://onlinelibrary.wiley.com/doi/10.1111/jpim.12704

Spieth, P., Breitenmoser, P., & Röth, T. (2025). Business model innovation: Integrative review, framework, and agenda for future innovation management research. *Journal of Product Innovation Management, 42*(2), 234-247. https://doi.org/10.1111/jpim.12704

Stockholm Environment Institute (SEI). (2024). Advancing a just energy transition: Global South perspectives. SEI Policy Brief.

Stojilovska, A., & Markova, G. (2023). Just Energy Transition: Beyond the Low-Carbon Rhetoric. *Energy Policy, 178*, 113940. https://doi.org/10.1016/j.enpol.2023.113940

Swilling, M., Musango, J., & Wakeford, J. (2015). Developmental states and sustainability transitions: Prospects of a just transition in South Africa. *Journal of Environmental Policy & Planning*, 17(5), 1-23.

Taghipour, P. (2025). A new policy model for renewable energy development. *International Journal of Applied Research in Social Science, 6*(5), 45–67.

Teece, D. J. (2010). Business models, business strategy, and innovation. *Long Range Planning, 43*(2–3), 172–194. https://doi.org/10.1016/j.lrp.2009.07.003

The Presidency. (2024). *Just Energy Transition Implementation Plan: Quarterly progress report (Sept 2024)*. https://jetfundingplatform.org.za/

Upham, P., Eberhardt, L., & Klapper, R. G. (2020). Rethinking the meaning of “landscape shocks” in energy transitions: German social representations of the Fukushima nuclear accident. *Energy Research & Social Science*, *69*, 101710. https://doi.org/10.1016/j.erss.2020.101710

Vaska, S., Massaro, M., Bagarotto, E. M., & Dal Mas, F. (2021). The digital transformation of business model innovation: A structured literature review. *Frontiers in Psychology, 11*, Article 539363. https://doi.org/10.3389/fpsyg.2020.539363

Wang, B., & Lo, K. (2021). Energy transitions in emerging economies. *Renewable and Sustainable Energy Reviews, 145*, 111054.

Wang, X., & Lo, K. (2021). Just transition: A conceptual review. *Energy Research & Social Science, 82*, 102291. https://doi.org/10.1016/j.erss.2021.102291

Weaver, M. (2025). Systems thinking for sustainability: shifting to a higher level in business model innovation. *International Journal of Technology Intelligence and Planning, 9*(1), 34-50. https://doi.org/10.1080/01605682.2025.2486698

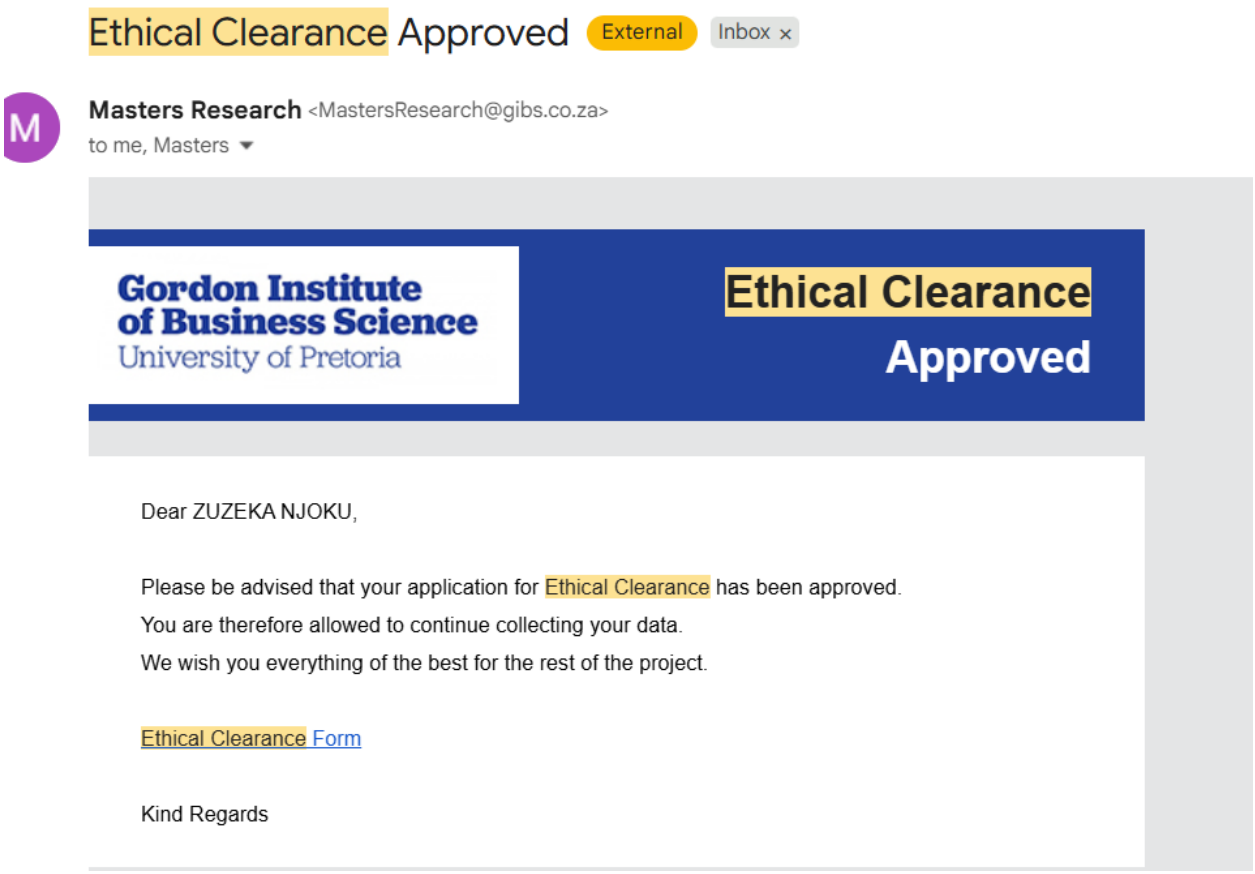
World Economic Forum. (2025). *Energy transition best practice: Learnings from the ETI 2025*. Geneva: WEF.

World Journal of Advanced Engineering Technology and Sciences. (2024). Renewable energy expansion: Legal strategies for overcoming regulatory barriers and promoting innovation. *12*(1), 168–186.

Zahid, H., et al. (2025). Global renewable energy transition: A multidisciplinary review of policies, best practices and regional strategies. *Energy Reports, 11*, 3283-3302. https://doi.org/10.1016/j.egyr.2024.12.135

APPENDICES

Appendix 1: Ethical Clearance



Ethical Clearance Approved External Inbox ×

M **Masters Research** <MastersResearch@gibs.co.za>
to me, Masters

Gordon Institute of Business Science
University of Pretoria

Ethical Clearance Approved

Dear ZUZEKA NJOKU,

Please be advised that your application for Ethical Clearance has been approved.
You are therefore allowed to continue collecting your data.
We wish you everything of the best for the rest of the project.

Ethical Clearance Form

Kind Regards

Appendix 2: Letter of Informed Consent

Gordon Institute of Business Science
University of Pretoria

INFORMED CONSENT LETTER FOR INTERVIEWS

I am a student at the University of Pretoria's Gordon Institute of Business Science, where I am completing my research in partial fulfilment of an MBA.

I am researching Business model innovation and decision-making in the context of Just Energy Transition and am trying to find out more about how decision-makers in South Africa's energy sector engage with business model innovation (BMI) in the context of the Just Energy Transition (JET). The objective is to gain insights into the lived experiences, strategic responses, and ethical considerations informing decision-making in a transitioning energy landscape.

Our interview is expected to last about an hour and will help us understand how decision makers perceive the just energy transition, and the challenges and opportunities associated with the innovations or barriers to aligning with JET principles. ***Your participation is voluntary, and you can withdraw at any time without penalty****.* ***With your permission, the interview will be audio recorded*** *to ensure accuracy of data. You will be asked questions about your experiences with strategic decisions, innovation processes, and stakeholder engagement related to JET.* ***All data will be reported without identifiers****. If you have any concerns, please contact my supervisor or me. Our details are provided below.*

Researcher name: ***Zuzeka Njoku*** *Research Supervisor Name:* ***Dr Ngwako Sefoko***

Email: 23991683@mygibs.co.za *Email: nsefoko@gmail.com*

Phone: 0736911093 *Phone: 072 368 4415*

Signature of participant: _____

Date: _____

Signature of researcher: Z Njoku

Date: 28 July 2025

Appendix 3: Interview Guide

Gordon Institute of Business Science
University of Pretoria

INTERVIEW GUIDE

Research Topic: Business Model Innovation and Decision-Making in the Context of Just Energy Transition

Section 1: Strategic Response and Business Model Evolution

1. How has your organisation's business model evolved in response to the Just Energy Transition (JET) and broader sustainability goals?
2. Can you describe any specific shifts in strategy, operations, or value creation due to this transition?
3. What challenges has your organisation faced in adapting its business model to be more inclusive, equitable, or environmentally responsible?
4. How have you or your organisation responded to these challenges? Are there any innovations or initiatives you can share that reflect this?
5. In what ways has the socio-political or regulatory context in South Africa shaped your strategic or business model choices?
6. Looking ahead, what are the long-term economic and social impacts of your organisation's current transition strategies?

Section 2: Ethics, Equity, and Trade-Offs in Decision-Making

1. What ethical or moral considerations guide your organisation's approach to business model innovation?

2. How do you or your leadership team make trade-off decisions when economic objectives appear to conflict with social or environmental priorities?
3. Can you recall a moment where a difficult decision had to be made involving competing priorities (e.g., community needs vs. cost efficiency)? What influenced the outcome?
4. In your view, what does a “just” or “equitable” business model look like in practice, especially within the energy sector?
5. How are principles of fairness, justice, or inclusivity embedded in the decision-making processes within your organisation?
6. What systemic or institutional barriers (e.g., fragmented regulation, short-term profit pressures, organisational inertia) have you encountered when trying to embed justice and inclusivity into your business model innovation?
7. What decision-making frameworks or approaches (e.g., collaborative, top-down, cognitive-affective) are most effective for achieving fair and inclusive outcomes?

Section 3: Stakeholder engagement and power dynamics

1. Who are the key stakeholders in your organisation’s Just Energy Transition journey? Why are they important?
2. How are these stakeholders shaping or influencing business model innovation? Can you share a specific instance where stakeholder input led to a meaningful shift?
3. How does your organisation ensure that historically marginalised or underrepresented voices, such as communities, civil society, or regulators, are included in decision-making?
4. Have you encountered power imbalances among stakeholders in your decision-making processes? How are such imbalances acknowledged and addressed?
5. What mechanisms or practices does your organisation use to build trust and maintain accountability with external stakeholders during the innovation process?

6. How do governance arrangements or regulatory structures enable or constrain your organisation’s ability to innovate for a just energy transition?

Appendix 4: Consistency Matrix

Consistency Matrix: Business Model Innovation and Decision Making in the Context of Just Energy Transition

Research Questions (RQ)	Literature Review	Data Collection tool	Analysis
RQ1: How do stakeholder power dynamics and governance arrangements shape business model innovation in South Africa's just energy transition?	Pieroni et al., 2019; García-García et al., 2020; Stojilovska & Markova, 2023; Morelli et al., 2021; JET IP, 2024	Semi-structured interviews. Section 3 questions in the interview guide	Thematic analysis
RQ2: How can decision-making be redesigned to overcome systemic barriers to justice, equity, and inclusivity in energy-related business model innovation?	Stojilovska & Markova, 2023; Ramdani et al., 2019; Shakeel et al., 2020; Morelli et al., 2021; JET IP, 2024	Semi-structured interviews. Section 2 questions in the interview guide	Thematic analysis
RQ3: How are South African energy companies innovating to embed just transition principles, and what are the economic sustainability and social equity implications?	Geissdoerfer et al., 2018; Wang & Lo, 2021; ILO, 2022; Morelli et al., 2021; JET IP, 2024	Semi-structured interviews. Section 1 questions in the interview guide	Thematic analysis

Appendix 5: Codebook

Codebook

Compliance Planning: Legal Compliance

Compliance Planning: Planning and preparation

Compliance Planning: Proactive planning

RQ1_Stakeholder_Power_Dynamics: Business Opportunities

RQ1_Stakeholder_Power_Dynamics: Business Success

RQ1_Stakeholder_Power_Dynamics: Carbon Pricing

RQ1_Stakeholder_Power_Dynamics: Community Acceptance

RQ1_Stakeholder_Power_Dynamics: Community Inclusion

RQ1_Stakeholder_Power_Dynamics: Community Relations

RQ1_Stakeholder_Power_Dynamics: Credibility

RQ1_Stakeholder_Power_Dynamics: Customers

RQ1_Stakeholder_Power_Dynamics: Decarbonisation

RQ1_Stakeholder_Power_Dynamics: Entrenched Interests

RQ1_Stakeholder_Power_Dynamics: Funding Access

RQ1_Stakeholder_Power_Dynamics: Impracticality

RQ1_Stakeholder_Power_Dynamics: Innovation Adaptation

RQ1_Stakeholder_Power_Dynamics: Innovation Process

RQ1_Stakeholder_Power_Dynamics: Integration

RQ1_Stakeholder_Power_Dynamics: Investment Alignment

RQ1_Stakeholder_Power_Dynamics: Key Stakeholders

RQ1_Stakeholder_Power_Dynamics: Lenders' Influence

RQ1_Stakeholder_Power_Dynamics: Local Employment

RQ1_Stakeholder_Power_Dynamics: Local Priorities

RQ1_Stakeholder_Power_Dynamics: Monopoly

RQ1_Stakeholder_Power_Dynamics: Operational Changes

RQ1_Stakeholder_Power_Dynamics: Parent Companies

RQ1_Stakeholder_Power_Dynamics: Parent Company Success

RQ1_Stakeholder_Power_Dynamics: Policy Incentives

RQ1_Stakeholder_Power_Dynamics: Power Imbalances

RQ1_Stakeholder_Power_Dynamics: Private Sector Challenges

RQ1_Stakeholder_Power_Dynamics: Product Innovation

RQ1_Stakeholder_Power_Dynamics: Project Participation

RQ1_Stakeholder_Power_Dynamics: Project Progress

RQ1_Stakeholder_Power_Dynamics: Regulatory Conflicts

RQ1_Stakeholder_Power_Dynamics: Regulatory Influence

RQ1_Stakeholder_Power_Dynamics: Regulatory Pressure

RQ1_Stakeholder_Power_Dynamics: Renewables

RQ1_Stakeholder_Power_Dynamics: Reputation Management

RQ1_Stakeholder_Power_Dynamics: Role of Funders

RQ1_Stakeholder_Power_Dynamics: Socio-political Context

RQ1_Stakeholder_Power_Dynamics: Socio-political Influence

RQ1_Stakeholder_Power_Dynamics: Stakeholder Dynamics

RQ1_Stakeholder_Power_Dynamics: Stakeholder Needs

RQ1_Stakeholder_Power_Dynamics: Stakeholder Support

RQ1_Stakeholder_Power_Dynamics: Strategy Shifts

RQ1_Stakeholder_Power_Dynamics: Supplier Influence

RQ1_Stakeholder_Power_Dynamics: Suppliers

RQ1_Stakeholder_Power_Dynamics: Sustainability Shift

RQ1_Stakeholder_Power_Dynamics: Sustained Benefits

RQ1_Stakeholder_Power_Dynamics: Utilities

RQ2_Equity_Integration: Community Inclusion

RQ2_Equity_Integration: Community Priorities

RQ2_Equity_Integration: Corporate Social Investment

RQ2_Equity_Integration: Equitable Engagement

RQ2_Equity_Integration: Funding Mechanisms

RQ2_Equity_Integration: Investment Alignment

RQ2_Equity_Integration: Local Employment

RQ2_Equity_Integration: Socioeconomic Equity

RQ2_Equity_Integration: Stakeholder Access

RQ2_Equity_Integration: Stakeholder Inclusion

RQ2_Equity_Integration: Supplier Development

RQ2_Governance_Structures: Certifications

RQ2_Governance_Structures: Compliance Challenges

RQ2_Governance_Structures: Decision Gates

RQ2_Governance_Structures: Departmental Understanding

RQ2_Governance_Structures: Diverse Team

RQ2_Governance_Structures: Financial Incentives

RQ2_Governance_Structures: Fragmentation

RQ2_Governance_Structures: Funding Allocation

RQ2_Governance_Structures: Governance Influence

RQ2_Governance_Structures: Governance Mechanisms

RQ2_Governance_Structures: Government Engagement

RQ2_Governance_Structures: Government Levels

RQ2_Governance_Structures: Historic Policies

RQ2_Governance_Structures: Innovation Enablement

RQ2_Governance_Structures: Internal Conflict

RQ2_Governance_Structures: IRP

RQ2_Governance_Structures: Ministerial Guidelines

RQ2_Governance_Structures: Permitting Delays

RQ2_Governance_Structures: Proposal Review

RQ2_Governance_Structures: Public Consultations

RQ2_Governance_Structures: Regulatory Constraints

RQ2_Governance_Structures: Regulatory Direction

RQ2_Justice_Strategies: Community Consultation

RQ2_Justice_Strategies: Community Inclusion

RQ2_Justice_Strategies: Community Needs Assessments

RQ2_Justice_Strategies: Community Rehabilitation

RQ2_Justice_Strategies: Community Trusts

RQ2_Justice_Strategies: Corporate Social Investment

RQ2_Justice_Strategies: Economic Upliftment

RQ2_Justice_Strategies: Energy Access

RQ2_Justice_Strategies: Equitable Access

RQ2_Justice_Strategies: Equitable Benefits

RQ2_Justice_Strategies: ESG Framework

RQ2_Justice_Strategies: ESG Reporting

RQ2_Justice_Strategies: Ethical Manufacturing

RQ2_Justice_Strategies: Fair Employment

RQ2_Justice_Strategies: Fund Allocation

RQ2_Justice_Strategies: Gender Equity

RQ2_Justice_Strategies: Inclusive Hiring

RQ2_Justice_Strategies: Justice Principles

RQ2_Justice_Strategies: Livelihoods

RQ2_Justice_Strategies: Local Benefits

RQ2_Justice_Strategies: Long-term Jobs

RQ2_Justice_Strategies: Long-term Support

RQ2_Justice_Strategies: Low-Carbon Future

RQ2_Justice_Strategies: Public Consultations

RQ2_Justice_Strategies: Redeployment

RQ2_Justice_Strategies: Resource Distribution

RQ2_Justice_Strategies: Resource Independence

RQ2_Justice_Strategies: Social Dimensions

RQ2_Justice_Strategies: Stakeholder Prioritization

RQ2_Justice_Strategies: Supplier Development

RQ2_Justice_Strategies: Supplier Exclusion

RQ2_Justice_Strategies: Sustainable Practices

RQ2_Justice_Strategies: Systemic Barriers

RQ2_DecisionMaking_Processes: Business Decisions

RQ2_DecisionMaking_Processes: Business Model Adaptation

RQ2_DecisionMaking_Processes: Business Model Change

RQ2_DecisionMaking_Processes: Business Strategies

RQ2_DecisionMaking_Processes: Carbon Intensity

RQ2_DecisionMaking_Processes: Community Consultation

RQ2_DecisionMaking_Processes: Community Feedback

RQ2_DecisionMaking_Processes: Contextual Influence

RQ2_DecisionMaking_Processes: Cost Adaptation

RQ2_DecisionMaking_Processes: Decision Prioritization

RQ2_DecisionMaking_Processes: Decision-making Impact

RQ2_DecisionMaking_Processes: Decision-Making Impact (2)

RQ2_DecisionMaking_Processes: Funding Influence

RQ2_DecisionMaking_Processes: Impact on Innovation

RQ2_DecisionMaking_Processes: Inclusive Innovation

RQ2_DecisionMaking_Processes: Innovation Facilitation

RQ2_DecisionMaking_Processes: Innovation Impact

RQ2_DecisionMaking_Processes: Innovation Necessity

RQ2_DecisionMaking_Processes: Innovation Support

RQ2_DecisionMaking_Processes: Investment Relevance

RQ2_DecisionMaking_Processes: IRP Updates

RQ2_DecisionMaking_Processes: Job Perception

RQ2_DecisionMaking_Processes: Local Knowledge

RQ2_DecisionMaking_Processes: Market Demand

RQ2_DecisionMaking_Processes: Multi-Perspective

RQ2_DecisionMaking_Processes: Outcome Influence

RQ2_DecisionMaking_Processes: Prioritization

RQ2_DecisionMaking_Processes: Product Development

RQ2_DecisionMaking_Processes: Product Innovation

RQ2_DecisionMaking_Processes: Profit

RQ2_DecisionMaking_Processes: Project Acceptance

RQ2_DecisionMaking_Processes: Project Evaluations

RQ2_DecisionMaking_Processes: Project Selection

RQ2_DecisionMaking_Processes: Project Viability

RQ2_DecisionMaking_Processes: Public Expectations

RQ2_DecisionMaking_Processes: Regulatory Response

RQ2_DecisionMaking_Processes: Reputational Risk

RQ2_DecisionMaking_Processes: Strategy Changes

RQ3_DecisionMaking_Processes: Sustainability Integration

RQ2_DecisionMaking_Processes: Timeliness

RQ2_DecisionMaking_Processes: Validation

RQ3_Sustainability_Principles: Community Inclusion

RQ3_Sustainability_Principles: Environmental Initiatives

RQ3_Sustainability_Principles: Green Funding

RQ3_Sustainability_Principles: Sustainability Practices

RQ3_Sustainability_Principles: Sustainable Investments

RQ3_Sustainable_Practices