

UNDERSTANDING AND
PLANNING FOR LOCAL
INSTITUTIONAL CAPACITY
AND CAPABILITY FOR
MPUMALANGA'S JUST
TRANSITION

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Authors

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PART 1: OVERVIEW

1. INTRODUCTION, CONTEXT, AND APPROACH

This project considers how the entire system of actors and institutions is geared to steer Mpumalanga through the 'just transition'. The project draws insights from the interdisciplinary fields of complex systems-based literature, transitions literature, social innovation, resilience, adaptive governance, and the capabilities approach to development (Folke et al., 2005; Westley et al., 2011; Moore et al., 2014; Simonsen et al., 2014; Dias and Partidário, 2019; Mazzucato, Qobo and Kattel, 2021). Drawing on resilience literature, it is possible, even within these conditions of high complexity, high uncertainty, and constrained agency, to undertake a systematic approach to understanding the conditions for positive change and transformation and identify levers (actors, institutions, projects, programmes, etc.) for change, and entry points for action – what can be called the “opportunity context” (Schultz et al., 2013).

We make a key distinction between institutional capacity for transition and capability for transition:

We define 'institutional capacity' as the available resources, infrastructure, appropriately skilled and experienced personnel, and systems necessary to realise a function.

On the other hand, by 'institutional capability', we refer to an institution's ability to effectively utilise its capacity to appropriately formulate and achieve its goals and objectives. 'Capability' requires that institutional functions can be adapted to internal and external changes – and an evolving landscape of

1.1 The broad context for Mpumalanga's transition

Global society is in the process of a major energy transition; a durable, profound, structural transformation that is changing how energy is generated, consumed, and governed (Hauff et al., 2014; IRENA, 2018) This transition is, in large part, a response to and shaped by the planetary-scale climate crisis. In South Africa, the energy transition entails three interrelated but discrete socio-technical processes of transformation: 1) the decline of coal-based energy generation and use, 2) the expansion of renewable energy generation and use, and 3) a regional and country-wide economic reconfiguration responding to changes in primary and secondary value chains. Together, these processes reshape the landscape of risks and opportunities for national, provincial, and local (metropolitan, district, and local) governments, governance systems, and the broader network of actors working to achieve sustainable human and economic development.

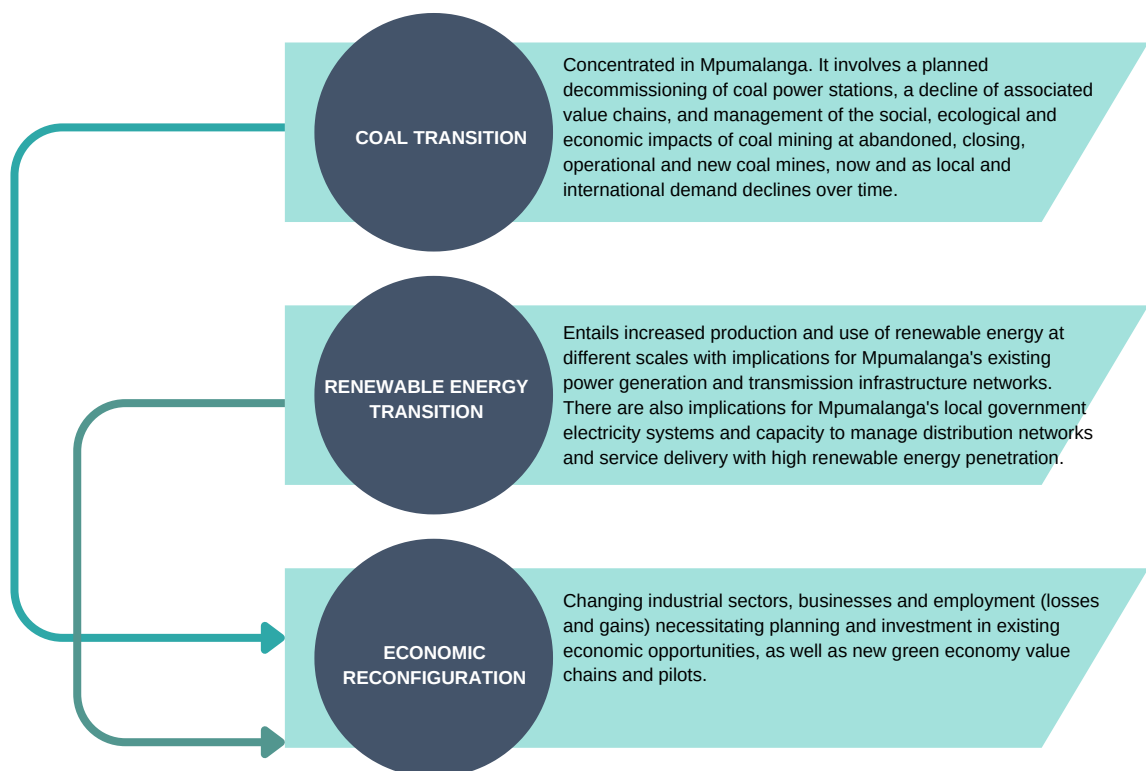


Figure 1: Interrelated energy transition processes

The scope of South Africa's transition has continually been challenged to go beyond energy to look at other industrial sectors and the economy, broadly, as it works toward net-zero climate policy goals. A just low-carbon or net-zero transition requires a major transformation of South Africa's economy and, urgently, the energy system that powers it. The starting conditions for the transition are enormously challenging, encompassing the oft-cited and enduring triple burden of poverty, inequality, and unemployment. These conditions also entail a devastating electricity crisis, worsening all three dynamics, for which the Minister of Cooperative Governance and Traditional Affairs, Ms Thembisile Nkadimeng, briefly declared a National State of Disaster during April 2023. As South Africa transitions, it must navigate multiple complex processes that shift the context for the already challenging realisation of the United Nations' Sustainable Development Goals (SDGs). These starting conditions, together with the diverse constellation of guiding policy documents and contested political visions among stakeholders, shape the country's particular just transition pathways for a national low-carbon transition, with related emergent uncertainties, risks, and opportunities (Presidential Climate Commission, 2022).

Since 2019, the list of stakeholders as well as key government and governance actors has increased substantially, as have the issues gathered under the 'just transition' policy, research, and advocacy umbrella. South Africa has been positioned as a precedent-setting case of such a transition for developing country contexts, and has attracted interest and initial investments responding to its transition-funding requirements. Attention has been drawn to these flows following the announcement of a USD8.5 billion multilateral transition funding allocation at COP26 (The Presidency, 2022). USD8.5 billion is a fraction of even the most conservative costings of the transition. Additionally, there have been challenges in mobilising the funds corresponding to this plan. As more funding is allocated, however, it is essential that we take stock of where the country is in its transition, and whether resources are flowing to all areas that might indeed unlock transformation in the direction of just and sustainable outcomes.

Ensuring that South Africa's just transition is supportive of just and sustainable outcomes, even with relatively modest ambitions, is a challenge characterised by enormous uncertainty and difficulty. The focus on the technical aspects of energy transition challenges is unavoidably contextualised within the broader, more complex social, economic, and political aspects of transition. Support for the 'just' aspects of the just transition is considerably more difficult to define and track – and more difficult to fund – than the technical challenges ahead. Although the technical and the 'just' of South Africa's transition may be equally necessary and undoubtedly connected, their connection is not always straightforward – and they are not always complementary. A robust tracking of evolving issues and risks must be developed and regularly updated for the Mpumalanga province – the current epicentre of this national transition, and home to 80% of the country's coal value chain.

1.2 The imperative to chart subnational transition pathways and related capacities and capabilities

The spatial context of the coal transition, the fact that its direct impacts will be in particular places, with particular material realities, people, and systems, cannot be ignored. Despite the national importance of the energy and related value chains to the economy and most aspects of life, this significance does not negate the direct and indirect consequences on people, communities, eco-systems, livelihoods, businesses, economies, ecological and built infrastructure, and institutions in specific locations in specific municipalities and specific districts in Mpumalanga. Local contexts and local stakeholders matter to the appropriateness and effectiveness of development planning. But translating and connecting policy for complex challenges like the just transition, and harmonising planning and implementation across spheres from national to local, and at community level, is not simple. Policy does not automatically cascade from the top down; nor does policy automatically equal implementation. The challenges and failures of policy implementation in South Africa's national, provincial, and local governments and other organs of state (such as state-owned companies) is widely documented (Mazzucato, Qobo and Kattel, 2021). The transition adds complexity to both goal setting and the need to work with the uncertainties and risks related to innovation that are necessary for coping with the change that the transition creates across systems.

Given all the focus and intervention in the province to try to facilitate a just transition, it is necessary to understand the extent to which the institutional eco-system that will govern and implement the transition in partnership with civil society, the private sector, and other international actors is capacitated and sufficiently capable of steering and shaping the transition. Together, this network of actors must be able to leverage its capacity to support just outcomes across community, local (local and district), and provincial scale for concrete transformation within Mpumalanga's geographical boundary (noting its embeddedness in the national context through a myriad of social, ecological, economic, financial, infrastructural, and political systems).

Following years of only marginal attention within just transition planning to subnational governance crises, the impacts of state capture and corruption, loss of capable officials, and erosion of professionalism, there has been a recent refocussed attention on subnational government. Regarding the coal transition, many of the levers for ensuring a basic level of resilience for households, communities, workers, and businesses in Mpumalanga sit within municipal and provincial mandates and functions. The socio-technical transformation of the power sector toward equitable outcomes has already and will continue to necessitate new roles for municipalities (Goldthau, 2014; Brisbois, 2019; Hermanus, Scholtz and Kritzinger, 2022). Lastly, the facilitation of economic reconfiguration and diversification also demands current, improved, and novel functions for subnational governments in Mpumalanga, ancillary agencies, and their extra-governmental networks and platforms.

The Mpumalanga Provincial Government and some of the province's municipalities have started developing just transition plans and capacity, even in the context of existing fundamental capacity and capability deficits. The Presidential Climate Commission (PCC) seconded capacity to the Office of the Premier in 2023. There is also a limited amount of work that aims to support both assessment of subnational institutional readiness (capacity and capability). Implementers include internal government initiatives, non-governmental organisations, research organisations (academia and private), consultants, development agencies, and donors. However, the landscape of support is fragmented and undersaturated, and there are significant gaps in understanding, policy, planning, implementation, monitoring, and engagement. This research, following targeted engagement with key stakeholders, is focused on supporting ongoing sense-making that feeds into transition planning and implementation, with a focus on subnational governments and related entities.

1.3 Approach

Research and a facilitated process intervention was undertaken in the first half of 2023. A method was designed to begin to facilitate the co-articulation of a clear understanding, public-sector capacity, and capabilities for governance of the just transition at the subnational scale. In partnership with the Mpumalanga Department of Agriculture, Rural Development, Land and Environmental Affairs (DARDLEA) the project team organised a workshop that brought together key stakeholders, including municipalities (two of three district municipalities and eight of Mpumalanga's 17 local municipalities) and provincial government representatives (DARDLEA, Mpumalanga Department of Economic Development and Tourism [DEDT], Office of the Premier/ PCC, Mpumalanga Department of Cooperative Governance and Traditional Affairs [COGTA]) (see Table 11). The workshop served as a platform for engaging participants in discussions, knowledge sharing, and collaborative problem definition. Through a series of structured discussions and presentations, the workshop fostered a deeper understanding of the challenges and opportunities surrounding the implementation and monitoring of the just transition.

In addition to the workshop, a survey was conducted to gather broader perspectives and insights from a wider range of stakeholders. The survey questionnaire was carefully designed to address specific aspects of governance for the just transition. It covered topics such as policy frameworks, institutional arrangements, funding mechanisms, and stakeholder engagement strategies.

By reaching out to a diverse set of participants, including government officials, industry representatives, community leaders, and civil society organisations, the survey captured a comprehensive picture of the Mpumalanga subnational landscape in terms of its readiness and capacity for managing the just transition. The combination of the workshop and survey methods allowed for a more holistic understanding of the challenges and opportunities involved in achieving a just transition, providing valuable insights for future policy and decision-making processes.

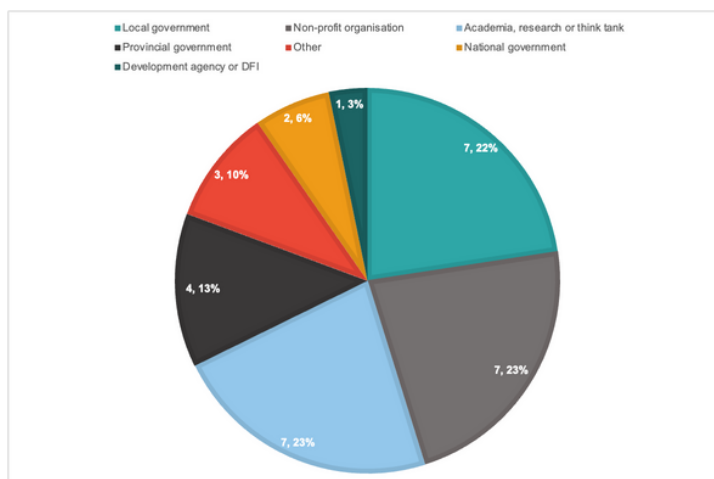


Figure 2: Breakdown of survey respondents by just transition stakeholder category (for all organisations see Appendix C)

Survey responses were received from 31 stakeholders, with the distribution across stakeholder categories indicated in the figure below (see Table 12). The project team also engaged National Treasury representatives and secured three written responses in response to finance- and governance-specific questions. Other ongoing engagements were facilitated with DARDLEA stakeholders for research (interview) and workshop design and implementation meetings. For a copy of the workshop agenda, see Appendix B.

We acknowledge that this engagement with capacity and capability is the starting point for subnational governments to engage in a continual cycle of reflection and development. By understanding the current state of play, subnational governments and supporting actors can identify areas that require strengthening and development. This ongoing reflection allows them to adapt to evolving circumstances and better serve their constituencies.

2. FOCUS ON LOCAL GOVERNMENT AS THE IMPLEMENTATION CENTRE FOR TRANSITION IN MPUMALANGA

2.1 Overview of the province

A brief overview of Mpumalanga’s significant socio-economic dynamics is necessary to contextualise this analysis, without restating work that has already been published elsewhere. Mpumalanga is home to 80% of South Africa’s coal value chain (coal to power and coal to liquid fuels) (Hermanus and Montmasson-Clair, 2021). Unlike other provinces, both the coal sector in its current state, and the coal phase-out, shape Mpumalanga directly and irreversibly. The geographical concentration of the coal sector can be further delineated, impacting two local municipalities, their populations, and their economies – Emalahleni and Steve Tshwete – more than others, and having more significance for the Nkangala District, followed by the Gert Sibande District. Ehlanzeni District is less directly impacted, being less economically reliant on coal. Eleven of Eskom’s 13 coal power stations are in Mpumalanga (see Table 3 for their locations). As they shut down, there are significant economic risks, with particular impacts on municipal systems – which are still poorly understood, but likely to include decreased revenues, increasing unemployment and poverty-straining service-delivery systems, and inadequate preparation for the handover of Eskom-run assets. Reduced coal mining will have the largest direct negative impact on economic activity and employment in the Emalahleni, Steve Tshwete, and Govan Mbeki municipalities.

Table 1: List of Mpumalanga's municipalities with selected indicators (Statistics South Africa, 2016; Auditor-General South Africa, 2022)

Municipality	Local/District	District	Area (km2)	Population (2016)	Poverty rate (2016)	Eskom power stations
Bushbuckridge Local Municipality	LM	Ehlanzeni	10,248	546,215	9.7%	
Chief Albert Luthuli Local Municipality	LM	Gert Sibande	5,559	187,629	10.3%	
City of Mbombela Local Municipality	LM	Ehlanzeni	7,141	695,913	5.9%****	
Dipaleseng Local Municipality	LM	Gert Sibande	2,645	45,232	8.4%	Grootvlei
Dr JS Moroka Local Municipality	LM	Nkangala	1,416	246,016	10.2%	
Dr Pixley Ka Isaka Seme Local Municipality (also called Pixley ka Seme Local Municipality)	LM	Gert Sibande	5,227	85,395	10.2%	Majuba
Ehlanzeni District Municipality	DM	n/a			7.8%	
Emakhazeni Local Municipality	LM	Nkangala	4,736	48,149	8.7%	
Emalahleni Local Municipality	LM	Nkangala	2,678	455,228	1.9%	Kriel, Matla, Duvha, Kendal, Kusile
Gert Sibande District Municipality	DM	n/a			7.2%	
Govan Mbeki Local Municipality	LM	Gert Sibande	2,955	340,091	3.9%	
Lekwa Local Municipality	LM	Gert Sibande	4,557	123,419	5.0%	Tutuka
Mkhondo Local Municipality	LM	Gert Sibande	4,882	189,036	11.9%	
Msukaligwa Local Municipality	LM	Gert Sibande	6,016	164,608	6.7%	Camden
Nkangala District Municipality	DM	n/a			8.2%	
Nkomazi Local Municipality	LM	Ehlanzeni	4,787	410,907	9.3%	
Steve Tshwete Local Municipality	LM	Nkangala	3,976	278,749	5.1%	Komati, Hendrina, Arnot
Thaba Chweu Local Municipality	LM	Ehlanzeni	5,719	101,895	5.5%	
Thembisile Hani Local Municipality	LM	Nkangala	2,384	333,331	6.1%	
Victor Khanye Local Municipality	LM	Nkangala	1,568	84,151	4.7%	
TOTAL	20	3	76.494	4 335 964		12

Mpumalanga makes up 6.5% of South Africa's land area, and is home to approximately 4.7 million people (2021) (see Table 6 for a full list of local and corresponding district municipalities). People aged 15 to 34 comprise 35.9% of the population, which still sees net positive growth as people migrate from within the country (77%) and from neighbouring countries (23%) to take advantage of the economic opportunities still offered by coal, other heavy industry, and agriculture. The provincial and municipal risk contexts arise from the decades of accumulated unaddressed social and ecological consequences of energy-industrial development, as well as current policy, and economic and technological changes. Consequent vulnerabilities are extensive and multifaceted, impacting individuals, households, businesses, local communities, local economies, government administrations, infrastructure systems, and local environments. Mpumalanga's narrow unemployment rate stood at 38.6% in the first quarter (Q1) of 2022, the highest after the Eastern Cape (Statistics South Africa, 2022). The expanded unemployment rate was 51.6%. Mining (more than half is coal mining, in terms of economic value add) contributes significantly to direct employment, even as it causes massive social-ecological damage in the province, contributing to water contamination, poor air quality, and human health impacts (Montmasson-Clair et al., 2022). The current trend in mining employment, however, has seen an increase in the use of casual labour, and a decline in hard-won 'decent labour' (e.g. job security and retirement benefits). A study published in 2022 applying the social vulnerability index (SVI) developed by the US Centers for Disease Control and Prevention (CDC) found that 20.6% of South Africans are socially vulnerable, while this number climbs to 41.4% for Mpumalanga, the highest vulnerability rate in the country (Mtintsilana et al., 2022). These households are more likely to also experience food insecurity. Vulnerability is compounded by gender (women), race (Black), education (no complete secondary education), geography (rural), and unemployment.

Although the province is faced with such significant social vulnerability, there are also significant economic strengths and 'assets' (Montmasson-Clair et al., 2022). These assets include the infrastructural networks that evolved with mining and industry, such as energy transmission networks, transport (road and rail) networks connecting the province to Gauteng, the Maputo Development Corridor and Richards Bay Corridor (N11), mining land and power-generation land and buildings, the province's arable land endowment and biodiversity, a young population, and available skilled labour. Some subnational government actors have identified concrete opportunities to pursue. For example, Steve Tshwete Local Municipality has decided to support cattle farming, poultry and crop farming, especially for emerging farmers (Steve Tshwete Local Municipality, Letsema and GIZ, 2020). However, there are significant local government and intergovernmental (national-provincial-local) capacity and capability constraints and barriers, resulting in land restitution-, land rights-, and land management challenges.

Climate change adds a level of complexity to agricultural and other economic, social, and ecological plans and processes. Climate change risks include increased temperatures and heatwaves, worsening water scarcity and drought, changes in precipitation patterns, increasing frequency of extreme weather events, loss of biodiversity, and ecosystem services. These risks can damage already fragile infrastructure networks, disrupt service delivery, increase maintenance costs and disaster response costs for municipalities, and increase the vulnerability of the province's already disproportionately vulnerable population. DARDLEA has developed climate adaptation and mitigation plans for the province (including local governments), and is in the process of updating its climate vulnerability assessment (DARDLEA, 2016, 2020).

2.2. Defining transition risk in relation to existing social, economic, and ecological challenges

Transition risk, in the context of Mpumalanga, refers to the specific challenges and uncertainties associated with the required shift away from high-carbon coal-based industries towards a low-carbon economy in alignment with the global net zero climate commitment. The Department of Agriculture, Rural Development, Land and Environmental Affairs (DARDLEA), commissioned a Just Transition Phase 1 Plan in 2021, which collates risks and opportunities at the provincial scale (DARDLEA, 2023). For local governments, transition risks and opportunities interact with their existing institutional and contextual challenges, as well as climate change risks, straining municipal systems, governance, finance, infrastructure networks, and service delivery.

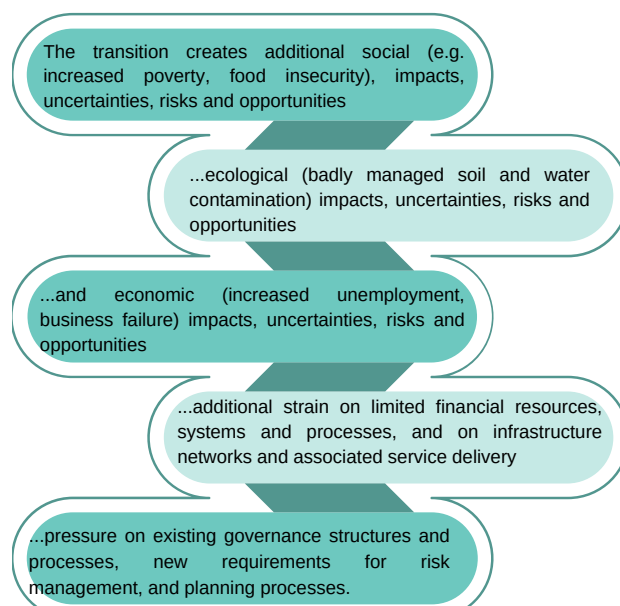


Figure 3: Transition impacts on subnational government institutions

2.3 Policy and legal frameworks, plan, and functions for transition

South Africa has a comprehensive set of national policies that are developed or in development to manage intersecting issues of climate change and just transition. There is a significant focus on energy, because of the sector contribution to greenhouse gas emission, as well as the significant exposure to transition risk and consequent need for just transition planning. See Appendix D for applicable legislation, including the National Environmental Management Act 107 of 1998 (NEMA) and National Environmental Management Laws Amendment Act 2 of 2022. These policies have extensive implications for local government and relevant provincial departments working to support local and district institutions. Energy policy has particular consequences for local government infrastructure and service delivery, which is also shaped by national climate change commitments and the need to foster local resilience. More recently, the Framework for a Just Transition in South Africa has recognised the need for localised governance and implementation. Additionally, the JET IP has collated funding needs for local government, providing established costs where available.

Table 2: Selected relevant national policy

Policy	Policy Area	Implementation Lead	Date
South African Renewable Energy Masterplan Draft	Energy	DMRE	2022
Framework for a Just Transition in South Africa	Just Transition	PCC	2022
South Africa's Just Energy Transition Investment Plan (JET IP) for the initial period 2023-2027	Just Transition	JETP PMU	2022
Towards a Just Energy Transition Framework in the Minerals and Energy Sectors Discussion Document	Just Transition	DMRE	2021
Nationally Determined Contribution (NDC): South Africa's First Nationally Determined Contribution under the Paris Agreement	Climate Change and Just Transition	DFFE	2021
South Africa's Low Emissions Strategy (SA-LEDS)	Climate Change and Just Transition	DFFE	2022
The Sector Jobs Resilience Plan: Coal Value Chain	Just Transition	DFFE	2020
The Integrated Resource Plan (IRP)	Energy	DMRE	2019
The national carbon tax, in terms of the Carbon Tax Act No. 15 of 2019	Climate Change	National Treasury	2019
Draft Climate Change Bill (still to be enacted)	Climate Change and Just Transition	DFFE	2018
The National Climate Change Adaptation Strategy	Climate Change	DFFE	2018

Table 3: Summary of subnational powers, functions, and policies relevant to the just transition (authors' own)

Sphere of government	Government	Relevant powers and functions	Relevant policies, plans and strategies
Local government: There are 20 municipalities in Mpumalanga, comprising three district and 17 local municipalities	Local government	<ul style="list-style-type: none"> • Relevant governance processes • Financial management (notably budgets, service revenue collection, property rates collection and spending) • Service delivery and infrastructure, including electricity reticulation, water, waste, sewage and sanitation, and local roads • Decisions regarding land use • Economic development facilitation 	<ul style="list-style-type: none"> • Integrated Development Plans (IDP) • Spatial Development Frameworks (SDF) • Climate change mitigation and adaptation plans, and monitoring mechanisms • Service delivery and infrastructure plans, pricing, and regulation • Local transport plans • Energy master plans, where they exist • Tariff books
	District government	<ul style="list-style-type: none"> • Relevant governance processes • Financial management (notably budgets, service revenue collection and spending) • Local municipalities fall within one of three district municipalities. • It is role of the district to coordinate service delivery and planning across these local municipalities. 	<ul style="list-style-type: none"> • Spatial Development Framework • Economic Growth and Development Framework • Climate change mitigation and adaptation plans, and monitoring mechanisms • Energy master plans, where they exist • Capital investment frameworks • Integrated Development Plans • Air quality and waste-management plans • Tariff books
Provincial government	Overall role of provincial government	<ul style="list-style-type: none"> • Relevant governance processes • Financial management (notably budgets and spending) • Legislative and executive powers, concurrent with the national sphere, over a range of areas relevant to the just transition, including economic development, trade and industry, agriculture, environment, and regional planning and development • Supporting local governments and intervening in the event of financial or administrative failures 	<ul style="list-style-type: none"> • Other relevant policies not captured in relation to key provincial departments below: • Mpumalanga Provincial Human Settlements Master Plan • Provincial transport plans
	Office of the Premier	<ul style="list-style-type: none"> • The Office of the Premier in Mpumalanga plays a crucial role in guiding and coordinating governance and intergovernmental relations. • It provides policy and strategic direction, leadership, public participation, stakeholder engagement coordination, and monitoring and evaluation. • The PCC has seconded a just transition coordinator to the Premier's Office to support with province-wide just transition implementation. 	<ul style="list-style-type: none"> • The Mpumalanga Just Transition Phase One Plan proposes that the Office of the Premier plays a convening role in the establishment of a multi-stakeholder governance and implementation structure to co-own the plan.
	DARDLEA	<ul style="list-style-type: none"> • Promote sustainable agriculture, rural development, land administration, and environmental management within the province • Lead climate and transition planning for the provincial government 	<ul style="list-style-type: none"> • Mpumalanga Just Transition Phase One Plan • Mpumalanga Climate Change Adaptation Strategy • Mpumalanga Climate Change Mitigation Strategy and Implementation Plan • Convenes the Climate Change Forum with local government and other stakeholders

Provincial government	DEDT	<ul style="list-style-type: none"> Formulate and implement policies, strategies, and programmes that foster a conducive business environment, attract investment, and stimulate economic activities 	<ul style="list-style-type: none"> Established the Mpumalanga Green Cluster Agency as a special-purpose vehicle of the province Mpumalanga Infrastructure Masterplan (MIMP 2060) Mpumalanga Green Economy Development Plan – Industrialisation through Green Jobs Mpumalanga Economic Reconstruction and Recovery Plan (MERRP)
	Provincial COGTA	<ul style="list-style-type: none"> Promote effective local governance, supporting traditional leadership structures, and fostering intergovernmental relations Drive policy development and implementation at local level Manage/ coordinate disaster response 	<ul style="list-style-type: none"> Spatial Development Framework Local Government Turnaround Strategy
	Provincial Treasury	<ul style="list-style-type: none"> Provides financial oversight, guidance, and support to the Provincial Government and local municipalities to ensure sound financial management and compliance with financial regulations and policies 	<ul style="list-style-type: none"> None specified

2.4 Identifying corresponding subnational government capacities and capabilities

As noted above, it is useful to differentiate between institutional capacity for transition and capability for transition.

- We define 'institutional capacity' as the available resources, infrastructure, and appropriately skilled and experienced personnel and systems necessary to realise a function. This encompasses physical resources such as buildings and equipment, as well as financial resources like funding, budget allocation, and operational expenses. Human resources, including staff, volunteers, and other personnel with the required knowledge and skills, are also part of capacity.
- By 'institutional capability', we refer to an institution's ability to effectively utilise its capacity to appropriately formulate and achieve goals and objectives (Mazzucato, Qobo and Kattel, 2021). It requires institutional functions to be adaptable to internal and external changes and evolving risks and opportunities, to continuously cultivate long-term resilience. Capability encompasses aspects such as institutional culture, learning, leadership, the quality of internal and external relationships, and the facilitation of harmonisation across networks of actors.

The reason for asserting this distinction is the fact that capacity constraints are more straightforward to address than limited capabilities. Two similarly capacitated institutions may display significantly different performance because of the interaction of various factors that are not easy to measure. Relatedly, performance issues cannot always be solved by simply adding more capacity, whether more budget, more human resources, or new infrastructure. Capability may be a function of capacity, but it requires additional sensemaking, agility, and adaptation, reflective of dynamic implementation contexts (Mazzucato, Qobo and Kattel, 2021).

The aim of this study is to begin to make sense of which capabilities and capabilities are necessary for the network of actors steering and implementing a just transition for Mpumalanga. Reference is made to Mpumalanga Provincial Government Departments – particularly with respect to governance and local government support (see Table 5). However, the World Bank, supported by the University of Mpumalanga, is currently undertaking an institutional review of the Mpumalanga Provincial Government. A Steering Committee, chaired by the Director-General in the Office of the Premier, is overseeing this process and its outcomes. Relevant initial findings are covered in Part 2 of this document.

To avoid duplication this study focuses on municipalities, and considers other actors in terms of their relationships to municipalities in the context of just transition planning, implementation, monitoring, learning, and evaluation.

Table 4: Summary of local government capacity and capability

	Capacity for transition	Capability for transition
Institutions and Governance	<ul style="list-style-type: none"> • Appropriate policies in place to realise mandated powers and functions (including environmental regulations) • Appropriate internal policies and standards in place • Appropriate internal controls in place • Appropriate performance management in place • Risk-management systems in place and functioning • Appropriate human resources • Appropriate intergovernmental forums in place and functional • Appropriate participatory and consultative processes in place 	<ul style="list-style-type: none"> • Undertake integrated just transition planning, coordination of implementation, monitoring, evaluation and learning, including climate-resilient local economic diversification • Manage diverse and conflicting stakeholder interests as well as trade-offs, and translate concerns into appropriate policy • Ability to collectively define, manage and track climate and transition risks and opportunities
Funding and Finance	<ul style="list-style-type: none"> • Additional external just transition-specific funding • Revenues (national non-conditional and conditional transfers, service charges, property rates, other fees) • Revenue-collection systems (e.g. service billing) • Budgeting processes integrated into policy and planning • Procurement processes that ensure municipal functions, including that municipal infrastructure spending targets are adhered to per cycle • Financial management processes • Reporting and auditing processes 	<ul style="list-style-type: none"> • Use budgeting processes to reduce social vulnerability (e.g. optimise free basic services and subsidised services) • Use procurement decisions to: <ol style="list-style-type: none"> 1. Achieve equitable and sustainable service-delivery goals 2. Support economic diversification goals (local content for municipal procurement) 3. Manage climate and transition risk 4. Ensure efficient and effective utilisation of resources for the transition through good financial governance
Infrastructure and Service Delivery	<ul style="list-style-type: none"> • Appropriate, sufficient, and functional infrastructure networks: electricity, water, sanitation, transport, health, education • Ongoing mapping of infrastructure assets to enhance energy transition planning coordination • Adequate implementation-planning processes to ensure the development of work plans for upgrades, regular maintenance, and new infrastructure investment • Related governance and management systems in place and functional to ensure infrastructure performance meets regulatory thresholds • Ensure appropriately skilled personnel to manage infrastructure are appointed and maintained to execute the work plans • Expand capacity to provide continuity of services during the process of decommissioning of mines and power stations 	<ul style="list-style-type: none"> • Ensure adequate public participation and inclusive implementation • Leverage infrastructure in order to deliver climate-resilient services in an equitable, inclusive manner that responds to increasing vulnerability arising from the transition • Leverage infrastructure to support economic diversification • Use infrastructure maintenance and upgrades to manage climate and transition risk, e.g. water quality challenges and generate employment

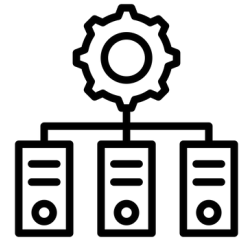
Table 4 provides a working, non-exhaustive summary of the capacity and capabilities that will be required from local governments in response to the transition, to maintain and build their own and local communities' and economies' resilience. Transition capacities and many associated capabilities required should already be (but may not be) in place to some extent, regardless of the transition. Section 4, 5 and 6 delve into more detail about the state of capacity, considering 'Institutions and Governance', 'Funding and Finance', and 'Infrastructure and Service Delivery'. The absence of general capacity in these areas adds to the institutional brittleness that increases the vulnerability of local communities.

There are significant challenges that arise if these issues are not adequately considered in the design of just transition-supportive interventions, in particular:

- If capacity gaps and capability gaps are conflated, there is a risk that inappropriate problem definition will lead to the design of inappropriate interventions.
- The just transition risks being oriented toward novel capabilities, without adequately assessing or addressing basic capacity and capability gaps.
- Where external funds and external capacity and capabilities are brought in (even as a necessity and adding concrete value), the nature of the relationship matters for institutionalisation over time.
- The resulting cumulative risk is that discrete just transition projects may not add up to a just transition, and this must be proactively managed.

PART 2: ANALYSIS

3. INSTITUTIONS AND GOVERNANCE



3.1 Overview

Public governance refers to the processes, systems, and structures through which authority is exercised, decisions are made, actions are taken, and accountability is facilitated across the branches of government (executive, legislative, and judiciary), the three spheres of government (national, provincial, and local), and other public entities, within a sphere of government, a particular public institution, or other public organisation. It encompasses the mechanisms by which power is distributed, relationships are managed, and resources are allocated. In simple terms, institutions can be understood as ‘the rules of the game’ – as it is actually played (explicit and tacit rules), defining what can and cannot happen in terms of the legitimate goals, processes and outcomes of an organisation, or a network of actors across organisational lines. Institutions are also those organisations set up to structure or uphold rules. The just transition demands an understanding of both.

Effective implementation of the just transition in South Africa clearly requires that appropriate governance enables a generative institutional landscape, in which all relevant public and private actors work together in effective, accountable ways to facilitate equitable navigation of the transition. As noted by the Department of Mineral Resources and Energy (DMRE), “First and foremost, a governance model is required to facilitate the transition” (Department of Mineral Resources and Energy, 2021). Governance has a determinative impact on how funding and finance flows through public institutions, how infrastructure is planned, developed, and maintained over time, and how service delivery functions. Governing processes like the just transition necessarily involve interactions and relationships between multiple actors, such as governments, public institutions, civil society organisations, and private entities, all of which are motivated and governed by their own relevant legislative frameworks (see Table 26), rules, policy incentives (see), and main constituencies with their particular political and economic interests.

Although there is no single definition of good public governance, bodies like the various organs of the United Nations provide guidance on good governance practices. These principles of good governance align with both procedural and distributive justice in the context of the just transition (Presidential Climate Commission, 2022). To govern for a just transition, subnational governments (provincial, district, and local) and the intergovernmental or multi-stakeholder governance structures must collectively leverage capacity to enable:

A. Performance:

- **Efficiency and Effectiveness (Distributive and Procedural Justice):** For local governments to achieve either distributive or procedural justice, they must utilise their available capacity to achieve desired outcomes effectively, with optimal use of resources, minimal waste, and effective management of risks. For local governments to be effective in the context of transition adds additional demands on systems that are failing, on many measures, to meet basic performance requirements. Between government and the ancillary capacity in academia, the private sector, civil society, and development agencies, there is significant capacity for developing policy. However, the capabilities required to translate policy into action and desired outcomes over time are not as strong (Mazzucato, Qobo and Kattel, 2021).
- **Subsidiarity (Distributive and Procedural Justice):** Ensuring that the appropriate sphere of government is assigned to, and can (is capacitated and capable) plan and implement particular aspects of the just transition impacts distributive and procedural justice. Until recently, subnational government has been marginal to South Africa's just transition planning. However, this is shifting. The capacity and capability constraints and deficits identified herein are significant challenges for and barriers to effective just transition governance.

B. Accountability

- **Transparency and integrity (Procedural Justice):** Transparency is crucial for procedural justice in the just transition. It involves making information readily available, disclosing relevant data, and ensuring that decision-making processes are open and accessible to all. Transparency helps build trust among stakeholders, enables informed decision-making, and prevents the undue influence of vested interests. In the just transition, transparent processes ensure that the distribution of and trade-offs between benefits, costs, and risks is fair and understood by all. To ensure that transparency does support fair and informed decision-making, it must apply not only to decisions and processes, but to their rationale – why they have been chosen, and what could shift that choice. Transparency of rationales is also a critical guardrail against arbitrariness, which is also a requirement of procedural justice. Existing governance indicators published by the Auditor-General provide a basic picture of transparency for local governments (Auditor-General South Africa, 2022).
- **Accountability (Procedural Justice):** Accountability is essential for procedural justice in the just transition. It means establishing mechanisms to hold decision-makers and institutions responsible for their actions and decisions. Accountability ensures that decision-makers are answerable to affected communities and stakeholders, especially with respect to failures, and that course correction is possible. The Auditor-General's report on municipal governance shows a significant lack of accountability, particularly through the absence of consequences for poor governance in local governments (Auditor-General South Africa, 2022).

C. Equity

- **Participation (Procedural Justice):** The principle of participation emphasises the importance of including all stakeholders, particularly marginalised and vulnerable groups, in decision-making processes. In the context of the just transition, this means involving workers, communities, and other affected groups in the planning and implementation of transition strategies. Robust involvement means not only that diverse voices are heard, but that related concerns are taken into account in a transparent manner and materially shape goals (like equity and inclusivity) and planning over time (accountability). Procedural justice contributes to fairness and legitimacy in the transition process. Local governments have a critical, ongoing role to play in engaging their constituencies in policy development, notably through their Integrated Development Plans (IDPs).
- **Equity and Inclusivity (Distributive Justice):** Distributive justice focuses on the fair distribution of benefits, costs, and risks. In the just transition, equity and inclusiveness are central to distributive justice. The actual implementation of actions to minimise and address any disproportionate burdens or negative impacts on vulnerable groups, including workers in high-emission industries and marginalised communities, depends on subnational governments having the capability to leverage their governance capacity to support equitable and inclusive outcomes.

Appropriate governance for transition should set limits that allow for optimal levels of co-ordination across differently interested actors. Even within national government, departments and bureaucrats within them are driven by potentially competing objectives on the same issues. Conflicting policy goals can also arise between South African actors and the external development agencies and development finance that are necessarily involved in local climate and transition action. Acting autonomously on interconnected policy issues can give rise to irrational outcomes like policy inertia or haphazard and contested implementation. South Africa's transition away from coal and towards a renewable energy-based power system and other climate-compatible industrial and development policy has been characterised by significant contestation and implementation challenges. For example, the IRP has been irregularly updated and inconsistently implemented since its first version in 2011, and its rationality is disputed by other public and private actors. Another example is the Climate Change Bill that was published in 2018, which remains under review in 2023.

It is a progressive and comprehensive framework for climate action (mitigation and adaptation), and prescribes key functions for provincial and municipal spheres of government and intergovernmental cooperation. While several actors have taken actions based on this document – including the establishment of the PCC and drafting of an employment-resilience plan for coal (Patel et al., 2020) – these actions are not required by law.

The just transition, and its associated short-term shocks, long-term changes created, shifting risks, and new and uncertain opportunities, entails dynamic interactions between social, economic, and ecological systems. It demands that existing functions be utilised in new ways, to achieve new goals while coping with short-term shocks and long-term transformations, and to ensure new functions are added to institutions to facilitate innovation. Consequently, approaches like 'adaptive governance', which aim to respond to this kind of complexity, emphasise capabilities such as learning, agility, and experimentation (Folke et al., 2005). Several organisations have advocated for policy-makers to facilitate 'labs' to allow for experimentation, learning, and innovation in the course of policy development and implementation (UCLG, 2016).

3.2 Key decision-makers and influential actors

Mpumalanga's unique vulnerabilities, risks, and opportunities emerging from the coal phase-out, renewable energy transition, and planned economic diversification cut across national departmental mandates and policies (see Table 2 and Table 26). Consequently, the decision space for just transition is distributed across the Department of Forestry, Fisheries and the Environment (DFFE), the Department of Mineral Resources and Energy (DMRE), the Department of Water and Sanitation (DWS), the Department of Trade, Industry and Competition (dtic), the Department of Cooperative Governance and Traditional Affairs (COGTA), the Department of Public Enterprises (DPE), and the Department of Science and Innovation (DSI). The Presidency has taken an active coordinating role and has been instrumental in driving policy reform (such as changes to the Electricity Regulation Act of 2006), prioritising industrial policy (e.g. the South African Renewable Energy Master Plan), and leading on funding and finance solutions through the JET IP and interim structures to facilitate it. The Presidency has also been engaged in targeted support for local government through the District Development Model (DDM).

The PCC was established by and reports into the Presidency. It has become the primary clearing house for public discourse and sensemaking, connecting civil society (spanning labour unions, large international NGOs, foundations, local NGOs, and community-based organisations), the private sector, Eskom, and government for the just transition. While the PCC is playing the role of a statutory body identified in the Climate Change Bill, it currently operates at the discretion of the Presidency in the absence of a formally institutionalised mandate and identity. Nonetheless, the PCC has become an important touchpoint for international governments, and related development agencies are increasingly engaged in Mpumalanga.

It has raised significant funding to support its consultative function, and is also undertaking research and other targeted work on, for example, employment, climate mitigation, and adaptation. It has also recently commissioned work on just urban transitions focused on metropolitan municipalities, with two Mpumalanga municipalities included in this work.

The provincial government (see Table 6) has several critical roles to play in implementing the just transition in Mpumalanga (see Table 3). Historically, it was DARDLEA that led on issues of climate change mitigation (therefore also transition) and adaptation. DARDLEA developed a Just Transition Phase 1 Plan during 2021 and 2022, which has not officially been adopted by the provincial administration. The plan included a proposal for a cross-departmental Just Transition Working Group, which would be co-convened by the Premier's Office, DARDLEA, and DEDT. While the proposal has some traction, provincial governance for the transition is still unclear. As the just transition has been politically elevated, DEDT and the Office of the Premier have been increasingly involved. The PCC has seconded a Just Transition Coordinator to the Office of the Premier, paid for by the World Bank.

The World Bank is supporting an institutional review to make recommendations for appropriate governance, which would be taken forward by the Director General in the Office of the Premier. Currently, this review has made proposals that are partially informed by the Just Transition Phase 1 Plan, insofar as the Premier's Office will play a secretariate function for provincial planning, and a technical working group is proposed to oversee implementation and unlock barriers to just transition implementation. Additionally, a Mpumalanga Just Transition and Climate Change Forum is proposed to undertake "multistakeholder coordination", with an as-yet undefined relationship to the policy-mandated Provincial Climate Change Forum (Office of the Premier, 2023). An additional uncertainty regarding the interim shared proposals is the political appointments and seniority of representation on the Technical Working Group, which includes Heads of Department, Municipal Managers, Provincial Heads, as well as a wide range of external stakeholders from business, civil society, and labour. This forum appears to be comprised of actors more suited to political engagement, consultation, and negotiation than technical implementation and concrete collaboration. Both kinds of forums are necessary for effective policy implementation.

Table 5: Mpumalanga Provincial Government Departments [1]

Provincial Departments	Provincial Government Cluster
Department of Agriculture, Rural, Development, Land and Environmental Affairs (DARDLEA)	Economic
Department of Economic Development and Tourism (DEDT)	Economic
Department of Cooperative Governance and Traditional Affairs (COGTA)	Co-operative Governance and Criminal Justice
Community Safety, Security and Liaison (CSSL)	Co-operative Governance and Criminal Justice
Department of Culture, Sport and Recreation (DCSR)	Social Services
Department of Education (DoE)	Social Services
Department of Provincial Treasury (PT)	Economic
Department of Health (DoH)	Social Services
Department of Human Settlements (DHS)	Social Services
Department of Social Development (DSD)	Social Services
Department of Public Works, Roads and Transport (DPWRT)	Economic
Office of the Premier	N/A

[1] The Mpumalanga Provincial Government also has several special-purpose agencies, including the newly established Mpumalanga Green Cluster Agency, Mpumalanga Economic Growth Agency (MEGA), Mpumalanga Economic Regulator (MER), Mpumalanga Regional Training Trust (MRTT), and the Mpumalanga Tourism and Parks Agency.

In terms of just transition implementation capacity, particularly for economic diversification, DEDT has established a sector development agency called the Mpumalanga Green Cluster Agency (MGCA). The establishment of the MGCA was supported by GreenCape, which was similarly established by the Western Cape Government's Department of Economic Development and Tourism to drive green economic policy implementation. The MGCA is now in the process of hiring administrative and technical staff. It has appointed a Chief Executive and a board. However, significant additional financial and human resources are needed to take its work forward.

When asked to assess the capacity of national, provincial, district, and local public actors for just transition, survey respondents more often saw capacity as “poor” or “moderate”, suggesting significant deficits across all identified institutions (see Figure 4).

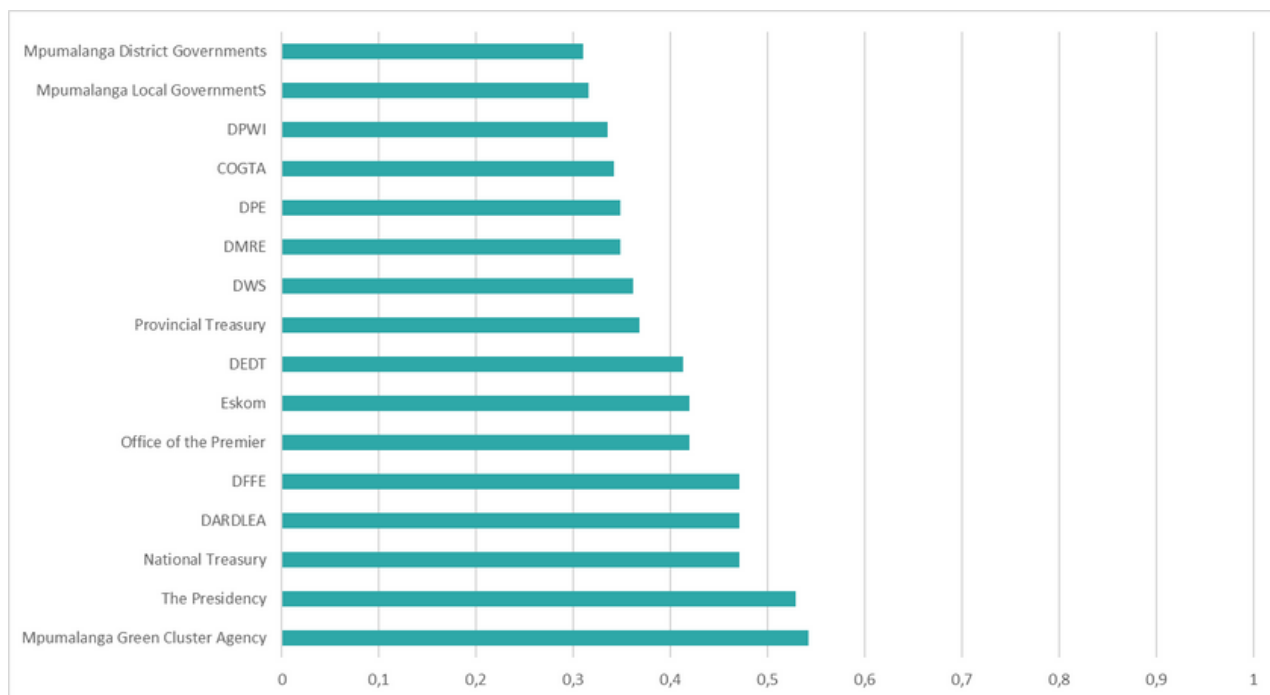


Figure 4: Institutional transition capacity and capability ratio (maximum = 1) based on survey respondent perceptions (derived from average ratings from 1 = poor to 5 = excellent).

Other just transition governance actors with a role to play identified by respondents included the South African Local Government Association (SALGA), the Mpumalanga Department of Health (DoH) and Department of Human Settlements (DHS), local higher education institutions, businesses (including mining companies), local business forums, labour, other civil society organisations, and direct community representatives. The list of actors who are seen as critical to just transition planning and implementation has expanded, as noted by one civil society respondent: “Just transition planning/ implementation requires [a] whole-of-government approach, and this seems to be missing in South Africa.” The lack of integration across levels of planning has been noted by several respondents and workshop participants as a gap that impacts just transition planning and policy implementation. However, there was no agreement on which entity should lead in the coordination of integrated planning and implementation. There was strong support for provincial coordination (by the Office of the Premier, DARDLEA, DEDT, and Provincial Treasury). DMRE, the Presidency, and DFFE were also supported to play this role.

3.3 The role of local governments and appropriate subsidiarity

The role of local government (district and local) in the transition remains problematically undefined. In sweeping terms, local government is often designated in political discourse as the ‘policy implementation’ arm of government, with national government doing the ‘policy-making’ and provincial government playing a planning, coordination, and oversight role. This is incorrect. The false separation of the policy-makers from the policy implementers contributes to the popular misconception of South Africa “having great policy and poor implementation”, as if the content of the policies themselves are not implicated in implementation failures. All spheres of government should be involved in policy development appropriate to implementation and monitoring, which, for different aspects of the just transition, is distributed in different ways to different actors. While local government’s role is not clear, what is clear is that certain local government functions – notably participation processes, risk management, and performance management are recognised as critical (see Figure 5).

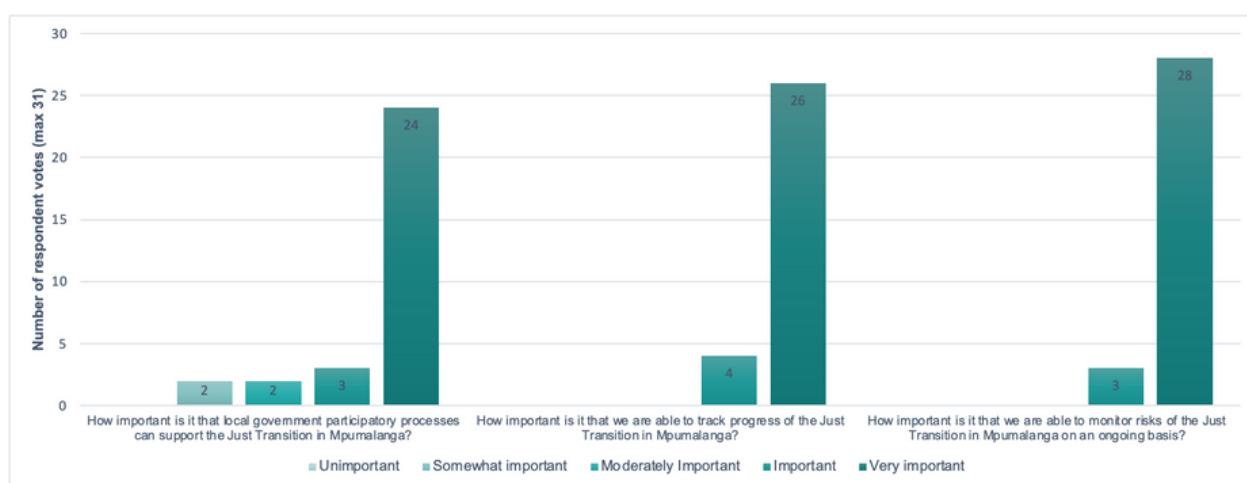


Figure 5: Respondent perceptions of the importance of different aspects of governance (1 = not at all; 5 = very important)

The district level is a crucial site of governance and action, receiving policy development attention from the current Presidency and Cabinet. The District Development Model (DDM) aims to address the disconnection between national planning and local contexts, promoting better integration and development outcomes. This model is relevant to the just transition, as it could enable comprehensive and dynamic management of strengths and vulnerabilities in local municipalities if implemented well. Local municipalities, on the other hand, are the custodians of infrastructure networks critical to the transition, including increasing the share of embedded renewable energy in an equitable way. Service-delivery functions – the delivery and cross-subsidisation thereof – provide a basic guardrail against extreme vulnerability, and provide enabling conditions for local economic development (LED). The latter LED function at the district and local levels is the newest, least clear, and least resourced of municipal functions. It is essential to the just transition in Mpumalanga’s economic diversification goals, and requires a capability from local government to leverage its financial systems (budgets and spending), infrastructure and service delivery, and spatial development and planning powers to plan and achieve context-specific economic goals aligned to place-based strengths and opportunities.

DARDLEA, delegated by the DFFE, is the mandated convener for the Provincial Climate Change Forum. This forum, which brings all the district and local municipalities together with national, private sector, and civil society organisations, is an important existing platform that can be leveraged to facilitate information sharing and harmonisation of policy, resource allocation, sense-making, tracking of risks and progress, and action. While there are other intergovernmental forums, this one is connected to just transition thematically and in terms of relevant stakeholders.

3.4 Taking stock of existing capacity for Mpumalanga

3.4.1 Performance (efficiency and effectiveness and subsidiarity)

There are significant performance issues facing all municipalities across South Africa struggling to make meaningful changes to the challenging social, economic, and ecological systems that continue to reproduce a range of problems. Mpumalanga's municipalities face a range of specific performance challenges (see sections 4 and 5). The perceived and measured lack of capacity and capability of subnational government to deal with the complex patterns, problems, and opportunities presented by the transition has resulted in an absence of planning for and with these spheres of government in the just transition. However, this policy configuration is not tenable over the medium and long term. The interconnected processes of problem-solving, risk management (see 3.5) and facilitating opportunity demand that the diversity of municipalities is properly integrated into national planning and support at this level. Each municipality must be capable of all three processes in order to build resilience within their jurisdiction. This requires capacity, both in terms of resources and in terms of appropriate regulations that allow diverse municipalities to respond in context-appropriate ways. The focus of existing just transition support (research and advisory support) has been on better functioning municipalities. Likewise, PCC's evolving municipal support focus is on metropolitan municipalities.

The siloed management of the just transition is not implementable at the municipal level. Within municipalities, the ability to appropriately integrate climate- and transition-risk management and opportunity facilitation across functions is imperative. The same institutions and infrastructure networks that need to support just transition outcomes must also support climate change resilience and LED. This creates a challenge for municipalities regarding the institutional location of the just transition. Workshop participants identified a tension between locating responsibility for the transition in the Municipal Mayor's office (usually already congested with prioritised and cross-cutting initiatives) or with 'Technical Services' or 'Community Services', service delivery or environmental services teams that have more technical insight and potentially more capacity, but less convening power and authority. The general consensus in the room was that the Municipal Manager should play a coordinating role, with adequate sensitisation of the Executive Committee of political office-bearers (responsible for the vision and policy parameters). The political championing of the just transition was agreed to be crucial for mobilising internal resources to drive the policy agenda.

The elaboration of the just transition as a policy priority with appropriate risk management and opportunity facilitation requires that it is reflected in plans and planning processes. It was also noted in the workshops that, at an operational level, the just transition needed to be integrated into the district and local IDPs, the DDM plan, and other plans, and into the performance management plans and indicators for the municipality, relevant units, and individual officials. One municipal official noted, "Our risk that we identified is that our current policies, plans, strategies, and also long-term plans, are not responsive to the transition." This also requires that just transition awareness and training should be made available for different kinds of officials. While municipal engagement has picked up on just transition, it is still not a well-defined or well understood policy issue. The integration of just transition is not just about amending plans, but also about the planning process and how open it is to evidence (e.g. research) and diverse views and interests (through structured and robust participation). There is a need to also make short-term planning processes like annual IDP reviews responsive to longer-term DDM and spatial development visions and plans; and to adapt those longer-term plans in response to lessons learned and changing contexts and challenges as short-term plans are implemented.

Given the current uptick in municipal-level interventions, there was a clear need to work through existing institutional channels and properly institutionalise just transition work. To date, governments in Mpumalanga have used external consultants and other external organisations to fill capacity gaps. This is not inherently bad. However, the Auditor-General's report does show that these local governments can struggle to manage these relationships to their benefit (Auditor-General South Africa, 2022).

Moreover, internationally, interventions do risk a further hollowing out of public capacity if driven in the wrong way. As one workshop participant noted, “We have to integrate and coordinate and institutionalise the just transition and start to work together.”

3.4.2 Accountability (transparency and integrity, and accountability)

In terms of accountability measures, Table 5 collates existing governance indicators for local governments in Mpumalanga. While it is definitely not comprehensive, it shows serious issues and limitations in terms of basic systems for performance, accountability, and facilitating inclusivity in all except 2 of 20 district and local municipalities. Nkangala and Ehlanzeni District Municipalities are stronger-performing than their respective local municipalities. Both could provide good entry points for just transition support for these districts as regions.

3.4.3 Equity (participation, equity, and inclusion)

Equitable outcomes in terms of budgeting, spending, infrastructure investment, and service delivery are addressed in subsequent sections. The quality of governance has direct bearing on these municipal functions. In terms of equitable and inclusive participatory processes for just transition, most stakeholders had concerns over the existing processes and breakdowns of trust between municipalities and their local communities. These participatory processes are often absent, under-resourced, or poorly performed and in need of strengthening, and government and development actors external to the province or municipality who seek to facilitate participatory policy-making and local economic development planning should be aware of the risks of duplication of engagement; and of raising expectations which would be left for municipalities to fulfil.

Community engagement driven by external actors have sometimes also reinforced information asymmetries and mischaracterised the risks and opportunities arising in the context of the transition. This has already led to confusion and expectations that fall on overburdened municipal systems. The management of the Komati Power Station repurposing (see Box 1) is a case in point. Eskom, more generally, does not readily share information that is pertinent to other actors seeking to manage transition risk. Many subnational stakeholders – inside and outside government – also do not understand the implications and opportunity of the JETP IP for them. What emerges in these contexts is adversarial relationships between stakeholders who may have diverging interests but share a common goal – to navigate the transition. Tools like litigation are not adequate to the complexity of trade-offs in the transition. Neither is box-ticking participation, which arises because of capacity constraints and other issues. The transition demands that it is part of a different approach to connected sensemaking, goal-setting, and policy implementation and monitoring. In other words, the transition demands a form of collaboration that works within minimum viable structures and processes for strategic alignment, and not holistic alignment. The requirement for holistic alignment is not realistic or reflective of the tensions, trade-offs and change that the transition entails. It is also over-prescriptive and can limit pragmatism and innovation in the real world for the sake of formal alignment. The transition requires an adaptation in local government, where municipalities have become accustomed to creating holistic alignment with national and provincial priorities in their IDPs, but have struggled to strategically leverage those priorities in their own planning.

‘The biggest risk is the capacity of the state, in this case provincial, district and local government, to absorb this change, both in terms of policy and implementation. These risks will not only impact service delivery, but will impact the ability of municipalities to lead the implementation of high-impact just transition projects. Further, local government will be impacted by the move towards more decentralised electricity production, and they will need to be capacitated to deal with this change and to be able to determine more cost-reflective pricing and tariffs.’ – Workshop participant

Table 6: List of Mpumalanga's municipalities with selected governance indicators (Statistics South Africa, 2016; Auditor-General South Africa, 2022) [2]

Municipality	Local / District	District	Leadership *	Effective risk management **	Audit outcomes	Going concern risk	Deficit for the year***	Human resource capacity gaps
Bushbuckridge Local Municipality	LM	Ehlanzeni	Intervention required	In progress	Unqualified with findings			
Chief Albert Luthuli Local Municipality	LM	Gert Sibande	In progress	Good	Qualified with findings			YES
City of Mbombela Local Municipality	LM	Ehlanzeni	In progress	In progress	Unqualified with findings	YES	YES	YES
Dipaleseng Local Municipality	LM	Gert Sibande	Intervention required	Intervention required	Qualified with findings			YES
Dr JS Moroka Local Municipality	LM	Nkangala	Intervention required	In progress	Qualified with findings			YES
Dr Pixley Ka Isaka Seme Local Municipality (also called Pixley ka Seme Local Municipality)	LM	Gert Sibande	In progress	In progress	Unqualified with findings		YES	YES
Ehlanzeni District Municipality	DM	N/A	Good	Good	Unqualified with no findings		YES	
Emakhazeni Local Municipality	LM	Nkangala	Intervention required	Intervention required	Adverse with findings			
Emalahleni Local Municipality	LM	Nkangala	Intervention required	In progress	Qualified with findings	YES	YES	YES
Gert Sibande District Municipality	DM	N/A	Good	Good	Unqualified with findings			
Govan Mbeki Local Municipality	LM	Gert Sibande	Intervention required	Intervention required	Qualified with findings	YES	YES	YES
Lekwa Local Municipality	LM	Gert Sibande	Intervention required	Intervention required		YES		
Mkhondo Local Municipality	LM	Gert Sibande	In progress	In progress	Unqualified with findings		YES	YES
Msukaligwa Local Municipality	LM	Gert Sibande	In progress	In progress	Qualified with findings			
Nkangala District Municipality	DM	N/A	Good	Good	Unqualified with no findings			
Nkomazi Local Municipality	LM	Ehlanzeni	In progress	In progress	Unqualified with findings			
Steve Tshwete Local Municipality	LM	Nkangala	Good	Good	Unqualified with findings		YES	YES
Thaba Chweu Local Municipality	LM	Ehlanzeni	In progress	In progress	Unqualified with findings	YES	YES	YES
Thembisile Hani Local Municipality	LM	Nkangala	In progress	Good	Unqualified with findings			
Victor Khanye Local Municipality	LM	Nkangala	In progress	In progress	Qualified with findings		YES	YES
TOTAL	20	3				5	9	11

[2] Notes on Table 6:

All data is for the 2021/22 year, unless otherwise stated.

*Leadership considers effective leadership culture, oversight responsibility, HR management, policies and procedures, action plans, and IT governance.

**Risk is one of three indicators that the Auditor-General uses for governance. The other two are 'internal audit' and 'audit'.

***A deficit indicates total expenditure that exceeded total revenue.

21 ****Umjindi Local Municipality, which has since merged with the City of Mbombela, had a recorded poverty rate of 8.5%

3.5 Risks and opportunities arising at the subnational scale

Risk is a critical issue within all public governance, including just transition governance. The management of societal risk, mitigating, shifting, and pooling risk, is an essential function of public governance structures. Mpumalanga’s municipalities are caught in a situation of moral hazard in which actors (national departments, Eskom, and industrial actors) have control over decisions that increase local social and ecological risks and determine to what extent and how they are managed. The asymmetry in control over risk drivers and exposure to their effects is structured by legal and policy authority and the decision-making landscape, particularly with respect to mining, but also water planning and management, energy planning and many other areas. It is also structured by resource asymmetries, as illustrated by the role of Eskom and mining companies in owning and operating infrastructure in place of municipalities. Building up local capacity is essential to deal with and track these risks as Eskom decommissions its plants and more mines reach the end of their operation.

Risk management, in general, is an area of concern for Mpumalanga’s municipalities, with four having systems in need of intervention (see Table 5) (Auditor-General South Africa, 2022). Even in better-performing municipalities, however, risk-management capacity must be bolstered and leveraged to track a transforming and exacerbated risk landscape, able to navigate short-term shocks (e.g. floods, disease outbreaks) and long-term changes (e.g. in climate and infrastructure). Additionally, adequate risk management requires that (a) the nesting of local systems within regional, national, and international systems is taken into account in the scoping and management of risks, and (b) risk management is distributed across all line functions. Transition-specific social, ecological, and economic risks are interacting with existing vulnerabilities, as well as an increasing burden of climate change risk. Although the changing risk landscape is being characterised through targeted studies, there is still significant uncertainty as to the outcomes of the transition. Risk-management strategies must now encompass a holistic approach that recognises these interconnections and assesses the cascading effects that disruptions in one sector may have on others, across local municipal boundaries. When faced with high levels of uncertainty, risk management can provide a valuable framework for approaching strategies and programmes, as it can adapt to unknown variables. The more uncertain the situation, the more important it becomes to have systemic, agile, collaborative, and integrated responses. The governance system is not ready to be leveraged to address the province’s risk landscape in a way that enhances options for future resilience and sustainable. The system is vulnerable to several risks. When asked to rank governance risks in terms of severity (low, medium, or high), a majority of survey respondents saw each risk as high (see Figure 6).

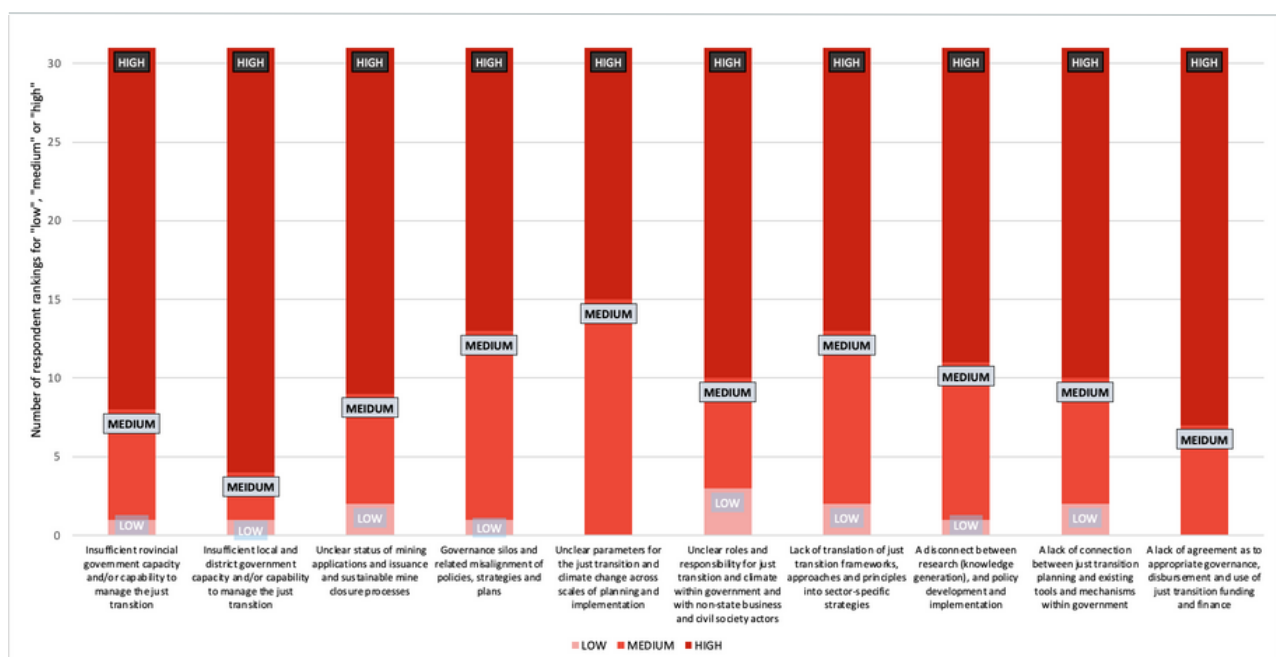


Figure 6: Stakeholder perception of the governance risks for the just transition in Mpumalanga

Workshop participants similarly saw governance risks as being serious and broadly impacting all areas of just transition implementation. Several survey respondents added additional risks related to a general “lack of capacity” or “insufficient capability” for the just transition across government, without specifying what this additional capacity and capability might be. Additional governance risks identified by stakeholders include political, institutional, and collaboration-related risks [3].

Two main governance risks were identified by workshop participants. The first is the fact that just transition planning has happened “about” and “to” them, and not with them. While consultation processes have included municipal representatives, there is not always capacity within the municipality to internally communicate, embed, and institutionalise relevant aspects of national planning processes. The main focus of external support has been on Steve Tshwete and Emalahleni because of their simultaneous economic significance and transition-risk exposure. However, other municipalities are extremely vulnerable too, given direct transition-risk exposure, knock-on effects of economic contraction in Steve Tshwete and Emalahleni, and brittle and underperforming municipal systems with serious capacity challenges. The solution is not, as bemoaned by one workshop participant, to “parachute people in” or centralise functions that municipalities should undertake with no clear method for building up missing capacity.

While Mpumalanga’s local governments have in-principle authority and hypothetical functions, the reality of the diversity of capacity and capability must be a part of planning, using regional approaches to exploit relative strengths and manage weaknesses. Creating plans for local governments, whether national actors or consultants create them, and not with local governments, will repeat the cycle of drafting unimplementable policy. Provincial and local government officials pointed to the further erosion of trust in local institutions if they are not supported in the transition, which, in their view, will compound every existing challenge and risk they are currently navigating.

Stakeholders engaged in the survey and workshops saw just transition governance risks (see Figure 6) as having significant consequences for external societal (social, ecological, and economic) systems and goals. Broadly, these governance risks are understood to undermine the achievement of a transition, its shaping toward just processes and outcomes, and a backsliding on indicators of sustainable development. The lack of integration across levels of planning has been noted by several stakeholders as a gap that impacts just transition planning and policy implementation. The example of failures related to water management in mining-affected towns, which spans local, provincial, and national actors and mandates, is often offered as an illustration of this point. A province-wide, integrated ‘live’ just transition risk-management framework is required to inform dynamic governance for the whole network of actors working in concert to drive the province’s just transition. While DARDLEA’s updated climate change vulnerability assessment and Climate Change Forum provides a framework and an intergovernmental forum into which transition risks can be integrated, this will need to be designed into the institutional recommendations being developed at the Office of the Premier. Additionally, subnational governments need to prioritise the involvement of diverse stakeholders. The need for dynamic risk management further emphasises the need to shift away from generating plans for transition, toward a more robust planning process with shorter cycles of planning, implementation, monitoring, evaluation, and learning.

[3] Political risks:

- Political instability within local governments
- Patterns of corruption and a lack of accountability and trust in key institutions, especially corruption linked to the operation of the coal value chain (Eskom, coal mines, other)
- Competing political commitments at the national level

Institutional risks:

- Siloed management of risks across sector departments
- A lack of integration of just transition policy into functional metrics (such as key performance indicators) within subnational government
- Inadequate or inappropriate monitoring, learning and evaluation mechanisms
- A lack of adaptive capacity and unclear rationale and mechanisms for responding to changes within the just transition, and broader economic pressure and geopolitical dynamics that impact, among other things, the South African state’s access to and cost of capital

Knowledge-management capacity is an important requirement to support planning and implementation, risk management, and the institutional capability to learn, so that strategies can be adapted to internal and external conditions. Provincial COGTA can support learning within and between municipalities, with support from SALGA, which has a political policy advocacy role. SALGA is also an important connector between municipalities and the Presidency and PCC. The Provincial Climate Change Forum is also a critical collective learning space for municipalities and supporting actors. It is critical that all actors working on the just transition can orient themselves around a shared risk dashboard, supported by data and information systems. Indicative governance indicators to track are included in Table 7. It can be difficult to evaluate good governance in a way that accounts for the complexity outlined above. Existing assessments often rely on metrics that are easy to measure and focus on malperformance where things are obviously going wrong. While these measures can indicate gross failures or highlight areas of concern, they often fail to capture the full scope of what constitutes good governance or articulate what is desirable. Therefore, it is suggested that risk and performance data is used in strategic risk processes that are integrated into just transition planning and implementation processes.

Table 7: Governance and institutional issues to track

Issue to track	Notes on framing and definition	Notes on data availability
Number or % of active mines with closure plans	It is important for Mpumalanga provincial and local governments to understand what risks arise from mining operations and how these are being managed (or not). The DMRE's Towards a Just Energy Transition Framework in the Minerals and Energy Sectors Discussion Document aims to resolve these issues.	DMRE manages the South African Mineral Resources Administration System (SAMRAD), which should collate relevant information on mining applications, rights, and permits. However, the system is not updated.
Number or % of coal mines with closure certificates	Currently, the DMRE has issued no mine-closure certificates to coal mines.	As above.
Number of district and local municipalities with climate and transition included into core planning processes, which are fully complete, submitted and publicly available	The quality of plans needs to be taken into account, and these need to be cascaded into line function annual plans and the annual performance plans of relevant municipal officials.	Municipal IDPs, Spatial Development Frameworks, Medium Term Expenditure Frameworks, and other performance plans.
Number of municipalities with effective leadership	Although leadership capabilities are not currently assessed, the number of municipalities with a weighted rating of "good" for "Leadership" (effective leadership culture, oversight responsibility, HR management, policies and procedures, action plans, and IT governance) does provide a measure of municipal capacity.	Consolidated General Report on local government audit outcomes MFMA.
The quality of effective risk-management processes integrated into planning processes	This is difficult to assess. However, the presence of a regularly updated and functional province-wide just transition risk dashboard, and cascading district and local dashboards adapted to specific contexts, is a start. Additionally, the number of municipalities with "good" risk management can also be measured.	Consolidated General Report on local government audit outcomes MFMA

- A lack of change management processes for key changes, such as the transfer of private (mining and Eskom) infrastructure to public ownership and operation

Collaboration risks:

- A lack of enabling environment for the effective engagement and action of civil society and private-sector actors
- A lack of partnering and collaboration/ co-creation capabilities across government
- Participation processes hijacked by powerful actors, obscuring the voice of local stakeholders
- Disconnection between government institutions and actors and civil society in terms of information flows, policy-making, and decision-taking
- A lack of evidenced connection between policies, plans, and concrete outcomes

3.6 Capabilities required for the transition

It is clear that there are serious concerns regarding governance capacity (effective leadership culture, oversight responsibility, human resources management, policies and procedures, action plans, IT governance, risk-management systems, and effective controls). These capacity gaps need to be addressed in parallel to just transition planning processes. It is clear that external actors can and should support these processes; however, they should aim to build on functional entry points and pockets of higher capacity and capability.

Table 8: Summary of local government capacity and capabilities for transition

	Capacity for transition	Capability for transition
Institutions and governance	<ul style="list-style-type: none"> Internal governance controls do not support accountability or efficiency in most municipalities. However, stronger governance performance in Ehlanzeni and Nkangala District Municipalities suggests that these districts are good entry points for just transition planning processes for those regions. Most municipalities are lacking human resources in critical positions, in ways that are impacting governance. Mandated participatory processes are not functioning well enough to support the transition; and external processes should support longer-term institutionalised, predictable participation mechanisms. The provincial just transition plan and governance arrangements are not yet finalised. The Mpumalanga Green Cluster Agency could supplement local economic development capacity at the district and local levels. Localised just transition plans are not in place in municipalities, and the just transition is not integrated into most IDPs; however, Emalahleni and Steve Tshwete's participation in the PCC's municipal support programme with SALGA could address this gap, at least in those municipalities. There is no just transition risk management or performance tracking system in place at the provincial, district, or local scale. The Climate Change Forum is an existing intergovernmental forum that can be used to convene public, private, and civil society stakeholders for just transition planning and implementation. 	<ul style="list-style-type: none"> In order to leverage governance capacity for the just transition, a provincial just transition planning process needs to be designed and implemented, and cascaded to district and local levels in ways that make sense for that level of planning. This includes planning, coordination of implementation, monitoring, evaluation, and learning, including climate-resilient local economic diversification. Capabilities cannot be built overnight. Significant external support will be required. However, this support must be managed so as not to reinforce institutional deficits and dependency on external support for capabilities that should exist internally. District and local just transition planning processes must leverage national and provincial risk management and knowledge management. District and local governments must be able to support economic diversification through just transition and LED planning activities. Functional participatory processes must feed into appropriate policy, decision-making and reporting to stakeholders.

4 Funding and finance



4.1 Overview

As with resolving the issue of an appropriate energy capacity and mix for South Africa, determining the appropriate level of funding and finance and mix of different kinds of flows and instruments is an important but contested process. The launch in November 2022 of South Africa's Just Energy Transition Investment Plan at COP 27 is therefore a key milestone towards achieving South Africa's decarbonisation commitments. One year before, at COP 26, a total of USD8.5 billion (R132 billion) was pledged by various countries including France, Germany, the United Kingdom, the United States, and the European Union as the first round of financing to support energy transition projects as part of the Just Energy Transition Partnership (JETP). The JETP sets out the investments required for South Africa to realise a low-carbon future while being socially equitable and inclusive of workers and communities affected by the changes that the transition will bring.

While the five-year investment plan brings some extent of certainty to the landscape, it comes at a juncture where the economic circumstances are challenging. South Africa is experiencing a slow pace of economic growth, and the country's spending requirements are outstripping the available tax revenue. This is resulting in rising levels of national debt. Debt-servicing costs are rising in turn which, combined with consecutive bail-outs to Eskom and other state-owned entities, has had the effect of crowding out planned spending on social services. In April 2022, in an attempt to improve its cash flow, Eskom put out a media statement in which it disclosed that 10 municipalities in Mpumalanga have accumulated a total debt of R13.253 billion. The four municipalities (Emalahleni, Govan Mbeki, Lekwa, and Thaba Chweu) that owed the most to Eskom were responsible for 86% of the amount. In April 2023 the National Treasury proposed a plan to forgive municipal debt to Eskom over a period of three years, if municipalities met certain governance and financial conditions. It is unclear if there is sufficient capability within local government to meet these conditions without additional support.

At all spheres of government and civil society represented in the workshops, survey respondents and additional interviews, there were respondents who were concerned that, while the transition is being touted as just, in reality the budget trade-offs will be at the expense of the most vulnerable. At a subnational level, the pre-existing crises that provincial departments and municipalities are gripped with have a bearing on their capacity and capability to play a meaningful role in the transition. Several municipalities in Mpumalanga have adopted unfunded budgets where the expenses proposed in their budgets are not covered by the projected revenue of the municipality, which raises doubt about the capability to make critical decisions for equity and resilience in the context of scarce resources.

4.2 Key decision-makers and influential actors

The Presidency has taken a lead role in mobilising finance for the just transition. It has established a number of commissions and task teams to lead on aspects of the transition. The Presidential Climate Finance Task Team (PCFTT) leads the country's endeavours to raise finance for the transition, which would ensure that South Africa is able to meet its commitments to lower its nationally determined contribution by reducing harmful greenhouse gas emissions. The PCFTT was established after the Just Energy Transition Partnership was announced in 2021. Partner countries gave an undertaking to mobilise USD8.5 billion over a three- to five-year period. The PCFTT was tasked, with the support of the National Treasury's Assets and Liabilities Unit, to "analyse the offer with a view to advising Cabinet on its composition, affordability, alignment with our regulatory environment; engage with partner countries; coordinate relevant government departments, development finance institutions, and the private sector; and oversee the development of relevant financing mechanisms and facilities to enable the flow of international climate finance to support South Africa's just transition in the electricity, electric vehicles and green hydrogen sectors" (The Presidency, 2022).

The decisions of climate financiers in terms of how they structure finance and where it gets committed will play a key role in how the global just transition proceeds. South Africa has managed to secure early commitments. Many countries are looking to secure climate finance. There is a risk that shifting global economic dynamics may have an impact on the availability of climate finance, and that the competition to secure that financing will become greater.

The National Treasury (NT) is one of the key stakeholders when it comes to the financing of the just energy transition. As the political principal that the NT is accountable to, the Minister of Finance plays a key decision-making role, as do senior NT officials, including the Director-General and Deputy Directors-General. National Treasury officials responding to interview questions were alive to the fact that NT is a key stakeholder in the JET IP process, and highlighted three key roles that the Treasury plays: (1) negotiating financing and structuring programmes as part of the just energy transition partnership process, (2) managing the relationship with multilateral development banks (MDBs) and (3) allocation of resources. The Treasury's role in the just energy transition partnership process is "both in terms of negotiating the bilateral and multilateral loans that are part of the financing package, but also in structuring the programme and the flow of funds to ensure that it is in line with the PFMA and the MFMA" (The Presidency, 2022).

In terms of the second role of managing the relationship with MDBs, a senior NT official explained that multilateral development banks play a crucial role in the JET process by mobilising concessional funds and grant allocations to support the implementation of JET programmes. Their involvement is instrumental in mobilising resources from other bilateral lenders and the private sector. MDBs also provide essential technical assistance, advice, expertise, and share best practices from other countries in which they operate. The Treasury is responsible for managing the partnerships between various financial institutions, namely the World Bank, African Development Bank, and New Development Bank. These partnerships are governed by three-year country partnership frameworks that outline the strategic objectives for engagement with each Bank. The NT has a pivotal role in shaping the structure of these frameworks, ensuring alignment with strategic priorities.

The conditions associated with loan financing are often a point of contention with civil society activists, who regard the consultation and transparency surrounding how these are determined as insufficient, and who have concerns about the cost of lending when loans are extended in a foreign currency against which the rand is fluctuating. A key reason for the concern is that rising debt-servicing costs crowd out social spending. Some civil society stakeholders raise objections to the conditions associated with foreign-denominated loans because of a concern that they pose risks to the country's sovereignty. In the 2022/23 budget, the amount allocated to debt-servicing costs stood at R307.2 billion, and Treasury noted in the Budget Review that this amount had been revised upwards by R5.4 billion compared to its prior projections (National Treasury, 2023). The upward revision in the debt-servicing costs budget was mainly due to higher interest rates following the Reserve Bank's decision to increase the repo rates. Because of interest rates rising, new debt came in at a higher average cost.

The third role that Treasury plays is allocation of budget. Through the budget process, transfers are made to the national, provincial, and local government in the form of unconditional equitable share allocations and conditional grants that must be used for a particular purpose. Speaking to how this role would work applied to the just transition, a senior Treasury official indicated that there is the possibility of considering the provision of conditional grants to the province; grants that can be utilised for supporting just transition projects. However, he indicated that conditional grants should be limited to projects that the private sector is unable to support.

Conditional grants (including the Local Government Financial Management Grant, Municipal Infrastructure Grant, Integrated National Electrification Programme Grant, Expanded Public Works Programme Integrated Grant, Regional Bulk Infrastructure Grant, and Water Services Infrastructure Grant) are intended to play an important role in improving the infrastructure that is key to delivering services to residents.

As a measure to ensure that conditional grant funding is spent as intended, and not for example on unfunded operational expenditures, the National Treasury has placed certain prerequisites as conditions for municipalities to access conditional grant funding.

While making good governance measures a prerequisite is important as a preventative control, a workshop attendee highlighted an unintended consequence of recent moves to halt the flow of funds to certain dysfunctional municipalities. These municipalities are often the ones which most need infrastructure upgrades, and cannot access the conditional grants designed to enable that work. The official acknowledged the lapses of governance that have resulted in Treasury withholding conditional grant funding from some municipalities, and highlighted that simultaneously the effect is that service delivery in those municipalities becomes more dysfunctional in an ongoing downwards spiral.

South African development finance institutions, especially the Development Bank of Southern Africa, the Industrial Development Corporation, and Khula Enterprise Finance Limited, play a role in financing infrastructure development and supporting small and medium-sized enterprises (SMMEs). In the just transition, the country having an investment plan in the form of the JET IP means that their investments can be harnessed in a strategically aligned manner. The South African Reserve Bank (SARB) has a role to play which is in line with its Constitutionally mandated function of safeguarding the value of the currency. In how it applies monetary policy, the SARB's decisions affect the cost of foreign-denominated just transition borrowing. The weaker the rand is against the currency a loan is denominated in, the greater the cost of the debt when it is repaid. The SARB also has an important role to play in monitoring the flows of financing into and out of the country and ensuring the stability of the financial system by mitigating risks that might disrupt it. For South Africa to coordinate its transition and ensure that the available financing is utilised effectively, it needs credible and up-to-date economic and financial statistics. SARB has a role in producing these.

The primary producer of official statistics is Statistics South Africa (Stats SA). While statistics may not appear to play a central role, decision-makers who are committed to making evidence-based and equitable decisions require statistics to do so. Population statistics are used for the calculation of the equitable share portion of the budget. The decision to only conduct a census every 10 years due to the cost of doing so has had negative impacts for budget-making. The energy transition is likely to give rise to migration, as residents of towns where mining and coal-fired power plants have been the primary economic drivers go in search of new opportunities. The most recent census was conducted during the pandemic, when a level of lockdown was still being observed. This and other challenges hampered the ability of Stats SA to conduct that latest census. The 2011 census statistics that are currently being used are therefore over a decade old, creating a data gap which needs to be addressed in a statistically sound way to ensure adequate information about critical aspects of the just transition.

Donors and philanthropic organisations are influential actors in this landscape. While grant funding in the form of official development assistance and from philanthropies is not as large an amount as that which emanates from budgetary allocations, investments, loans and bonds, this financing plays a strategic role in that it can be used for strategic initiatives, to pilot projects and to ensure that communities are supported during the transition. In many instances it also comes with technical assistance, adding additional capability. It is important that funding from donors is harmonised with the country's plans, and that there be coordination of projects to ensure that duplication and double-dipping is avoided.

What is critical to note is that finance decisions do not sit with those tasked with the implementation of the just transition at a subnational level. Through the inputs of respondents, there is a strong impression that those making the decisions about the just transition and those who must implement them are far removed from each other both geographically and in terms of the understanding that they have about what it will entail. The implication is that those who must produce results at the frontline of service delivery have an acute sense of the lack of resources to do so, and limited agency to do anything about that. Several officials at the subnational level provided examples of decisions over which there is contestation, and how it affects their work.

While this section has provided an overview of the key decision-makers and influential actors in the finance arena, it is important to emphasise that in order for the implementation to proceed as planned, there needs to be a closing of the information asymmetry gap. As a senior professional officer in the non-profit sector articulated,:

'[T]he JT needs to be a holistic strategy that all levels of government and departments adopt, and not the sole mandate of just one department. [It] needs systematic change to create accountability, coordination, ensure impactful implementation, and support the achievement of multi-level governance.'

4.3 Funding requirements set out in the Just Energy Transition Investment Plan

The Five-Year Just Energy Transition Investment Plan (JET IP) of South Africa outlines the necessary scale of investment and resources required to support the government's decarbonisation commitments for the period from 2023 to 2027. It sets a projected financing target of R1 480 billion. The funding requirements per sector are set out in Figure 7. For the electricity sector, the requirements have been determined as being R711.4 billion; for New Energy Vehicle Sector, R128.1 billion; for Green Hydrogen, R319 billion; for Skills Development, R2.7 billion; and for Municipal Capacity, R319.1 billion.

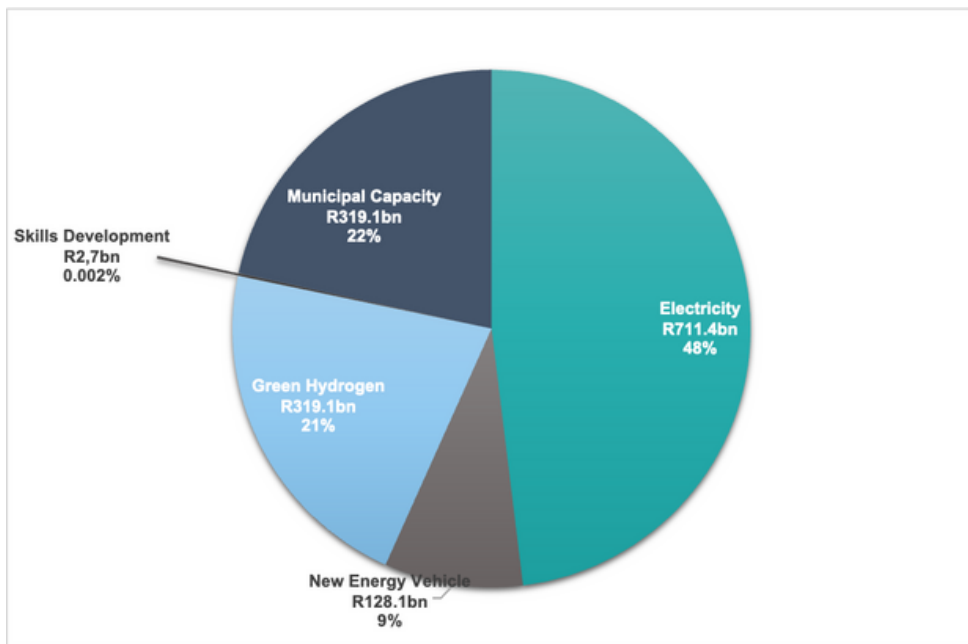


Figure 7: JET IP funding requirements per sector, 2023–2027 (The Presidency, 2022)

When the JET IP was published in November 2022, the outstanding funding target was 44%. The JET IP envisages a mix of potential sources of financing: grants, concessional loans, budgetary support, blended finance, thematic bond issuance, and market-related funding instruments. The just transition investment needs specific to Mpumalanga are outlined in Figure 8. Of the investment needs identified for Mpumalanga, diversifying economies requires by far the largest amount of funding.

In the 2023 Budget Review, National Treasury indicated that during 2022/23, South Africa successfully obtained international capital in the amount of USD3 billion from global financial markets. Additionally, it received €454.4 million from the World Bank and €600 million from Germany and France through the Just Energy Transition Investment Plan. For the fiscal year 2023/24, government will be seeking concessional financing from international financial institutions, including climate finance options. There are plans in place to raise approximately USD2.6 billion, with a goal of securing around USD9.1 billion over the medium term (National Treasury, 2023).

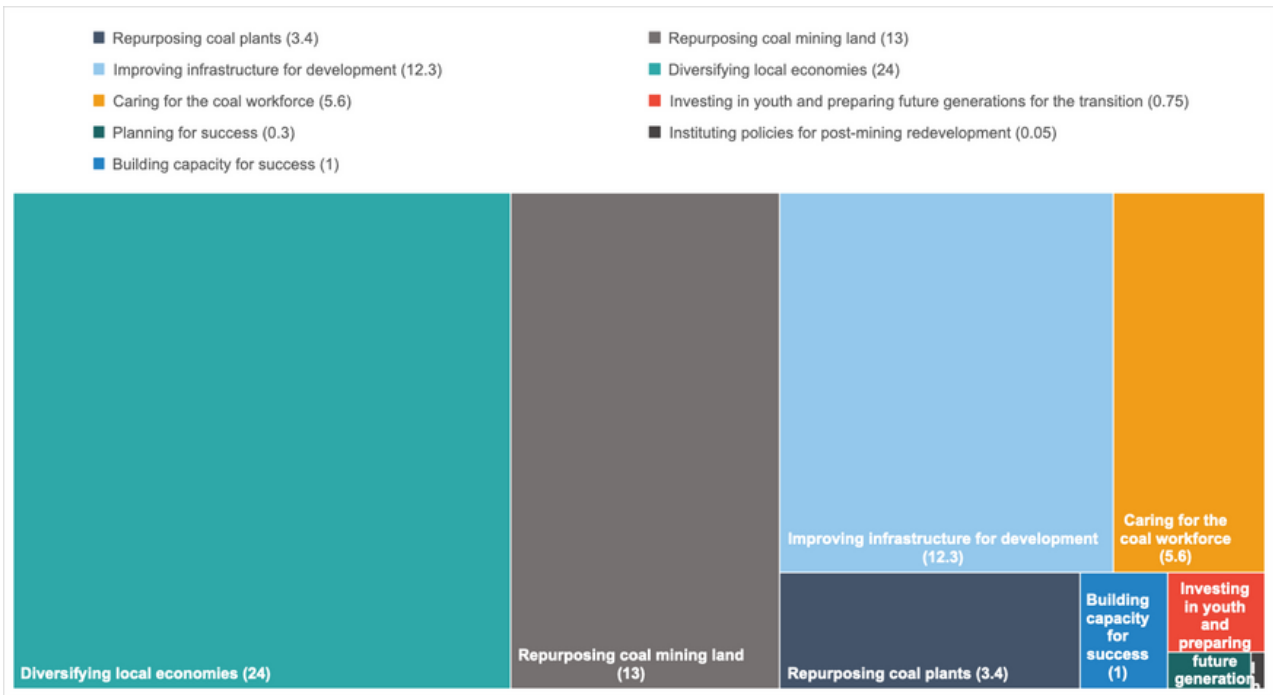


Figure 8: Mpumalanga's just transition investment needs in ZAR billion, 2023–2027 (The Presidency, 2022)

4.4 Taking stock of existing capacity for Mpumalanga

4.4.1 The adequacy of earmarked just transition finance

A central theme that respondents repeatedly conveyed during the course of this research has been that there is inadequate funding and financing for the just transition. During the workshop convened with subnational respondents, the extent to which limited financial resources could constrain the just transition was conveyed clearly. While this is by no means a new insight, it needs to be acknowledged. There is a sense, at the subnational level, of not knowing precisely what the costs associated with the just transition are going to be, and simultaneously that the country does not have enough money to implement the just transition.

Officials repeatedly emphasised how implementation could be stifled by a lack of resources to match plans. Among workshop participants there was a resigned impression that the transition was an imperative that came from elsewhere, and that the resources to match that imperative were insufficient, leaving subnational officials with an unimplementable task that they did not have the decision-making roles related to resourcing needed to achieve success. Noting that he had attended various engagement meetings and was welcoming of the just energy transition, one official remarked about the extent of resources required and the investments announced to date. In agreement with officials, most survey respondents (20) said they regard Mpumalanga's just transition as being under-resourced financially. A further eight respondents were of the view that it is resourced to an extent by the fiscus and requires significant support in order to access donor funding and concessional or other financing. One respondent emphasised that "the transition will require systemic change, and this will require finances, along with capacity and support to implement". On the question of whether there should be specific funding made available to local government, most respondents (26) said yes.

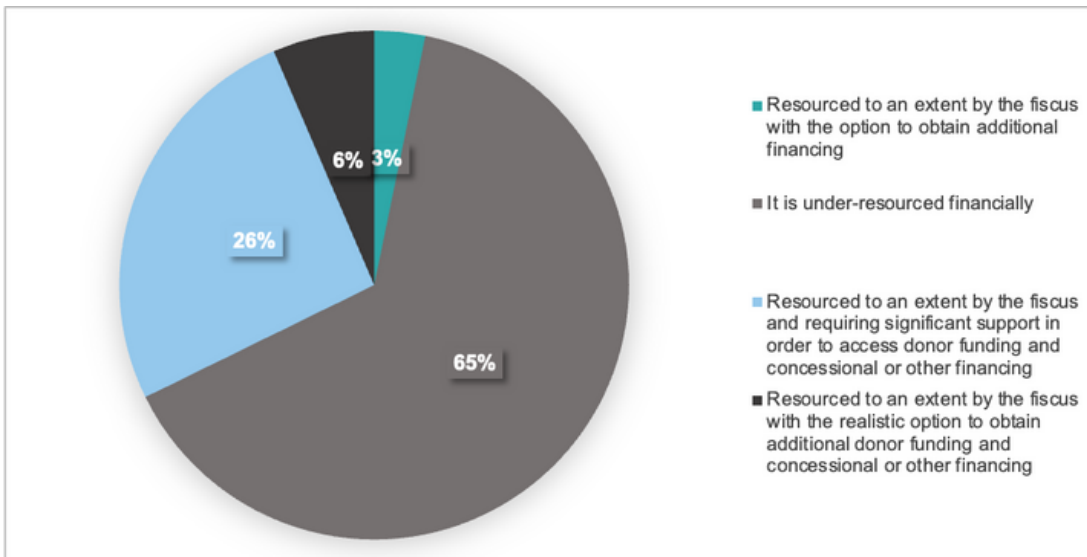


Figure 9: Adequacy of financial resourcing for Mpumalanga's just transition

4.4.2 Performance (efficiency and effectiveness and subsidiarity)

4.4.2.1 Allocation of resources to the municipal sphere

The division of revenue process is the method by which taxes and other resources raised by the national government are distributed among national, provincial, and local governments (National Treasury, 2023). The main budget entails all expenses covered by the National Revenue Fund. This includes most spending by national departments and their agencies, as well as transfers provided to provincial and local governments. These transfers are either in the form of the equitable share, which can be utilised according to the province or municipality's discretion, or a conditional grant that can only be utilised for a specific purpose. As a state-owned company, Eskom was not intended to receive funds from the fiscus, but to generate its own revenue by selling electricity (National Treasury, 2023).

A provincial official conveyed that the division of revenue produces what it prioritises. It was their contention that the fiscal framework and division of revenue play a role in producing the phenomenon of excellent plans, without the commensurate implementation. The municipalities have a frontline role in service delivery, but are not resourced sufficiently to play that role. Most of the budget goes to the national sphere, where policy-setting, planning, and monitoring happens. What the official is putting across can be seen when looking at the percentage shares in the division of revenue (see Table 1 and Figure 4). For the 2020/21 financial year, the national government allocation was R804.5 billion (51.2%), the provincial allocation was R628.3 billion (40%), and the local allocation a mere R138.5 billion (8.8%). The percentage share of revenue from the national fiscus that is allocated to local government usually ranges between 8% and 10%.

4.2.2 Municipal revenues and the municipal revenue model in the context of the just transition

Since municipalities receive a small share of the national revenue, they rely on charging residents to generate revenue to cover their expenses. Indeed, once local government's own revenues are accounted for, the 8% to 10% of the national fiscus rises to roughly a quarter of government revenues being allocated to local government (Covary, 2022). However, where there is a small rates base (people who pay for electricity, water, sanitation, refuse removal, and property taxes, etc.), the mix of where the total revenue for a municipality is derived from will look quite different (see Table 10). For example, 82% of Lekwa Municipality's 2020/21 revenue was locally generated, whereas 18% was from transfers.

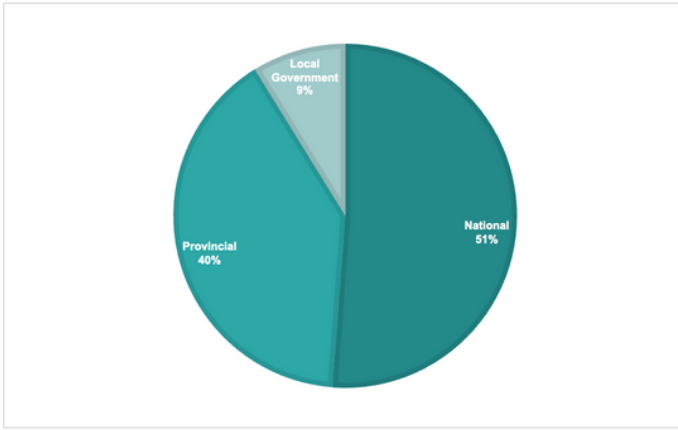


Figure 10: Share of revenue by sphere of government

Budget allocation	2020/21	Percentage of total
National allocations	804.50	51.2%
Provincial allocations	628.30	40.0%
Equitable share	520.70	
Conditional grants	107.60	
Local government allocations	138.50	8.8%
Provincial allocations not assigned	n/a	
Total allocations	1395.10	

Table 9: Division of Revenue (National Treasury, 2021)

Compare this to Thembisile Hani Municipality where 30% of its 2020/21 revenue was locally generated, and 70% was from transfers. The column 'Municipal "income" per household' represents a per capita amount of municipal revenue per household in the municipality. If it manages its resources well, a municipality with a higher amount will be able to do more in terms of provision of services. Emalahleni, Steve Tshwete, and Govan Mbeki have been identified as particularly vulnerable to the energy transition, and potential economic impacts such as de-industrialisation and mine closure will likely impact their ability to generate revenues through property rates and reduced service consumption. This will necessarily increase their reliance on grants, and reduce their ability to service households. Neighbouring municipalities will likely see similar but smaller effects.

Table 10: 2020/21 Mpumalanga local municipalities' revenue sources (National Treasury, 2021)

Municipality	Locally generated revenue	Transfers	Total income	% local	% transfers	Number of households	Municipal 'income' per household
Lekwa	R685 873 125	R152 769 597	R838 642 722	82%	18%	39462	R17 381
Pixley Ka Seme (MP)	R232 540 957	R154 751 713	R387 292 670	60%	40%	23303	R9 979
Govan Mbeki	R1 708 493 644	R384 518 826	R2 093 012 470	82%	18%	117814	R14 502
Victor Khanye	R457 121 949	R128 314 636	R585 436 585	78%	22%	26352	R17 346
Thaba Chweu	R413 561 825	R188 365 062	R601 926 887	69%	31%	39985	R10 343
Dipaleseng	R192 885 346	R98 170 500	R291 055 846	66%	34%	15847	R12 171
Albert Luthuli	R229 057 435	R398 244 160	R627 301 595	37%	63%	55820	R4 103
Msukaligwa	R574 293 625	R226 917 856	R801 211 481	72%	28%	55090	R10 425
Emakhazeni	R227 575 414	R99 389 333	R326 964 747	70%	30%	15499	R14 683
Nkomazi	R302 811 792	R753 435 387	R1 056 247 179	29%	71%	109550	R2 764
Emalahleni (MP)	R2 870 287 959	R453 024 294	R3 323 312 253	86%	14%	165569	R17 336
City of Mbombela	R2 258 498 352	R995 588 278	R3 254 086 630	69%	31%	220492	R10 243
Steve Tshwete	R1 544 912 722	R264 769 081	R1 809 681 803	85%	15%	97708	R15 811
Dr J.S. Moroka	R177 035 197	R586 183 244	R763 218 441	23%	77%	63834	R2 773
Thembisile Hani	R224 284 886	R533 389 068	R757 673 954	30%	70%	87112	R2 575

While the revenue model of municipalities presents a challenge that predates the just transition, it is intertwined with the energy transition, as electricity distribution is the backbone of revenue collection through credit control for most municipalities. This is at risk in the socio-technical transformation that the transition creates through the possibility for households to adopt alternative sources of electricity. The success of the just transition is dependent on the implementation capacity and capability of municipalities to adapt to these changes. This capability is threatened by the underlying causes of their poor financial positions. How the revenue model is bound up in the daily considerations of officials who are tasked with a role in implementing the transition is aptly demonstrated in the questions of one official who asked, “Where are we going to get funding and the funding model?” And another who said “We have unfunded budgets, it’s not cash-backed. It is a struggle to fund even the maintenance part of our projects.”

Although Section 18 of the Local Government: Municipal Finance Management Act (MFMA) prohibits municipalities from passing an unfunded budget, 8 of the 17 local municipalities in Mpumalanga adopted unfunded budgets for 2022/23 (National Treasury, 2022). This was confirmed in an answer by the Minister of Finance to a written Parliamentary question posed in August 2022, which outlined that the municipalities with unfunded budgets are Msukaligwa, Mkhondo, Lekwa, Govan Mbeki, Victor Khanye, Emalahleni, Steve Tshwete, and Thaba Chweu. This is not a new challenge, with the Minister of Finance indicating that “six of these municipalities have been adopting unfunded budgets for the past five years consecutively” (National Treasury, 2022). The Auditor-General of South Africa’s municipal report for 2021/22 similarly indicates that a number of municipalities in Mpumalanga are in a concerning position, and have been for a number of consecutive years, with the Auditor-General highlighting the status of the following municipalities: City of Mbombela LM (>5 years in concerning financial position), Emalahleni LM (>5), Govan Mbeki LM (3), Lekwa LM (>5) and Thaba Chweu LM (5). While funding shortages are a significant problem for the local governments seeking to achieve their developmental mandates and support a just transition, financial management practice need to be realistic in order to make progress. This also acts as a signal to finance sources, like National Treasury, that conditional grants could be managed appropriately.

The municipal revenue model will be impacted by the transition in that municipalities derive a proportion of their revenue from on-selling electricity to residents and businesses that operate within their municipal boundaries. One respondent provided the following as an example of how the just transition will result in diminishing revenues for a municipality: “... If Steve Tshwete was able to generate a million rand a month, once we’ve got a lot of industry and households going to solar energy, they will not be able to buy electricity, hence they will not be able to make the money that they are making.” Table 11 shows the extent of their 2020/21 income that municipalities in Mpumalanga obtained from electricity sales. While this is indicative of the scale of the electricity distribution function for municipalities, it is only a partial view. Some analysis suggests that the impact of this defection is less than is widely believed (Tanaka Shumba et al., 2018), and can be mitigated by adapting approaches to tariff setting. Capability is critical to achieving this. While income from the sale of electricity is significant, the cost of purchasing it from Eskom and delivering it to consumers is also high. Few municipalities understand the full cost of supplying electricity, so it is often unclear whether municipalities cover the costs of delivering electricity. However, the function is critical to maintain payment levels in other services provided, as a form of credit control. Grid defection weakens this. Municipalities need, and often lack the capability to, fully understand their costs, surpluses, and options for maintaining their electricity distribution function, to underpin their revenue model.

Table 11: Percentage of 2020/21 revenue for Mpumalanga municipalities derived from electricity sales (National Treasury, 2021)

Municipality	Revenue from electricity sales	Total income	% revenue from electricity sales
Lekwa	R324 377 931	R838 642 722	39%
Pixley Ka Seme (MP)	R55 550 961	R387 292 670	14%
Govan Mbeki	R477 153 043	R2 093 012 470	23%
Victor Khanye	R174 991 365	R585 436 585	30%
Thaba Chweu	R186 215 154	R601 926 887	31%
Dipaleseng	R61 739 466	R291 055 846	21%
Albert Luthuli	R34 410 801	R627 301 595	5%
Msukaligwa	R217 316 711	R801 211 481	27%
Emakhazeni	R91 521 065	R326 964 747	28%
Nkomazi	R111 469 067	R1 056 247 179	11%
Emalahleni (MP)	R931 546 602	R3 323 312 253	28%
City of Mbombela	R1 137 108 485	R3 254 086 630	35%
Steve Tshwete	R667 286 236	R1 809 681 803	37%

While subnational-level officials can articulate the challenges and provide a variety of mitigations and solutions, including suggestions to change the revenue model and potentially amend legislation, many of the decisions that could positively impact the status quo sit outside of the locus of control and agency of individual officials to effect. In response to the question of what revenue flows to include in a reimagined municipal revenue model in response to the just transition (particularly the power sector transformation), most respondents (19) were in support of additional conditional national grants funded through the national fiscus as a key revenue flow. A further 13 respondents said new unconditional national grants funded through the national fiscus. By far the majority of respondents supported conditional or unconditional grants through the national fiscus as opposed to revenue generated by municipalities directly. Of the minority supporting additional revenue being generated by municipalities, eight respondents were in favour of new additional municipal taxes, and seven were in support of additional municipal property rates. The smallest number of respondents (five) regarded additional service charges as a key source of municipal revenue.

4.4.2.3 Effectiveness of budgeting systems

In response to whether the existing capacity in Mpumalanga was sufficient to manage the just transition, workshop participants indicated that Mpumalanga is not ready in terms of finance. Regarding to what extent the systems to support provincial and local budgeting and spending are appropriate and effective, most respondents said they regarded them as inadequate (with 27 respondents scoring them a five or below, i.e. ineffective). Only four respondents scored them 6 or above (see Figure 11). As to whether at a provincial level there is a need for an additional governance structure to manage just transition finance in particular, most respondents either said maybe (13) or yes (13). Only five said no.

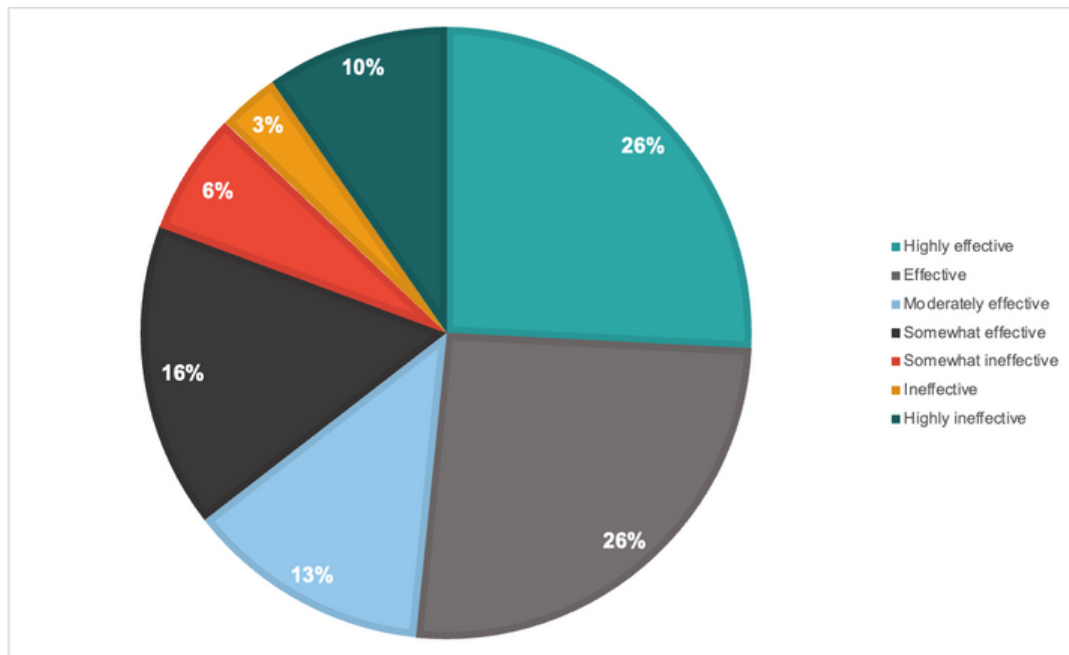


Figure 11: Effectiveness of provincial and local budgeting systems to support just transition

4.4.3 Accountability (transparency and integrity, and accountability)

The problem of the unviable financial positions of a number of municipalities is widely known. In how it is problematised, it tends to be ascribed to issues of poor governance. Weak governance and fiscal leakage are having a profoundly negative impact on service provision and are well-documented in the Auditor-General's MFMA reports. While corruption stories make the headlines and dominate public discourse, and municipalities are rightly chastised for adopting unfunded budgets, a less explored explanation of the going-concern issues that municipalities face is the impact of a weak rates base on the municipal business model, particularly of small towns. Similarly, some municipalities have chronically low economic development potential, which means that regardless of the quality of governance, financial sustainability might be beyond their grasp. Over the course of a number of years, there have been numerous interventions to address dysfunctional municipalities, including placing municipalities under administration. Overall, these interventions have met with limited success. Underscoring how serious the challenges are at a local government level, one respondent said, "I think the fiscal framework of local government needs to a complete overhaul in order to deliver on their mandates. Their finances are already compromised without a just transition."

Governance was a key concern. When it came to the risk of "a lack of agreement as to appropriate governance, disbursement and use of just transition funding and finance", the majority of survey respondents (27 of 34 respondents) flagged it as high-risk, with the remainder of respondents (7 of 34) flagging it as medium risk. There is a risk that real and perceived corruption threats may shape the design of the mechanisms for disbursement of funds, and also which institutions are involved in the implementation of the just transition. The downside of this is that when organs of state that have the legislative mandate are bypassed and alternative vehicles are used as a workaround to achieve implementation, the challenges in the institution which should be doing the implementation remain unresolved, and its capacity becomes further weakened. Talented professionals are appointed elsewhere, and the institutional knowledge resides outside of where it should. The workarounds too are subject to the same corruption threats, and may lack recourse to the legal and accountability frameworks that govern organs of state.

4.4.4 Equity (participation, equity, and inclusion)

Respondents highlighted that there have been poor community engagement processes associated with the just transition. The equitable share is allocated with the purpose of guaranteeing that every individual in South Africa can meet their basic needs. The formula for the municipal equitable share includes an allocation to municipalities to provide free basic services to households that do not have the means to pay for services. This should not be externally funded, because basic needs are hardwired as a range of rights into the Constitution, which on a budget level envisages progressive realisation and, in some cases, immediate realisation of rights. The focus areas for donor support are highly changeable, in that funds tend to be pulled rapidly from one sector or thematic area to another. Donor dynamics can have an effect on shaping public sector budgets. In the health sector, for example, funding for HIV/AIDs and tuberculosis are examples of where donor support has changed over time.

Table 4 illustrates how, despite free basic services being budgeted for, and because the equitable share is at the discretion of the municipality to apply, budgeting for free basic services does not translate automatically to a socially just outcome in how the budget is implemented. The Treasury arrives at the calculation for free basic services using census statistics for the number of households. It then multiplies that by the number of households that are poor (which is defined as having a household income of less than two old age pension grants). On that basis, it comes to a figure of the number of poor households in the municipality, to arrive at a basic services component amount. It is then up to municipalities to administer the provision of free basic services. However, many residents do not know that they are even eligible, and because municipalities may want to use the money for other expenses, they do not have an incentive to communicate the availability of free basic electricity and free basic water to households. From the municipalities' perspective, a further disincentive to alerting residents is that they would prefer that the resident pays for the services, as that contributes to municipal revenue. In the table below it can be seen that in Bushbuckridge, for example, 77% of households (108 532 households) are deemed in Treasury's calculation as being poor, however the municipality has only identified 863 households that it says are indigent and are therefore receiving free basic services. This demonstrates that the assumptions that accompany this aspect of budget-making are accompanied by disincentives, and are not necessarily going to result in equitable outcomes for residents. For the 2020/21 financial year, of the total allocation for free basic services, 22% was towards electricity, 33% to water, 25% to sanitation, and 21% to refuse (see Table 12).

'The biggest risk is the capacity of the state, in this case provincial, district and local government, to absorb this change, both in terms of policy and implementation. These risks will not only impact service delivery, but will impact the ability of municipalities to lead the implementation of high-impact just transition projects. Further, local government will be impacted by the move towards more decentralised electricity production, and they will need to be capacitated to deal with this change and to be able to determine more cost-reflective pricing and tariffs.' – Workshop participant

Table 12: Free Basic Services allocations versus performance for 2020/21 financial year (National Treasury, 2021; Stats SA, 2022)

Municipality	Total Basic Services Allocation	Number of Households	Percentage of households that are poor	Households with monthly income less than 2 old age pensions	Number of households identified by municipality as indigent (2020)	Number of households not benefitting from FBS	Percentage of households receiving FBS
Chief Albert Luthuli	R209 565 099	55 820	72%	40 143	1 287	38 856	3%
Msukaligwa	R164 416 456	55 090	57%	31 495	7 932	23 563	25%
Mkhondo	R175 868 438	48 836	69%	33 688	1 263	32 425	4%
Dr Pixley ka Isaka Seme	R82 206 246	23 303	68%	15 747	1 828	13 919	12%
Lekwa	R112 112 614	39 462	54%	21 476	1 450	20 026	7%
Dipaleseng	R50 233 877	15 847	61%	9 623	207	9 416	2%
Govan Mbeki	R314 264 453	117 814	51%	60 199	11 547	48 652	19%
Gert Sibande District Municipality	-	356 172	-	-	-	-	
Victor Khanye	R80 834 574	26 352	59%	15 484	2 700	12 784	17%
Emalahleni	R401 151 054	165 569	46%	76 842	8 897	67 945	12%
Steve Tshwete	R226 032 658	97 708	44%	43 298	18 262	25 036	42%
Emakhazeni	R47 839 324	15 499	59%	9 164	3 754	5 410	41%
Thembisile Hani	R295 316 678	87 112	65%	56 569	675	55 894	1%
Dr JS Moroka	R237 056 788	63 834	71%	45 409	13 527	31 882	30%
Nkangala District Municipality	-	456 076	-	-	-	-	
Thaba Chweu	R126 775 251	39 985	61%	24 284	2 971	21 313	12%
Nkomazi	R424 695 188	109 550	74%	81 352	20 986	60 366	26%
Bushbuckridge	R566 583 963	141 578	77%	108 532	863	107 669	1%
City of Mbombela	R676 600 563	220 492	59%	129 606	11 388	118 218	9%
Ehlanzeni District Municipality	-	511 604	-	-	-	-	

Table 13: Free Basic Services allocations for 2020/21 financial year by service type (National Treasury, 2021; Stats SA, 2022)

Municipality	Electricity	%	Water	%	Sanitation	%	Refuse	%	Total Basic Services Allocation
Chief Albert Luthuli	R45 120 068	22%	R69 783 488	33%	R51 494 562	25%	R43 166 982	21%	R209 565 099
Msukaligwa	R35 399 413	22%	R54 749 353	33%	R40 400 588	25%	R33 867 100	21%	R164 416 456
Mkhondo	R37 865 064	22%	R58 562 771	33%	R43 214 582	25%	R36 226 021	21%	R175 868 438
Dr Pixley ka Isaka Seme	R17 699 280	22%	R27 374 017	33%	R20 199 807	25%	R16 933 142	21%	R82 206 246
Lekwa	R24 138 221	22%	R37 332 596	33%	R27 548 432	25%	R23 093 365	21%	R112 112 614
Dipaleseng	R10 815 522	22%	R16 727 476	33%	R12 343 522	25%	R10 347 357	21%	R50 233 877
Govan Mbeki	R67 662 189	22%	R104 647 528	33%	R77 221 400	25%	R64 733 337	21%	R314 264 453
Gert Sibande District Municipality	-		-		-		-		-
Victor Khanye	R17 403 955	22%	R26 917 261	33%	R19 862 759	25%	R16 650 600	21%	R80 834 574
Emalaheni	R86 369 165	22%	R133 580 065	33%	R98 571 269	25%	R82 630 555	21%	R401 151 054
Steve Tshwete	R48 665 588	22%	R75 267 052	33%	R55 540 988	25%	R46 559 030	21%	R226 032 658
Emakhazeni	R10 299 967	22%	R15 930 109	33%	R11 755 130	25%	R9 854 118	21%	R47 839 324
Thembisile Hani	R63 582 670	22%	R98 338 072	33%	R72 565 532	25%	R60 830 405	21%	R295 316 678
Dr JS Moroka	R51 039 120	22%	R78 937 998	33%	R58 249 849	25%	R48 829 820	21%	R237 056 788
Nkangala District Municipality	-		-		-		-		-
Thaba Chweu	R27 295 136	22%	R42 215 136	33%	R31 151 351	25%	R26 113 628	21%	R126 775 251
Nkomazi	R91 438 296	22%	R141 420 072	33%	R104 356 559	25%	R87 480 262	21%	R424 695 188
Bushbuckridge	R121 987 425	22%	R188 667 889	33%	R139 221 621	25%	R116 707 028	21%	R566 583 963
City of Mbombela	R145 674 367	22%	R225 302 529	33%	R166 255 019	25%	R139 368 648	21%	R676 600 563
Ehlanzeni District Municipality	-		-		-		-		-

4.5 Risks and opportunities arising at the provincial and local scales

Numerous respondents expressed the view that ideally a just transition would leave municipal finances in the same or better situation than the current one. Positive impacts could include that there are additional revenue streams, which broadens the tax base and the rates base. However, there was a general theme in which respondents expressed the view that a more likely outcome would be a negative scenario.

The negative impacts could include:

- A loss of rates income as property values drop and people are less able to pay for services and rates;
- Increased non-payment of municipal bills;
- Loss of credit control through grid defections;
- Loss of revenue from grid defections;
- Reduced revenue base of many municipalities when businesses and citizens migrate to other regions;
- Shrinking margins on locally distributed electricity;
- Declining economic base will negatively affect municipal revenue streams, further eroding financial viability, which is already weak;
- Changes in the electricity tariffs and systems are likely to affect municipalities;
- Increased demand for social support;

- Increased service-delivery pressure;
- Accelerating decline of other infrastructure which will be under-maintained; and
- Additional costs to implement green technologies vs conventional technology.

A variety of mitigations were put forward:

- If cross subsidy has been an important part of LG revenue models in the province, this can be offset by proactive procurement of electricity for local municipal grids.
- Ensure that municipalities' utility businesses are properly managed.
- Conduct cost of supply studies timeously.
- Design embedded generation tariffs well.

To mitigate the risks and ensure that the transition is being implemented to plan, it will be important to do monitoring. Indicative funding and finance indicators to track are included in Table 15.

Table 14: Funding and finance issues to track

Issue to track	Notes on framing and definition	Notes on data availability
Number of municipalities with going-concern problems	This indicator communicates which municipalities do not have enough revenue to cover expenditure, and that they owe more money than they have. In addition to these municipalities, all municipalities with financial/ capacity issues are excluded from conditional grants, as well as growing spending, which precludes all infrastructure upgrades (water, energy, etc.).	<ul style="list-style-type: none"> • Consolidated General Report on local government audit outcomes MFMA • Also available in municipality's Annual Report
Annual unfunded budgets	Where a municipality adopts a budget in which the projected expenses exceed the available revenue/ income	<ul style="list-style-type: none"> • Municipal reporting to National Treasury (MFMA section of NT website)
Annual budget received and not spent as a measure of capacity to spend	Budget allocated by Treasury versus spent by the municipality	<ul style="list-style-type: none"> • Municipal IDPs, Spatial Development Frameworks, Medium Term Expenditure Frameworks, and other performance plans.
Amount and percentage of National Treasury Free Basic Services subsidy disbursed on FBS	Budget allocation by Treasury to the municipality versus the amount spent on indigent grants to provide FBS. The amount spent is shown as a percentage of the FBS component budget allocation.	<ul style="list-style-type: none"> • Municipal reporting to National Treasury (MFMA section of NT website) • Non-financial census of municipalities
Number of municipalities with electricity cost-of-supply studies	Where a municipality intends to make use of wheeling or embedded generation, there is a need to know what the cost of supply will be.	
Number of municipalities with Chief Financial Officer (CFO) position not filled	If the CFO position is vacant, it is usually an indication that the municipality will have poor financial management and struggle to complete its annual report.	<ul style="list-style-type: none"> • Non-financial census of municipalities
Total JT investment from public and private funds, reported by grant/ loan	Investment, loan, and project funding committed and disbursed	<ul style="list-style-type: none"> • Reserve Bank statistics • Multilateral development bank and development finance institution reports
Annual value of capital investment in mine rehabilitation and repurposing allocated and spent		<ul style="list-style-type: none"> • Annual reports of companies • Social and Labour Plans
Provincial and municipal reporting against national green taxonomy	The green taxonomy, which entails a classification system, could provide a way to tag projects (using keywords) that are considered just transition projects within the existing reporting that is required by law from municipalities.	<ul style="list-style-type: none"> • Municipal reporting to National Treasury (MFMA section of NT website)

4.6 Capabilities required for the transition

For the subnational sphere to bring its capabilities to bear for the just transition, the frameworks and national-level plans need to be translated into implementation plans at the provincial and local level. This will help ensure that there is alignment, minimise duplication, and focus the use of scarce resources. There needs to be tracking of the application of finances and funding at the project level. To determine which projects are relevant to the just transition, the reporting could make use of the green taxonomy classification system. While project funding is starting to become available, funds to support project preparation remain a gap in the financing landscape. This will support the creation of a pipeline of projects that are ready for funding to be applied to them.

The Auditor-General has highlighted the extent of spending on consultants preparing annual reports for municipalities in the absence of sufficient local capacity. To ensure that financial management, supply chain management, tariff models, and revenue-collection systems are optimised, the capacity and, in turn, consequent capability of municipalities, needs to be strengthened. The recommendations for systemic improvements made by the Auditor-General need to be implemented. This also requires strong capability for financial and technical managers at municipalities to plan together, particularly to manage novel practices, such as energy wheeling. There is a tendency in poorly capacitated municipalities to make use of external consultants to perform what should be internal financial management tasks. It is critical for the improved capability of municipalities that this capacity and the capability of municipalities to use it exists internally. Financial management and procurement training with topics specific to the just transition may be beneficial, including training that focuses on the circular economy, so as to ensure the state uses its procurement decisions to simultaneously achieve reliable service delivery and to support economic diversification goals.

The application of free basic services should be optimised. In too many municipalities, vulnerable households that are eligible for free basic services do not receive that which is budgeted for them via the equitable share. Improved monitoring and evaluation of the application of free basic services is required to ensure that each household has access to free basic services like water and electricity. To introduce enhanced accountability, performance measures can be added into the key performance indicators of relevant officials and linked measures included in annual performance plans. As part of performance auditing, the Auditor-General can assess the performance. An evaluation could be used to assess the performance of the free basic services programme.

To safeguard the 'just' part of the just transition, there needs to be improved use of oversight mechanisms to ensure budgeting processes and the application of budgeted funds reduces social vulnerability. With fiscal pressure and competing priorities, there have been numerous instances where people's rights have been a lesser-order priority. The Parliamentary Budget Office, Fiscal and Financial Commission, and other bodies have a role to play in ensuring that people's rights are not undermined in budgetary decisions. The Department of Performance, Monitoring and Evaluation could conduct evaluations into areas of service provision that people are most raising challenges about.

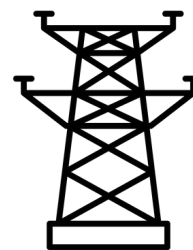
Additional just transition-specific funding can most effectively be introduced to the subnational level through a conditional grant targeted at just transition projects. There is alignment between the views of the subnational respondents and Treasury officials that a conditional grant would be an effective mechanism. Where there are budgetary pressures that may negate this option, official donor assistance could be applied as budget support through this channel, to ensure that it is harmonised with South Africa's plans. Existing infrastructure conditional grants that could be leveraged for the just transition are not accessible by most Mpumalanga municipalities because of going-concern issues and a lack of financial controls. Consideration needs to be given as to how to achieve infrastructure projects in such instances, while simultaneously ensuring that resources are spent efficiently and represent value for money.

This is a challenge that the Municipal Financial Management Improvement Programme and Operation Vulindlela need to address with Provincial Treasuries and other relevant oversight bodies. Municipalities are increasingly dealing with the effects of climate and transition risks that materialise. For example, the effects of drought and flooding. There is a need to proactively manage climate and transition risks. There is a disincentive to spend proactively on mitigation measures, as it can be considered wasteful expenditure if the need for such measures does not materialise. In the design of regulations and infrastructure programmes, attention needs to be given to the realities of climate risks.

Table 15: Summary of local government capacity and capabilities for transition

	Capacity for transition	Capability for transition
Funding and Finance	<ul style="list-style-type: none"> • Additional external just transition-specific funding is required. • Revenues (national non-conditional and conditional transfers, service charges, property rates, other fees) need to be interrogated for adequacy in each municipality. • Revenue-collection systems (e.g. service billing) should be improved. • Budgeting processes integrated into policy and planning • Specific support needs to be provided in order to ensure that infrastructure maintenance budget is spent as scheduled and required. • Financial management processes need to be improved in most municipalities, as do reporting and auditing processes 	<ul style="list-style-type: none"> • Budgeting processes need to be used to reduce social vulnerability (e.g. optimise free basic services and subsidised services). While this is noted in the JET IP, it is not clear how this will be done, or what the role of catalytic additional funding could be in that process. • Ensure efficient and effective utilisation of resources for the transition through good financial governance

5 Infrastructure and service delivery



5.1 Overview

Mpumalanga, being an energy and industry hub for the country, has an extensive network of public, national, provincial, and local government infrastructure, state-owned company infrastructure (Eskom, and also Transnet), and private infrastructure. Together, infrastructure and service delivery are critical for municipal resilience to the changes engendered by the coal phase-out, the uptake of renewable energy, and the associated risks and social vulnerability.

Municipal infrastructure is the foundation upon which the state's efforts to provide basic service delivery is built, and is critical to enabling investment in commercial and industrial development. The management of local resources, social and economic infrastructure, as well as environmental conservation efforts is facilitated by continuous planning, investment, and responsible asset maintenance. Most South African municipalities face significant infrastructure challenges related to shortfalls in investment, inadequate planning, poor implementation, and governance gripped by the creeping impact of tender-related corruption and inefficiency. The entrenched legacy of the mining-heavy economy and Africa's largest network of coal-fired power stations established during the apartheid era has produced enduring inequalities which map materially onto the region's contemporary infrastructure challenges. Today, Mpumalanga's coal fleet suffers from deteriorating performance, and is becoming increasingly uneconomical to operate, posing a significant risk to the economy.

In response to commitments made by South Africa under the 2015 Paris Agreement, a pathway towards meeting nationally determined targets limiting carbon emissions across the economy has been proposed to phase out the use of coal for electrical generation. Additionally, the outcome of landmark "deadly air" litigation in 2019 prescribes commitments for the national government to take measures to reduce the impact of harmful emissions on local air quality (Wernecke et al., 2022). The accompanying phased shutdowns of power stations in the region is expected to result in a broad spectrum of impacts, ranging from a possible deterioration of infrastructure and a potential slowdown in economic activity, to an increase in social ills.

Municipal infrastructure and service-delivery functions are deeply affected by the province's population and economic dynamics (see section 2), with inadequate budgeting for new infrastructure and asset maintenance observed by the Auditor-General in its 2020/21 Consolidated General Report on local government audit outcomes (Auditor-General South Africa, 2022). This trend persisted across the region despite 13 of 20 municipalities reporting overspending on their budgets. As an example, Govan Mbeki Municipality spent the equivalent of only 4% of the value of its existing infrastructure on maintenance. This was below the recommended National Treasury benchmark of 8% per annum (Auditor-General South Africa, 2022). To improve the performance of existing assets and reduce the risk of preventable damage to key infrastructure, spending on maintenance will need to feature higher on municipal priorities, even when budgets are constrained. Service-delivery performance deteriorated as aging infrastructure resulted in decaying road conditions, increased electricity costs, and water losses. These outcomes were coupled with low collection rates, with as much as 60% of the outstanding debt balance owed by ratepayers likely to be irrecoverable.

Table 16: The location and decommissioning timeline of coal-fired power stations based in Mpumalanga (KPMG, 2017; NS Energy, 2021; Centre for Environmental Rights, 2022; Hunter, 2023)

Plant	Estimated shutdown	Town	Municipality	Additional comment
Hendrina	2025	Pullens Hope	Steve Tshwete	<ul style="list-style-type: none"> Completed economic impact study 3 generation units shut down by July 2020 Candidate for possible life extension up to 2030
Arnot	2029	Rietkuil	Steve Tshwete	<ul style="list-style-type: none"> All 6 units in service, under consideration for potential life extension
Grootvlei	2025	Grootvlei	Dipaleseng	<ul style="list-style-type: none"> 3 out of 6 units already shut down. Work under way in collaboration with the Kingdom of the Netherlands to develop a pre-feasibility plan for site repurposing. Candidate for potential decommissioning extension up to 2030
Komati	2022	Camden	Steve Tshwete	<ul style="list-style-type: none"> All units decommissioned as of October 2022 Full repowering and repurposing plans published Partial grant funding has been committed under the Just Energy Transition Partnership. A Memorandum of Understanding between Eskom and Cape Peninsula University of Technology has been signed to develop a training centre on site. A tender for the first repowering project, an onsite agrivoltaics plant, received bids in August 2022
Camden	2025	Camden	Msukalingwa	<ul style="list-style-type: none"> Consultants approached to develop socio-economic impact study (no publicly available document found) Plant site has been identified as a candidate for gas and battery storage repowering projects. Candidate for potential decommissioning extension up to 2030
Kriel	2026	Kriel	Emalahleni	<ul style="list-style-type: none"> Initial economic impact assessment completed Candidate for potential decommissioning extension up to 2030
Matla	2030	Kriel	Emalahleni	<ul style="list-style-type: none"> Decommissioning dates set by IRP2019 due for review
Duvha	2031	Witbank	Emalahleni	<ul style="list-style-type: none"> Decommissioning dates set by IRP2019 due for review
Tutuka	2035	Standerton	Lekwa	<ul style="list-style-type: none"> Decommissioning dates set by IRP2019 due for review
Kendal	2039	Kendal	Emalahleni	<ul style="list-style-type: none"> Decommissioning dates set by IRP2019 due for review
Majuba	2046	Amersfoort	Pixley Ka Seme	<ul style="list-style-type: none"> Decommissioning dates set by IRP2019 due for review
Kusile	2060	Witbank	Emalahleni	<ul style="list-style-type: none"> Decommissioning dates set by IRP2019 due for review

Approximately 50% of expenditure on new infrastructure development has been deemed irregular expenditure, due to non-compliance with procurement regulations. Poor project management has also led to increased costs and project delays (Auditor-General South Africa, 2022). One prominent illustration of this concerning pattern is the Mpumalanga International Fresh Produce Market, which was conceived over 10 years ago, but as of June 2023 remains under construction, running two years behind schedule. Reports have also emerged indicating that subcontractors have not been compensated for their work. The project, initiated by the provincial government, has already incurred costs of R2 billion, surpassing the initial budget.

Flooding has proven to be a consistent risk for the province, with major floods in February 2023 (estimated costs: R2.3 billion), February 2021 (estimated costs: R400 million), and March 2014 (estimated costs: R535 million) (SAPA, 2014; Lubisi, 2021). The poor state of existing infrastructure, in tandem with violations to spatial laws and several buildings which were not developed in accordance with the building codes, exacerbated the impact of the disaster (Lowvelder, 2023). The impacts of the floods in 2023 across Nkomazi, Mkhondo, and Bushbuckridge municipalities resulted in loss of life, and damage to schools, roads, bridges, housing, and agricultural infrastructure, as well as interruptions in electricity provision and contamination of drinking-water sources. Municipal planning for the coming decades should include, as part of its climate-adaptation strategy, a review of the adequacy of the existing infrastructure insurance schemes for local assets.

5.2 Key decision-makers and influential actors

Many of the key vulnerabilities facing the Mpumalanga province in the energy transition are directly related to the state of existing infrastructure, the capacity of local authorities to operate and maintain municipal assets, and the extent to which new plans can be resourced and implemented. Decision-makers for the infrastructure overlap with the national departmental mandates and policies outlined in Table 2. The Mpumalanga Infrastructure Masterplan is a planning document owned and development at provincial level which outlines the key projects, priorities, and strategies for maintaining, upgrading, and development of new infrastructure. The master plan devolves into five-year planning periods leading up to 2060. Additionally, the South African Renewable Energy Masterplan outlines recommendations to shape South Africa's industrial policy which are aimed at encouraging investment localisation of renewable energy value chains, including an ambition to target development in Mpumalanga.

This section of the report will draw from data included in the master plan for the following key sectors: Electricity, Water and Sanitation, Transport, and Waste Management, to illustrate how the provincial government and local municipalities are engaging transition-risk management in their planning processes. The following key government institutions have clearly defined roles and responsibilities related to planning, operating, and managing the backbone of the municipal infrastructure across the province:

- Department of Mineral and Energy Resources (DMRE)
- Eskom (Generation, Transmission, and Distribution)
- Relevant local governments (district and local municipalities)
- Relevant provincial government departments
- Transnet
- Sanral
- Department of Water and Sanitation
- Department of Forestry, Fisheries, and the Environment (DFFE)
- Department of Public Works and Infrastructure
- Green Economy Cluster

'The role of local government should be to implement projects/ initiatives that will create resilient communities. It should be initiatives that will increase service delivery and electricity security within local government. Further, local government (including political structures) is recommended to create awareness on the just transition and to forge strategic relationships that will benefit local municipalities.'

– Workshop participant

5.3 Taking stock of existing capacity for Mpumalanga

5.3.1 Electricity infrastructure

5.3.1.1 The national context and infrastructure network in the province

Mpumalanga is home to critically important electricity infrastructure for the national economy, due to the high concentration of coal-fired generators and the complementary transmission infrastructure directing power flows across the country and the region. Municipally managed infrastructure is limited to distribution, which provides an interface with the national grid and allows reticulation of electricity to residential, commercial, and industrial users in Mpumalanga via bulk purchases by municipalities from Eskom. In addition to this, amendments to Schedule 2 of the Electricity Regulation Act have encouraged the uptake of private generation capacity. The South African Photovoltaic Industry Association has developed an online dashboard to track the new projects registered by the energy regulator, NERSA (SAPVIA, 2023). By 1 June 2023, 41 power projects with a cumulative capacity of 234MW, which aim to connect the transmission and distribution network in Mpumalanga, had been registered.

Mpumalanga has the advantage of relatively high available transmission capacity, due to decades of investment in the coal-generation network involving various waves of network expansion and strengthening since the 1960s. According to Eskom's latest Generation Connection Capacity Assessment for 2023 for the Transmission Networks (Eskom Holdings, 2021), Eskom has quantified the available capacity in the province to be 6788MW, much of which is located at the nodes of existing coal-fired power plants. The small, new scale embedded generation projects mostly comprise solar photovoltaic (PV) systems for use in mines and large commercial enterprises, as well as wind capacity, which is currently driven by coal miner Seriti's proposed 155MW wind farm development. Seriti's project marks the first phase of a planned 750MW wind and 150MW solar-capacity renewable energy cluster located between Bethal and Morgenzon in Mpumalanga. The impact of the increasing presence of decentralised generation is expected to result in a decline in the volume of electricity sales from wealthy residents, mines, and other commercial users. Municipalities are under pressure to establish coherent and appropriate small-scale embedded generation (SSEG) policies and negotiate appropriate pricing for potential energy wheeling projects requiring focussed policy development and adapted revenue models.

Eskom's Transmission Development Plan 2023-2032 includes the key infrastructure plans for Mpumalanga, which have provincial and national implications. Mpumalanga itself is expected to experience load peaks of 3945MW in 2023. Eskom modelling anticipates a load growth rate of 1.32% per annum, rising to 4439MW in 2032. Several key projects have been planned to accommodate the load growth, increase network capacity for the uptake of new renewable energy projects in the region, and upgrade existing Transnet infrastructure to support its freight rail system. This infrastructure will involve extensive substation construction (including 27 high-capacity transformers), overhead powerlines (400kV) at over 729km, and the procurement installation of capacitor banks and reactors for network strengthening. It is important to note that future network access to enable project development in the high wind and solar resources potential areas in the Northern Cape are dependent on the progress of the transmission-expansion projects planned in Mpumalanga.

Promoting a just transition is a fundamental goal of the industrialisation plan outlined in the South African Renewable Energy Master Plan (SAREM). By strategically locating job creation and economic value-add activities in just transition hotspots like Mpumalanga, the aim is to foster economic diversification. Enhancing competitiveness within these hotspots, channelling investments into renewable energy sectors in these economies, and driving demand through the development of renewable energy megawatts in these areas are all viable strategies to facilitate job creation within these local economies. An eco-industrial park project is currently under way through the rezoning of a special economic zone in Emalahleni. In terms of generation infrastructure, the 2022 SAREM draft suggests 3GW of renewable energy capacity at various stages of development could create local jobs in construction and component manufacturing.

The development of green hydrogen fuel production plants has been identified as a new economic opportunity, with high international export potential for South Africa. The Just Energy Transition Investment Plan allocates 21.58% of its investment to developing a local green hydrogen industry. By November 2022, the Minister of Public Works and Infrastructure, Patricia De Lille, highlighted that 19 plants are under development under the Green Hydrogen National Programme, including SASOL HySHiFT (Secunda) and HDF Renewable energy projects located in Mpumalanga (Department of Public Works and Infrastructure, 2022).

Local municipalities can play a key role in improving the conditions for investment in productive infrastructure in the region through strategic zoning and timely coordination of permitting, and the coordination of municipal departments can help reduce construction time and save costs. Local government should also play a strategic role in public consultation processes for energy transition projects, as many of the risks associated with these initiatives have material bearing on the requirements for operations and infrastructure capacity of host municipalities.

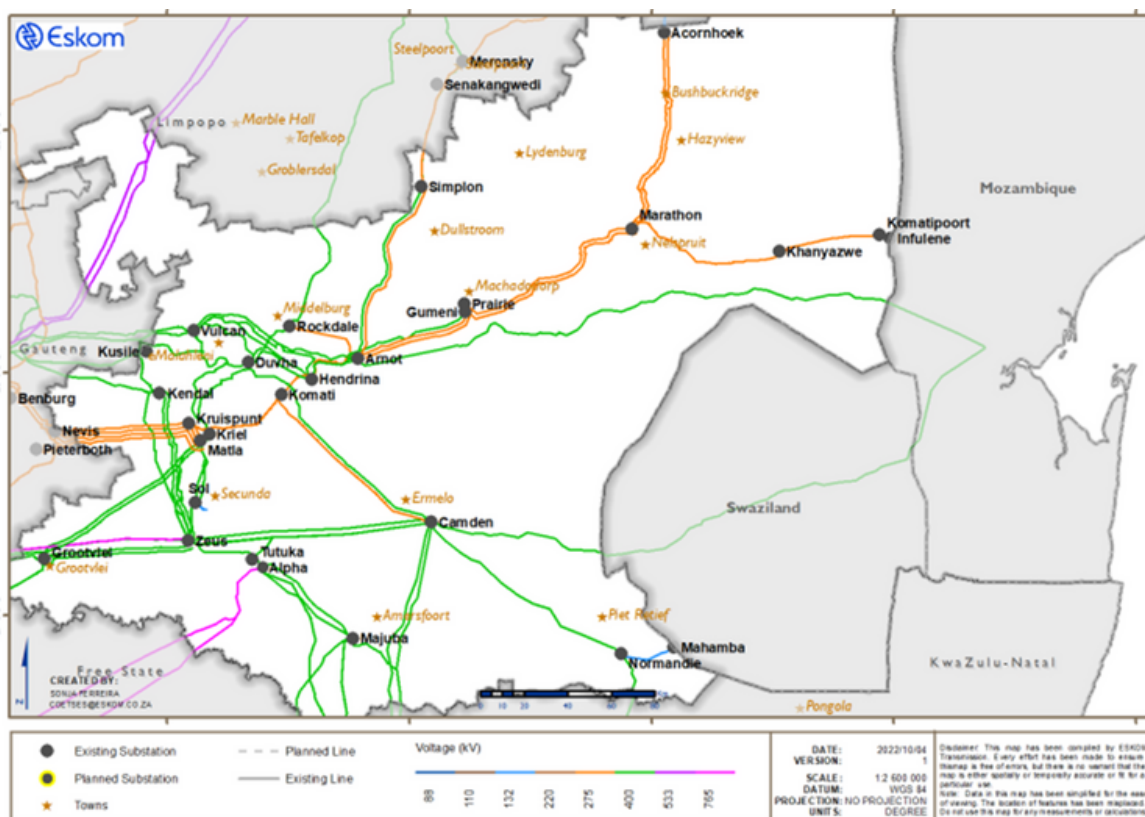


Figure 12: Existing and planned transmission infrastructure in Mpumalanga up to 2032 (Source: Eskom Transmission Development Plan 2023-2032)

Integrated with the developments announced under the just energy transition, the Mpumalanga Infrastructure Masterplan (MIMP) aims to prioritise some of the following key initiatives related to electricity infrastructure:

- Energy efficiency (smart meter installations)
- Renewable energy project stakeholder coordination
- Scheduled decommissioning of coal plants
- Implementation of projects along the gas corridor as a strategic complementary low-carbon resource to pair with new wind and solar projects
- Policy formulation and stakeholder coordination to encourage development of a green hydrogen industry
- Biofuel production

Box 1: Decommissioning Case Study – Komati Power Station

The initiation of the decommissioning of the Komati coal-fired power station in October 2022 served as the first major milestone in the implementation of Eskom's Just Energy Transition strategy. As part of Eskom's socio-economic impact study (Eskom, 2022), the primary study area included Blinkpan, Goedehoop South and North, as well as Big House and Sizanane informal settlements.

The direct impacts were anticipated to spread between Nkangala District Municipality and Steve Tshwete Municipality. Without interventions, the planned closure of the plant threatened to place 791 jobs on site at risk, along with a further 3 375 indirect jobs. The impact study found that the closure may result in a decrease of approximately R9 million worth of household consumption, impacting businesses that heavily depend on local spending power. This is likely to affect various entities, including local street vendors, retail establishments, transportation services, and community services like education facilities and personal services.

The study outlined the consultation process Eskom embarked upon during decommissioning, which proved to be a contentious issue among onsite workers and community members. A report published by environmental justice NGO Groundwork, titled "Contested Transition: State and Capital against Community" (Groundwork, 2022), included testimony from community members who felt that the public consultation was not meaningful, and that plans had been developed and imposed, contributing to a growing sense of confusion and anxiety. These findings were confirmed by separate reports published by the Institute for Economic Justice (Kamanzi, Lutiyah and Baloyi, 2022) and investigative journalism (Molelekwa, 2023). NGO Oxpeckers highlighting concerns that the decommissioning process was failing to comply with the principle of "procedural justice", as used in the state-adopted Just Transition Framework document .

'We went to the community; they don't know anything about this just transition. They don't know about the climate change, whether [it] is linked to this just transition. So, most of the time we are comfortable where we are as departments. Hence we [are] asking to say where is this 'transition', not 'energy transition', supposed to sit? So that we can be able to have a proper planning per municipality.' – Workshop participant

Eskom has indicated that plans for Komati include repowering the existing infrastructure with the deployment of solar photovoltaic, natural gas, and battery storage systems. The plans also include repurposing initiatives that aim to generate employment by establishing agriculture and aquaponic systems. The phased development of repowering and repurposing plans across the coal plants due for decommissioning is under way, with projects such as a smart agriculture hub at Grootvlei power station, in partnership with the Kingdom of the Netherlands and the first prospective hybrid solar and hydrogen (1500MW/ 3500MWh) power project due to be developed by French multinational HDF connecting into the transmission network using site access to Majuba and Tutuka power stations.

'Currently [at] Komati and the energy sector, the focus is on dealing with supply of energy from private investors rather than social and municipal-owned systems. People are not involved, and have less understanding of the developments. Facilitating the development of renewable energy plant and value chain, proactively tackling energy poverty, ensuring the basic coalitions required for investment in an area through infrastructure maintenance, and strategic development and spatial planning.' – Workshop participant

A powerful consensus emerged from the project workshop, with municipal and provincial officials suggesting that a critical role for local government in the transition is to identify projects suitable for specific municipalities, incorporate them into municipal integrated development plans, and implement based on funding availability. Furthermore, local government should be supported to prepare proposals for accessing just energy transition climate funds via clearly defined dispersing authorities, which will be managing disbursements of capital from providers of finance to municipalities, private companies, and non-governmental organisations.

5.3.1.2 Distribution networks

There are 14 municipal electricity distributors across the province. Each procures most of its electricity through bulk purchases from Eskom, with only four municipalities allowing the use of grid-connected small-scale embedded generators by 2020 (SALGA, 2020). There is no nationally coordinated process to coordinate a review of electrical distribution performance. Commonly reported issues in the region at a distribution level include slow progress on grid extension (to electrify informal settlements and rural areas), slow performance on distribution outage recovery, and aging infrastructure leading to rising electrical energy losses.

The distribution networks maintained by municipalities largely consist of substations (interfacing the high-voltage network with low-voltage distribution network), cabling, poles, meters for consumption measurement, and electrical protection devices. Ensuring high performance at a distribution level requires resourcing and adherence to specified maintenance schedules. As previously discussed, poor financial management is already a threat to performance, resulting in increased electrical losses, which have negative implications for municipal revenues. High levels of nationally imposed loadshedding over the past few years have caused strain on distribution-level infrastructure, leading to increased rates of component failures in established patterns of self-reinforcing damage, further reducing customer reliability. Following from Eskom's Medium Term System Adequacy Report (2023–2027), loadshedding will very likely persist in the short to medium term, requiring municipalities to carefully assess and resource plans to refurbish and protect existing assets.

In December 2022 a 132/11kV electrical substation was energised, expanding the electricity supply capacity to Mhluzi township in Steve Tshwete Municipality. The project, budgeted at R197 million, is a high-capacity substation (two slots for 40MVA transformers), in anticipation of future load growth from the town and industrial consumers. The new infrastructure will improve electricity reliability in the area. The new supply line adds redundancy, which mitigates the concentrated risk of outages at a single point of failure (Rheeder, 2022). Earlier in 2022, Mhluzi faced a fire at the Gholfsig substation, which provided the sole access line to the area, resulting in a two-week electrical outage. Risk of outages due to damage to infrastructure has also been observed during floods.

To increase the uptake of renewable energy systems in the region, policy reforms at the level of local government are required to ensure SSEG policies are finalised with NERSA-approved tariffs. Upgrades to local distribution infrastructure, including the deployment of smart meters and increases in transformer capacity, will be necessary to complement the rise in SSEG adoption once the requisite regulations and incentives have been established.

5.3.1.3 Equitable service delivery

Despite historically abundant energy resources located in the province, energy poverty in Mpumalanga has remained a severe issue across the province. This has impacted both residents with national grid access as well as rural communities and informal settlements which have yet to benefit from the national electrification scheme. For users with grid access, rising electricity prices – driven by Eskom's high debt burden and low plant performance requiring increased diesel usage – have worsened energy poverty. The rising prices, combined with the impact of high levels of loadshedding, have led more residents with access to return to the use of paraffin and candles for cooking and lighting, resulting in increased risks to respiratory health and of fires.

Based on data reported in the MIMP, Mpumalanga-based municipalities have observed that only a third of the households receiving Free Basic Electricity (FBE) in 2002 (271 474) was realised in 2019 (82 546), despite a rise in unemployment of more than 13% over the same period. This trend tallies with research conducted by the Public Affairs Research Institute (PARI), which found that at national level only 30% of the funds disbursed by the National Treasury for FBE were used on households defined as indigent (Yelland, 2021). PARI's research discovered a tendency for under-resourced municipalities to absorb the funding earmarked for FBE into their general budgets, to be used for other purposes. Additional issues include a lack of updates to the register for persons within a municipality who qualify for FBE. Thaba Chweu Municipality is in the process of revising its "indigent user register" , to align appropriate customer tariff classifications and Free Basic Electricity (FBE) allocations.

Table 17: List of Mpumalanga municipalities' electricity management performance (Sustainable Energy Africa and SALGA, 2021; Sutcliffe, Bannister and MCGahey, 2023)

Municipality	Local / District	No. of households with FBE	% of households receiving FBE	SSEG framework in place (2020)	No. of SSEG installed/ Capacity (2020)
Bushbuckridge Local Municipality	LM	863	0.8		
Chief Albert Luthuli Local Municipality	LM	1287	3.1		
City of Mbombela Local Municipality	LM	11388	8.3	Yes	235 // 15MWp
Dipaleseng Local Municipality	LM	207	2		
Dr JS Moroka Local Municipality	LM	689	1.5		
Dr Pixley Ka Isaka Seme Local Municipality	LM	1828	11.3		
Emakhazeni Local Municipality	LM	3754	38.8		
Emalahleni Local Municipality	LM	8897	10.6	Yes	5 // 2MWp
Govan Mbeki Local Municipality	LM	9496	14.6	Yes	0 // 0
Lekwa Local Municipality	LM	1450	6.4		
Mkhondo Local Municipality	LM	1263	3.5		
Msukaligwa Local Municipality	LM	7932	23.5	Yes	0 // 0
Nkomazi Local Municipality	LM	12754	14.9		
Steve Tshwete Local Municipality	LM	16166	33.3		
Thaba Chweu Local Municipality	LM	2971	4.6		
Thembisile Hani Local Municipality	LM	675	1.1		
Victor Khanye Local Municipality	LM	2088	12.5		

5.3.2 Water and wastewater management

5.3.2.1 Performance

Mpumalanga has 122 water treatment plants, collectively capable of treating 8 152.9 million litres per day (Ml/d). These plants serve a reported population of 16.7 million people, and the average design capacity of water treatment facilities in the province is 67.3 Ml/d. The majority of the province's municipalities lack the capacity to adequately monitor quality, have high levels of water losses, and lack technical capacity, which severely impacts service delivery. In South Africa, every resident is constitutionally entitled to sustainable and reliable access to clean and safe water. The National Development Plan (NDP) 2030, has set a target to ensure clean running water is available in every household. To achieve this, the government has implemented conventional water facilities to effectively eliminate contaminants from water before it is distributed to consumers. Additionally, wastewater treatment plants have been established to properly treat generated wastewater before it is discharged into water bodies. The management of South African water resources is governed by a comprehensive legal framework, known as the National Water Act. This Act contains essential requirements that regulate the discharge of effluent, and other human activities that can potentially impact water resources within the country. It stipulates that water abstracted for industrial purposes from a specific water source must be returned in a manner that poses no threat to the receiving water, and that it complies with the effluent discharge standards set by the Department of Water Affairs.

The indigent user register is a list of households, maintained by the municipality, which identifies which households are due for targeting for access to free basic services.

Section 151(2) of the National Water Act No. 36 of 1998 specifies that those who pollute water resources in the country are liable to fines for the cost of remediation or may face imprisonment for up to five years. Furthermore, the National Environmental Management Act (NEMA) Act 107 of 1998 mandates the avoidance of damage to local ecosystems and loss of biodiversity, which has implications for the development of new infrastructure. This Act also applies to the disposal of harmful effluents into river systems, which can alter the water's potential uses and potentially lead to contamination (Edokpayi et al., 2020).

According to the National Water Act (Act 36 of 1998), specific responsibilities are assigned to relevant sector institutions, including water services authorities (WSAs) and Catchment Management Agencies (CMAs). These institutions play a crucial role in guaranteeing that all individuals have access to safe, clean, and high-quality drinking water, among other essential services. In accordance with this legislation, the Minister of Water and Sanitation has the authority to establish regulations governing the provision of water services, while municipalities are entrusted with the responsibility of supplying water to consumers.

For the effective management of drinking water and wastewater across South Africa, the Department of Water and Sanitation (DWS) developed incentive-based regulations in 2008, formalised through the Blue and Green Drop certification programmes. The two programmes periodically measure and compare results of the performance of water service institutions and reward (or penalise) institutions based on evidence of excellence (or failure) when measured against defined criteria.

The Blue Drop focusses on drinking water quality, and the Green Drop looks at wastewater treatment performance. The safety of drinking water in South Africa is also ensured through a risk-based approach, guided by the compulsory South African National Standard SANS 241:2015. This standard establishes the minimum requirements for drinking water quality, aiming to guarantee its suitability for human consumption. SANS 241 also provides direction on assessing water quality risks throughout the entire process, from the catchment area to the end consumer. It emphasises the importance of continuous monitoring and verification of water quality to effectively manage and mitigate any identified risks. This approach ensures that the water supplied is free from any potential hazards and poses no risks to consumers. The 2022 South African Institution of Civil Engineering (SAICE) infrastructure report card identified that out of 17 WSAs and 112 water supply systems, Mpumalanga had a municipal Blue Drop risk rating of 54%. The Auditor-General's report specifically highlighted poor performance from the Evander wastewater treatment facility, which has fallen into disrepair due to inadequate maintenance resulting in sewage overflows.

The 2022 Blue Drop assessment reported that the Blue Drop Risk Rating (BDRR) profile for Mpumalanga's 122 water treatment plants was 58.9% low risk, 20.5% medium risk, 8% high risk, and 12% critical risk (Department of Water and Sanitation, 2023a). Over 77% of the plants range from small to medium in size and provide up to 25Ml/day, catering for small towns and rural areas. There are reported to be capacity challenges with the operation and management of rurally based infrastructure, which would need to operate over a large, sparsely populated area with little pre-existing infrastructure. Over half of the water treatment facilities failed microbiological compliance tests, indicating potential health risks for residents. Additionally, more than two thirds of the systems failed to pass the chemical contamination thresholds, which may result in long-term health issues. In terms of skills capacity, the Blue Drop assessment found that 44% of water supply systems across the province had poor levels of technical capacity, and only 52% of all these systems had full maintenance teams in place – only slightly above the national average (44%).

The 2022 Green Drop assessment reported a decline in the overall score across the province, which shifted to 20% in 2021 from 28% in 2013. This marks a worrying trend of deterioration of municipal assets in Barberton, Daggakraal, Lebombo, Sandriver, Witban, and Zonstraal with five of eight wastewater treatment plants in high-risk positions (Department of Water and Sanitation, 2023b). The report found that while capacity was in place to appropriately complete process audits, sludge management plans and asset registers, implementation of their own findings was reported as a serious issue. The lack of a regional operational structure to manage water and sanitation services was flagged in the Green Drop, which observed that resources across the province were centralised, and no ring-fenced financials for specific areas and projects were in place. Longer response times for repairing infrastructure failures was noted as a result. In some cases, municipalities outsourced operation and maintenance of these services, but there appeared to be a lack of standard performance-monitoring measures.

Table 18: Mpumalanga municipalities' water management performance (municipalities containing at least one water supply system with a critical risk rating in the 2022 Blue Drop assessment are highlighted in red) (Department of Water and Sanitation, 2023a, 2023b; Sutcliffe, Bannister and Mogahey, 2023)

Municipality	Local / District	No. of supply systems	Total water supply design capacity (Ml/d)	No. of households with free basic water	% of poor households reached by FBS	% Municipal BDRR
Bushbuckridge Local Municipality	LM	12	4.1	863	0.8	38.6
Chief Albert Luthuli Local Municipality	LM	8	14.6	1287	3.1	63.9
City of Mbombela Local Municipality	LM	22	378.12	11368	8.3	95.2
Dipaleseng Local Municipality	LM	1	6	207	2	97
Dr JS Moroka Local Municipality	LM	1	60	13527	29.2	37.2
Dr Pixley Ka Isaka Seme Local Municipality (also called Pixley ka Seme Local Municipality)	LM	4	14	1828	11.3	59.1
Emakhazeni Local Municipality	LM	4	11.7	3754	38.8	40.9
Emalahleni Local Municipality	LM	4	124.01	8897	10.6	52.6
Govan Mbeki Local Municipality	LM	1		11547	17.8	40.8
Lekwa Local Municipality	LM	2	22	1450	6.4	60.5
Mkhondo Local Municipality	LM	4	27.2	1263	3.5	37.9
Msukaligwa Local Municipality	LM	5	22	7932	23.5	52.3
Nkomazi Local Municipality	LM	17	940.85	20988	24.6	42.5
Steve Tshwete Local Municipality	LM	13	65.94	15085	31.1	33.4
Thaba Chweu Local Municipality	LM	5	26	1193	4.6	87.1
Thembisile Hani Local Municipality	LM	7	13401	574	1	53.7
Victor Khanye Local Municipality	LM	2	4815	2700	16.1	34.5

The findings of the 2022 Blue Drop and Green Drop reports emphasise the importance of ensuring adequate budgeting at a municipal level is done, to ensure funds are ring-fenced and spent on operations and maintenance activities for water supply systems and wastewater treatment plants. The MIMP has identified several key ongoing projects to improve the service delivery related to water provision in the province, including the following:

- Reducing water losses: Improving existing infrastructure works to replace asbestos water pipes with UPVC pipes. Asbestos pipes have been linked to harmful environmental impacts and have been prone to embrittlement, leading to bursts, which leads to heavy water losses;
- Provision of small borehole water systems to rural communities; and
- Improving local drought resilience by getting local municipalities to champion water conservation and efficient water use programmes among residential, commercial, and industrial users.

Blue Drop shows only 32% of water supply systems have water safety plans. This presents a serious risk, as effective risk management is not taking place. The Blue Drop report recommends the completion of a full SANS 241:2015 analysis on raw, final, and distribution networks to identify the root cause/s of existing problems. Municipal budgets should also include provisions to appoint personnel to ensure maintenance teams are adequately staffed and to ensure compliance with water safety performance metrics, reduce water losses, and timeously respond to incidents of infrastructure failure.

5.3.2.2 Infrastructure ownership, operation, and handover

The planned, phased decommissioning of the majority of South Africa's coal fleet over the coming decade poses wide-ranging risks to the social fabric, physical infrastructure, and economic prospects of the region. As an increasing array of power plants and mines continue to close, the potential of failure in rehabilitation efforts poses severe risks to local health, food, and water systems, as well as the broader environment. Adequate planning is needed to improve the capacity and capabilities of local municipalities in order to improve performance of routine maintenance and to meet the execution tasks outlined in the provincial infrastructure masterplan.

Several large mines and Eskom-owned coal-fired power stations are currently responsible for the provision of water to their adjacent municipalities. Due to their operations, there are accompanying responsibilities to ensure adequate treatment of the acidification of local water sources, which must be included in mining rehabilitation plans. As one respondent noted:

'Failures in one system will lead to knock-on effects in the next; mine closure failures will damage waters [and] systems, creating new ecological and water supply and governance issues, for instance. Silos risk seeking narrow solutions in one aspect of governance, creating new problems in others.'

As reported in the 2022 Blue Drop report, Eskom is responsible for operating three water supply systems (WSS) in Mpumalanga, all of which are in the Steve Tshwete Local Municipality. The systems are located at Arnot (Rietkuil WSS), Hendrina (Pullenshope WSS) and Komati (Blinkpan WSS) power plants. The table below summarises the reported state of skills levels and infrastructure at these locations. All three water supply systems achieved a Blue Drop risk rating of 49.4%, well above the performance of Steve Tshwete Municipality as a whole, which stood at 33.4% and universally complied with the microbiological compliance test. The plants scored above 97% across the board for chemical contamination compliance, but technical skills capacity was assessed to stand at half the national average. None of the Eskom water supply systems had water safety plans in place, which is a requirement in accordance with the SANS 241:2015 technical standards.

During its operational period, the Komati power station played a crucial role in supplying water to various entities. This included providing 1.5 million litres per month to the Lakama Group, 45 million litres per month to Komati Village, and 8 million litres per month to the Koornfontein mine. Despite the closure of the power station, water supply to the power station, which is subsequently distributed to mines and other users, will remain unaffected. It is important to note that Eskom has a contractual obligation to continue supplying water to both Komati Village and the Koornfontein mine, even after the power station ceases operations (Eskom Holdings, 2023).

The planned decommissioning of Hendrina Power Station in Steve Tshwete Municipality has raised concerns from local municipal officials related to the continuation of water service provision. Hendrina currently pipes water to the KwaZamokhule informal settlement, and its operations are likely to be transferred to the municipality upon the plant closure. Additional resources will be required for the municipality to meet the labour and skills capacity for taking over the assets.

As part of Eskom's just energy transition plan, the provision of technologies that promote efficient resource use and renewable energy projects has been recommended for communities affected by the shutdown, to ensure access to and conservation of energy and water resources. Affected communities could also benefit from skills development opportunities related to understanding and implementing water and energy conservation measures.

5.3.2.3 Connection to economic diversification priorities in national policy

The potential development of green hydrogen production facilities requires access to high-quality water resources as an input into fuel production. Access to water for new green hydrogen projects may risk competing with adjacent community access needs, and will need to be carefully managed by local municipalities to ensure the distributional impacts of the construction and operation of the plants enhance local infrastructure and service provision. The MIMP aims to prioritise some of the following key initiatives related to water supply infrastructure:

- Implementation of capital expenditure projects resolving Blue and Green Drop report findings;
- Implementation of water conservation and water demand management systems;
- Smart meter installation rollout;
- Rationalise water tariffs towards cost-reflective tariffs; and
- Installation of reliable rudimentary water supply systems (e.g. small scheme borehole systems) to improve rural water access.

5.3.3 Solid waste management

Inadequate solid waste management is linked to the burning of waste in under-served or unserved areas, including informal settlements. The Mpumalanga Provincial Government has also outlined a pipeline of initiatives to ensure that sanitation services are made more reliable, and to improve the quality of water discharge to the environment from industrial activities. High on the agenda is the short-term development of a provincial integrated waste management plan to coordinate these activities. All municipalities are required to include the provision of regional and general sites in their integrated development plans (IDPs). The IDP should also contain the local strategy for managing illegal dumping sites, which often exist due to the lack of available refuse disposal sites, leading to waste burning, which can have negative impacts on local air quality (Ngema and Sijekula, 2022). Some of the key solid waste management infrastructure interventions particularly relevant to the energy transition include the following:

- Integration of waste pickers into source-separation pilot for waste from organics, recyclables, construction, and demolition;
- Review the diversion of waste away from landfills during Eskom decommissioning activities;
- Ensure appropriate capacity for offtake for waste management in the Nkomazi Special Economic Zone;
- Develop a strategy to contend with solar power waste management; and
- Development of ICT-E waste policies, and identification of waste beneficiation projects with private-sector partners.

5.3.4 Transport

In Mpumalanga, the transportation system is composed of three main modes: unsubsidised commuter bus operators, minibus taxi operators, and state-funded passenger rail services. The provincial department regulates public transport funds and selected bus and scholar transport services. These combined efforts have the aim of overcoming the special impact of past inequalities, improving mobility, and providing better access to public amenities and education in the region. The management of road networks is shared between local municipalities, large mines, Eskom, and Sanral.

Investment in transportation infrastructure in Mpumalanga serves a social function, enabling mobility and the provision of basic service. Crucially, it also forms the backbone for economic development in the region. Infrastructure construction in the transport sector is a significant source of employment. Mpumalanga's provincial Department of Public Works, Roads and Transport indicated in its 2021/22 annual report that 38 989 work opportunities had been created through the regional Expanded Public Works Programme with the support of the Presidential employment stimulus (Mpumalanga Department of Public Works, 2022).

The MIMP has identified several key ongoing projects to improve service delivery related to water provision in the province, including the following:

- Upgrade transport infrastructure along key tourism routes to promote economic diversification;
- Public transport infrastructure upgrades;
- Implement digitalisation projects in passenger rail and freight transport systems;
- Implementation of road, rail, and non-motorised transport projects in the Moloto Corridor; and
- Develop passenger rail system on N4 corridor and the R40.

Extensive road and rail networks have been used for decades in the province to facilitate the construction and operation of mines, power stations, and other commercial and industrial activities. The export potential of mined materials and manufactured goods is deeply tied to the state of transportation infrastructure, as perhaps most viscerally seen with extensive heavy duty truck traffic from the province to harbours in KwaZulu-Natal.

The 2022 South African Institution of Civil Engineering (SAICE) infrastructure report card (South African Institution of Civil Engineering, 2022) found that the majority of road authorities at both provincial and municipal levels lack updated knowledge about the condition of their road systems. It also asserts that there is no reliable database available containing the length and ownership of the road network. Across most provinces, road-condition assessments are often years out of date and, where they have been conducted, may only cover a limited portion of the network due to lack of capacity. The Mpumalanga roads authority is ahead of most other provinces in this, monitoring road condition more actively. However, data from municipalities is limited. Prioritisation of roads is typically done on high-traffic routes which are selected and subjected to more regular condition monitoring and maintenance.

Insufficient funding for Mpumalanga's coal haul roads, which play a vital role in the South African economy, has far-reaching consequences. The current allocated funding under the Medium-Term Expenditure Framework is inadequate for essential maintenance and upgrades. This funding, averaging R328 million per year from 2020 to 2029, falls short of preventing further deterioration of the coal paved road network. To ensure the network's viability, an annual funding level exceeding R1.2 billion is needed. This funding would cover preventative maintenance, rehabilitation treatments, and upgrades to keep the proportion of roads in "poor" and "very poor" condition below 10% of the total network length. Without adequate funding, the coal haul road network will continue to degrade, posing significant challenges to the transportation of coal, and impacting the South African economy.

Sanral manages over 2 400 km of road infrastructure in Mpumalanga, and intends to invest R3 billion into the routine maintenance, upgrades, and construction of new roads (SANRAL, 2022). Further funding is required to cover the shortfall, particularly for municipally managed roads.

One of the key transition risks in this area includes clarity on the roles and responsibilities of the mines and local government over infrastructure currently serviced under social labour plans.

The coal rail freight transport line has experienced a decline in its condition, primarily due to deficiencies in management capacity, deterioration of maintenance practices, aging compounded by vandalism, and theft. As a result, there has been a significant 20% decrease in the tonnage carried between 2017 and 2022. Transnet's Swaziland Rail Link (SwaziLink) project is an upcoming infrastructure development that holds the potential to greatly enhance trade (South African Business, 2021). This project aims to establish a 146 km railway line connecting Lothair in Mpumalanga to Sidvokodvo in Swaziland, enabling smoother movement of freight between the two countries and offering an alternative route for transporting goods to Richards Bay in KwaZulu-Natal. Transnet Freight Rail serves as the primary operator, responsible for handling a wide range of freight including coal, fuel, chemicals, timber, iron and chrome ore, fruit, maize, animal feed, wholesale and retail goods, steel, building supplies, fertilizer, and consumer goods. While the port of Maputo in Mozambique presents an attractive option for freight transportation, the coal terminal at Richards Bay in KwaZulu-Natal remains the main recipient of coal extracted from the province.

5.4 Risks and opportunities arising at the subnational scale

The worst-case scenarios for the energy transition involve a deepening of established patterns of self-reinforcing damage to local infrastructure (see Table 19).

Table 19: Infrastructure and service delivery issues to track

Issue to track	Notes on framing and definition	Notes on data availability
Estimated households without formal electricity access	Estimated total number of persons without access to a physical grid connection	Data available and reported by municipalities
Average estimated distribution losses as a % of electrical consumption (reported by municipality and provincial)	The estimated distribution losses are represented by a percentage ratio between the total energy supplied to the municipality and the actual energy consumed over a particular period. This data can be calculated from annual municipal electricity sales data.	No clear public data sources for municipality-by-municipality distribution losses
% wastewater treatment systems with Green Drop status	The Green Drop certification includes a cumulative risk rating for each wastewater treatment works, expressed as a percentage (%).	Green Drop 2022 report recently completed with support from Operation Vulindlela
% waste supply systems with Blue Drop status	The Blue Drop certification includes a cumulative risk rating for each water supply system, expressed as a percentage (%).	Blue Drop 2022 report recently completed with support from Operation Vulindlela
Total water supply versus total water demand (residential and commercial)	This measure is a calculated ratio which compares the demand with the design capacity of local water supply systems.	Data will be available as part of the Blue Drop survey; however, demand is not regularly reported
% average estimated water distribution losses	This measure quantifies the percentage of water lost in the process of distribution from the water supply system to the point of use.	Water loss statistics are reported in the Blue Drop report
% households with access to sanitation (flush toilet connected to public sewerage system)	These are households with access to RDP standard toilet facilities such as flush toilets, or a septic tank, or a pit toilet with a ventilation pipe.	Data available through the Stats SA General Household Survey
% households with waste collection services	This measure records the percentage of households receiving municipal waste collection services.	Data available through the Stats SA General Household Survey
% waste diverted from landfill	This measure includes the estimated total weight of waste recycled in a particular municipality, and its recording is required	Data should be made available through the South African Waste Information System Database
Number of municipalities with critical technical skills shortages in infrastructure maintenance departments	This measure could include the number of municipalities facing critical technical skills shortages in operations and maintenance activities for infrastructure assets	Green and Blue Drop include technical skills assessments for municipalities for water and wastewater systems activities. There is no regular public report available for electricity, municipal roads, and a number of other sectors.

Inadequate spending on maintenance, low levels of available skilled capacity, and poor implementation of existing policy and infrastructure plans pose a severe threat to social and economic infrastructure in Mpumalanga. The impacts of these trends are harshly felt by vulnerable residents during the periodic flooding and extensive wildfires the province has been exposed to. Due to the global climate crisis, it should be anticipated that these events will become more frequent, making the upgrading of infrastructure for basic service delivery a critical element of South Africa's climate adaptation strategy (see Table 28 for a list of infrastructure risks related to mitigating actions).

5.5 Capabilities required for the transition

Mpumalanga's municipalities are battling to stabilise the performance of the infrastructure assets required to deliver basic services. There is a distinct lack of available capacity to deal with the additional complexities associated with the transition. The gaps in coordination and resourcing between high-levels plans at national, provincial, and municipal levels present a major obstacle in ensuring transition plans and risk-mitigation measures can actually be implemented. As Eskom shuts down power plants and mines close, it is essential to build up local capacity to manage the associated risks. Municipalities require a large-scale reinvestment and capacity overhaul to ensure the requisite capabilities are available to ensure climate and transition risks are managed effectively.

Mpumalanga's economic diversification strategy for the energy transition is heavily agriculturally based, requiring a scaling-up of focussed state support in developing enabling infrastructure for new investment. As discussed earlier, upgrades are needed to the road and rail network connecting mining and agricultural production with harbour access through KwaZulu-Natal. Existing trends of poor project completion rates and under-investment in road and rail infrastructure pose serious challenges to the rapid expansion of new economic activities anticipated in the region as the coal sector's prominence in the regional economy dwindles. Improving local infrastructure and prioritising service delivery carries immense potential to absorb the anticipated job losses in the energy transition. Mechanisms such as the Extended Public Works Programme have been highlighted as a potential vehicle for increasing local capacity. Communities seek employment, better livelihoods, and improved access to basic services, and the concept of a just transition has the potential to sound abstract and disconnected from their realities. As one respondent noted:

'Free basic service delivery for the indigent is critical at times of transition; this should also include payment plans for the unemployed. Without decent infrastructure and services, these areas will not be able to attract new investment; therefore this extends to energy and water security, waste collection, road, and related transport infrastructure maintenance.'

The legacy of coal mining and coal-fired power stations carries a general health risk for the local population. There are many related issues connected to poor access to decent and safe drinking water which have been identified as carrying high risks for the development of long-term health issues. The 2022 SAICE infrastructure report card identified Mpumalanga as one of the provinces with many health facilities with high-risk ratings, noting that only 33% of the 415 hospitals and clinics achieved ideal clinic status in a 2020/21 review.

In acknowledgement of this, investments in community health infrastructure, including upgrades to existing facilities, new community health centres, and mobile clinics has already been identified under Eskom's just energy transition priorities in its first Komati socio-economic impact study. With the increased incidence of severe weather events such as flooding, severe hail storms, and droughts, re-investing in health and housing infrastructure should be understood as a key priority in the region's climate-adaptation strategy. The primary focus of enhancing housing infrastructure in the province revolves around the potential establishment of public housing units in various municipalities. Given the significant local reforms necessitated by the transition, there exists an opportunity to capitalise on the planned investments in public transport and economic diversification. This can be achieved by developing more integrated delivery models for free basic services and improving overall service delivery, particularly in conjunction with the implementation of new public housing schemes.

There is an extensive need for investment in skills training for workers seeking opportunities in ongoing construction, economic diversification activities specifically related to the transition, and to facilitate the improved operations and maintenance performance of municipal infrastructure. Despite the critical importance of skills training, only 0.2% of the Just Energy Transition Investment Plan financing goal has been allocated for this activity for the entire country, implying that alternative sources will be necessary. Municipalities should also aim to set the standard for responsible energy efficiency measures, leveraging opportunities in services for public lighting, air conditioning for buildings, the "greening" of construction, and sewage treatment and waste disposal. Steve Tshwete Municipality has implemented energy efficiency and water conservation retrofits to its existing buildings to improve overall efficiency (Beatrix, 2015).

Table 20: Summary of local government capacity and capabilities for transition

	Capacity for transition	Capability for transition
Infrastructure and Service Delivery	<ul style="list-style-type: none"> • Out-of-date municipal infrastructure asset registers. A digitalisation of records process is currently under way. • Electricity, water, transport, sanitation, health, and education are very uneven, and there are low levels of performance for delivering free basic services across the province. • High-level planning processes appear to be in place for key new infrastructure, but legacy issues of a failure to implement review recommendations for existing infrastructure is a serious issue. • Underspending in operations and maintenance activities for municipal assets has accelerated the aging of infrastructure and contributed to a decline in performance. • There are skills shortages reported in critical infrastructure sectors which threaten the ability of municipalities to implement technical work plans. • There is lack of clarity and coordination around the potential transfer of services currently provided by coal power stations due for decommissioning. Municipal officials appear unclear as to whether expanded capacity will be necessary in the short term to anticipate continuity of services in impacted areas. 	<ul style="list-style-type: none"> • Challenges have already emerged with public participation around the decommissioning of Komati Power Station. Local municipalities have a key role to play in stakeholder coordination and supporting robust adherence to the guidelines for public participation. • Issues with construction delays and failure to implement existing local policy recommendations threaten the capability to leverage incoming infrastructure in order to deliver climate-resilient services in an equitable, inclusive manner that responds to increasing vulnerability arising from the transition. • The capability to leverage incoming investment in economic diversification suffers from the same implementation challenges. • There are pre-transition issues related to the underfunding of operations and maintenance activities which will further hamper municipalities' ability to manage climate and transition risk, e.g. water-quality challenges.

PART 3: SYNTHESIS

6. Synthesis and proposed intervention points and approach

6.1 Impacts on subnational government systems, focusing on the functions of local government

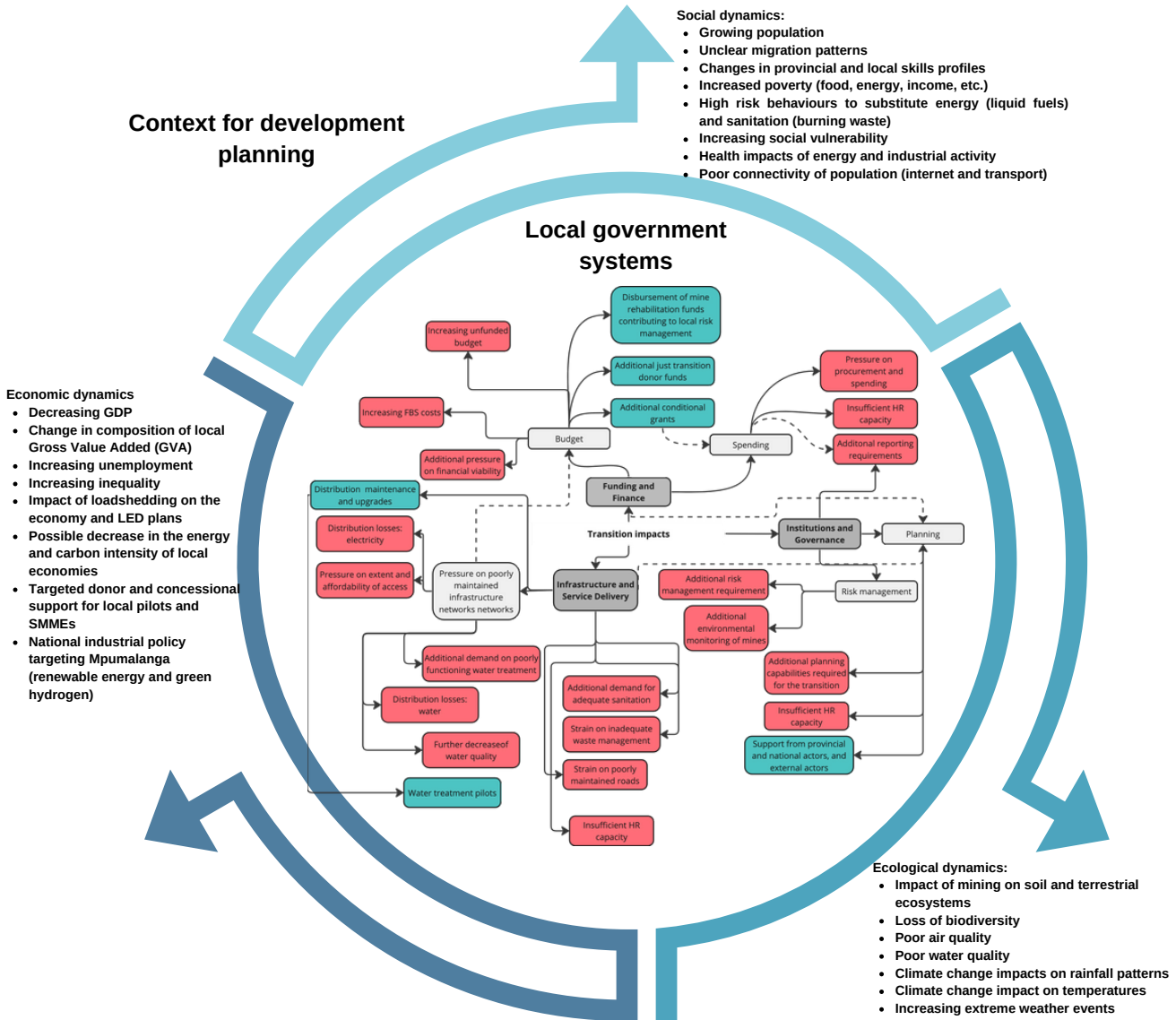


Figure 13: Indicative impacts on Local and District government systems

Mpumalanga’s subnational government actors are not adequately prepared to navigate the systemic changes that the coal, renewable energy, and economic transition will bring, and to ensure that it is just. Already, the province’s governments must contend with a challenging risk landscape, shaped by the lasting and unmanaged ecological impacts of mining and heavy industry. The historical and current patterns of mining and industry have also shaped the social risk context, with Mpumalanga leading the country’s nine provinces in terms of social vulnerability (Mtintsilana et al., 2022). The economic dependence on mining, both direct and indirect, means local economies and social and ecological systems are significantly exposed to the additional impacts of the coal transition. Eskom and mining houses’ involvement in the delivery of services adds an additional layer of complexity. Figure 7 captures the social, ecological, and economic dynamics faced by local government actors in the current context – as the transition has commenced, as well as transition-specific impacts on government systems, focusing on institutions and governance, funding and finance, and infrastructure and service delivery.

The impacts that have been identified are not exhaustive. However, of those that are already anticipated, they are overwhelmingly negative. The capacity and capability constraints and limitations of these internal systems suggest a significant lack in readiness for transition from a risk-management perspective. Although there are some municipalities that are better-performing in terms of governance, financial management, and infrastructure and service delivery, vulnerability within districts or between districts can have impacts in better-managed municipalities through the connection of social, ecological, and economic systems.

6.2 Distinguishing baseline local government functionality from transition-specific capabilities

Long-term resilient development that sustains the possibility of just outcomes is more than the sum of discrete external interventions. In broad terms, the capability required by the transition is for local governments at the district and local levels to be able to delineate, plan within, and act within the opportunity context. These could be opportunities to mitigate or avoid risk, or to pursue new opportunities to foster wellbeing and resilience, and to increase the range of options for current and future development through current and future development contexts. This kind of institutional capability will not be built overnight, and it should not be confused with short-term external expertise being brought in to solve a particular problem or execute a specific project.

Many of the issues pertaining to institutions and governance, funding and finance, and infrastructure and service delivery are not specific to and predate the transition. These capacities and capability gaps do not only make these governments more vulnerable to intersecting climate and transition risk; they also limit the ability of local governments to take and facilitate opportunities, either because they lack certain enabling functions or resources, or because support is required to leverage these functions and resources to enact just transition planning for, for example, economic diversification. The just transition is often framed as a new policy challenge, but many of the issues arising are not new, and do not require particularly new and innovative responses at the local government level. For example, the 'just' aspect of the just transition requires that vulnerability of workers and mining-affected communities is managed through the transition. As a starting point, ensuring the functioning and accessibility of basic services and functional infrastructure networks is essential to managing vulnerability. Existing policies regarding free basic services and associated existing transfers from national government need to be better-implemented and overseen. Building on this solid foundation, additional capabilities to generate knowledge, develop goals, and develop and implement dynamic action plans have a better chance of succeeding. External assistance made available under the auspices of the just transition can also be embedded and institutionalised with greater success if fundamental capacity gaps are addressed.

6.3 Comment on need for capacity building identified by various stakeholders and studies

The need for municipal capacity and capability building is noted in the JET IP:

'Underpinning these two issues is a broad need for robust state capacity and the capability to navigate the transition in the context of enduring structural poverty (including energy poverty), inequality, and unemployment. This combination of both capacity and capability is sector-specific (that is, focused on the components of electricity service delivery) and broad. Local electricity systems are interdependent with other systems – governance, risk management, budgeting, procurement, planning, regulation, and other service delivery (notably water and sanitation and waste management).' (The Presidency, 2022).

While there are discrete issues that can be solved by contracting in expertise or undertaking training, local government officials engaged stressed that training made available to officials is not always an appropriate or sufficient intervention to address capacity gaps. Additionally, officials reported that they have not always been sufficiently consulted in order to establish what kind of training or other support they feel they need. In addition to training or consulting services, longer-term partnership is required in the process of planning for and implementing short-, medium-, and long-term just transition strategy.

6.4 Identifying short- and medium-term opportunities to develop local capacity and capability

The tables below identify particular actions that could be taken to support the development of local government (local and district municipal) capacity and capability for transition. Where provincial and national actions are identified, these are in support of the local level of planning and action.

Table 21: Actions to build local government capacity and capabilities for transition

	Actions to build capacity for transition	Actions to build capability for transition
Local municipal officials	<ul style="list-style-type: none"> · Stronger governance performance in Ehlanzeni and Nkangala District Municipalities suggests that these districts are good entry points for just transition planning processes for those regions. · Strong local government risk management systems and processes are required. District and local just transition planning processes must leverage national and provincial risk management and knowledge management. External assistance is required to establish these systems. · Internal governance controls need to be improved in most municipalities. · Local government should have just transition action plans with key actions integrated into IDPs. · Local governments need to clarify the appropriate institutional home for internal just transition coordination and implementation. 	<ul style="list-style-type: none"> · Functional participatory processes need to be facilitated and must feed into appropriate policy, decision-making, and reporting to stakeholders. While this function needs to be institutionalised, external support can be leveraged to build this capacity. Additionally, there is a significant effort to model partnering approaches for just transition, which should be piloted in collaboration with local governments. · Risk-management functions need to be integrated into district and provincial risk-management processes. · Local governments should actively participate in district and provincial planning and implementation processes.
District municipal officials	<ul style="list-style-type: none"> · The just transition should be incorporated into the unified district-level development vision known as the "One Plan" under the District Development Model (DDM), aligned with national and provincial government plans and investments for the just transition. · District governments should develop a system to continuously identify, understand, and manage risks that span across local municipal boundaries. · Just transition plans should be aligned with the medium- to long-term capital investment frameworks (CIFs) of government entities and other stakeholders in the region to enhance the regional economy. 	<ul style="list-style-type: none"> · District and local governments should support economic diversification through just transition and LED planning activities. · District and local just transition planning processes should leverage national and provincial risk management and knowledge management.
Provincial government	<ul style="list-style-type: none"> · The provincial just transition plan and governance arrangements need to be finalised. The planning process should include just transition risk management and performance tracking. Climate change and just transition should be incorporated into sector department policies. · The Mpumalanga Green Cluster Agency should be adequately capacitated to supplement local economic development capacity at the district and local levels. · The Climate Change Forum is an existing intergovernmental forum that can be used to convene public, private, and civil society stakeholders for just transition planning and implementation. · Support local government implementation through ancillary and oversight functions in Provincial Treasury, and departments that cover climate change and ecological issues, local government, cooperative governance, and economic development. 	<ul style="list-style-type: none"> · In order to leverage governance capacity for the just transition, a provincial just transition planning process needs to be designed and implemented, and cascaded to district and local levels in ways that make sense for that level of planning. This includes planning, coordination of implementation, monitoring, evaluation, and learning, including climate-resilient local economic diversification. · Conduct monitoring, evaluation, and adaptation for the entire implementation period of this policy.
Provincial government National government	<ul style="list-style-type: none"> · The Presidency has an important role in harmonising across COGTA, DFFE, DMRE, National Treasury, dtic, DSI, DPME, and other relevant actors, as well as interfacing with the PCC and ensuring that the JET IP partners remain responsive to the complexity of implementation in Mpumalanga. · There is an urgent need to ensure that municipalities' human resource gaps in critical positions (governance, finance, and infrastructure) are suitably addressed. · There is a need to support and share learning across areas of good governance and performance among Mpumalanga's local governance, and provide additional support where appropriate (e.g. National Treasury support on complicated procurement). · National government or other designated ancillary actors can provide the support needed to enable Mpumalanga's local governments to access additional finance (e.g. conditional grants). 	<ul style="list-style-type: none"> · Capabilities cannot be built overnight. Significant external support will be required. However, this support must be managed so as not to reinforce institutional deficits and dependency on external support for capabilities that should exist internally. To this end, tracking of government capabilities should be supported.

6.5 Proposing a lab: Fostering a planning and implementation system building on nodes of functionality

The national governance context for just transition is complex, and likely to maintain a level of dynamism and tension between different legal and policy ambitions. Perfect coordination is not achievable. What is required is an optimal level of harmonisation across national sectors in order to enable local planning and implementation through generative legal, policy, political, financial, and infrastructure interventions. A shared integrated understanding of the evolving risk landscape is paramount, with feedback loops needed to allow for the early detection of issues within and between programmes and projects. The overarching aim of this harmonisation is to ensure that the just transition is not diluted across multiple individual projects that do not add up to either coherent decarbonisation or ensure any kind of procedural or distributive justice.

It is not clear what kinds of prescriptions will come out of the final analysis of the provincial institutional review led by the Office of the Premier. The information shared publicly, to date, has focused on the structure (although the overlap of intergovernmental forums is not clarified) over process and content. The results of this intervention could go some way to clarifying the relative political and institutional relationships between different actors. However, the issue remains, as it does across many policy issues, how to leverage a coherent set of institutional arrangements and political agreements to set and achieve goals in a dynamic context as characterised in Figure 13. The clarification of institutional arrangements is necessary and wholly insufficient on its own. What is required is the collective identification, prioritisation and addressing of capacity gaps, while establishing a just transition planning process that is fit for purpose, for long-term adaptive governance that increases transition-appropriate capabilities over time. During this project, some stakeholders emphasised the need for a 'back to basics' approach, stressing how little capacity exists for transition. Others emphasise the need for innovation, both institutional and technological. A robust transition governance approach needs to accommodate both kinds of interventions.

There is also a growing sentiment among stakeholders that action must be taken to drive just transition implementation, getting beyond planning, across different areas, in a way that does not undermine, but does also not need to wait for formalisation of the institutional arrangements. It is possible that, with the right processes, action on the ground can also support institutional clarity and vice versa. A universally applicable capability that needs to be fostered at the level of local government is the collaborative, cross-sectoral setting of concrete and achievable goals, embedded in short cycles of implementation, evaluation, learning, and adaption. Additionally, while interim recommendations coming out of the provincial institutional can structure political and institutional hierarchies and relationships for the just transition, there is still space within this proposed arrangement for multiple harmonised implementation processes. For example, each district municipality should integrate just transition into augmented economic planning processes.

Notably, the institutional review acknowledges but does not make any comment on the Provincial Climate Change Forum, which is required to function in terms of national climate change policy. This forum, which is already operational, provides an ideal entry point for an implementation-oriented process to facilitate collaborative, place-based action that is in line with any policy and institutional prescriptions emanating from the Office of the Premier, the related secretariat, and the two consultative forums proposed. In order to avoid duplication of efforts or working at cross-purposes, it is proposed here that an urban 'lab' methodology is used. This approach is precisely not an institutional arrangement design process, and is instead:

- Centred on process;
- Grounded in local institutions and experiences;
- Dynamic and iterative, evolving as the process unfolds; and
- Focused on building capacity across the systems to respond to unknown futures (Cirolia et al., 2023)

A lab also enables procedural justice, being oriented toward collective sense-making and prioritisation of interventions.

To avoid any duplication, the thematic focus of the lab could be centred on DARDLEA's transition-relevant powers and functions and existing areas of engagement and cooperation at the district and local level. It would also not demand much of the time of political executive leadership already involved in the high-level governance process, as it would focus on operational capacity and capability within government, and related stakeholders who would undertake aspects of or be impacted by implementation. It is proposed that the 'climate resilience lab' identify entry points at the intersection of climate change, just transition, and local government systems and functions. The idea is not to facilitate all and any projects that align thematically to this nexus of issues. Rather, a robust process would select, prioritise, and refine interventions.

The process would involve the convening partner (DARDLEA), decision-making partners (drawn from either district or local government), strategic partners (small team of external experts), and other government, private, civil society, and affected community stakeholders (Cirolia et al., 2023). This process necessarily involves three distinct phases of work: (1) formation, which entails problematisation of the intervention area and critical interrogation of the opportunity context; (2) generation and implementation, which entails process design, pathway mapping, and action plan formulation; and (3) institutionalisation and reflection, which involves consolidation of institutional learning, capacity, and capability. The process would seek to foster capacities and capabilities relevant to actual concrete project implementation, as well as robust overarching planning-process capabilities.

The possibility of distributive justice is sustained through continuous action to realise opportunities to manage vulnerability and create and distribute benefits. As things stand, the complexity of a changing energy system and changing economy give rise to a context in which opportunities are not clear. The 'lab' approach proposed here to action-oriented capacity and capability keeps a close connection to the problems and the systemic dynamics that gives rise to climate vulnerability that intersects in concrete ways with the transition. It is not a solution-driven process. Rather, it is action-driven and systemic in nature, employing and adapting emergent solutions to avoid flogging ready-made solutions to problems that no actors in the province actually have. This is not a consummate answer to every aspect; it is not designed to be. However, it is a feasible response to the opportunity context for local and district action, that does not duplicate or contradict any current strategies under consideration.

PART 4: REFERENCES & SUPPLEMENTAL INFORMATION

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8 Appendices

8.1 Appendix A: List of acronyms

Table 22: Acronyms used in report

Acronym	Full Name
AMD	Acid Mine Drainage
B-BBEE	Broad-based black economic empowerment
COGTA	(Mpumalanga) Department of Cooperative Governance and Traditional Affairs
DARDLEA	(Mpumalanga) Department of Agriculture, Rural Development, Land and Environmental Affairs
DBSA	Development Bank of Southern Africa
DEDT	(Mpumalanga) Department of Economic Development and Tourism
DFFE	Department of Forestry, Fisheries and the Environment
DFI	Development Finance Institutions
DMRE	Department of Mineral Resources and Energy
dtic	Department of Trade, Industry and Competition
DWS	Department of Water and Sanitation
DM	District Municipality
EIA	Environmental Impact Assessment
ERRP	Economic Reconstruction and Recovery Plan
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
GHG	Greenhouse Gas
GVA	Gross Value Added
IDP	Integrated Development Plan
IEP	Integrated Energy Plan
IRP	Integrated Resource Plan
JET IP	Just Energy Transition Investment Plan
LED	Local Economic Development
LM	Local Municipality
MIIIF	Municipal Infrastructure Investment Framework
MPAP	Municipal Priority Action Plan
MuSSA	Municipal Strategic Self-Assessment
NDC	Nationally Determined Contribution
NDP	National Development Plan
NEDLAC	National Economic Development and Labour Council
NERSA	National Energy Regulator of South Africa
NIP	National Infrastructure Plan
NPO	Non-Profit Organisation
NRW	Non-Revenue Water
PCC	Presidential Climate Commission
PPP	Public Private Partnerships
REIPPPP	Renewable Energy Independent Power Producers Procurement Programme
SALGA	South Africa Local Government Association
SDG	Sustainable Development Goals
SIPs	Strategic Infrastructure Projects
SJRP	Sector Jobs Resilience Plans (Patel et al., 2020)
SMME	Small, Medium and Micro Enterprises
SOE	State-Owned Enterprise
Solar PV	Solar Photovoltaic
TIPS	Trade and Industrial Policy Strategies

8.2 Appendix B: Workshop agenda and list of stakeholder organisations represented

Table 23: 17 May 2023 workshop agenda

Start Time	Agenda item
10:00	Welcome and chairing
10:10	Welcome from PCC
10:20	DARDLEA Presentation
11:00	Where is the Just Transition led and managed in the Municipality? / Where do you think it should be?
11:20	SALGA submission on JET to PCC
11:50	BREAK
12:00	Problem formulation round 1: ECONOMIC
12:15	Feedback
12:30	Problem formulation round 2: SOCIAL
12:45	Feedback
13:00	LUNCH
13:40	Problem formulation round 3: ECOLOGICAL
13:55	Feedback
14:10	Introducing the afternoon discussion rounds
14:20	Identifying stakeholders
14:45	Identifying risks
15:30	Immediate actions and needs
15:55	Checkout and thanks
	END

Table 24: List of stakeholder organisations represented at the project workshop

Category	Organisation
Local Municipality	Chief Albert Luthuli Municipality
	Dr JS Moroka Local Municipality
	Dr Pixley Ka Seme Local Municipality
	Emakhazeni Local Municipality
	Emalahleni Local Municipality
	Nkomazi Local Municipality
	Steve Tshwete Local Municipality
	Victor Khanye Local Municipality
District Municipality	Ehlanzeni District Municipality
	Nkangala District Municipality
Mpumalanga Provincial Government Departments	COGTA
	DARDLEA
	DEDT
	Office of the Premier/ PCC
Statutory body	SALGA

8.3 Appendix C: Survey respondent organisations

Table 25: List of survey respondent organisations

Category	Organisation represented in survey sample
Local Government	Chief Albert Luthuli Municipality
	Dipaleseng Local Municipality
	Emakhazeni Local Municipality
	Steve Tshwete Local Municipality
	Ehlanzeni District Municipality
Provincial Government	Mpumalanga Provincial Government Department of Agriculture, Rural Development, Land and Environmental Affairs
	Mpumalanga Provincial Government Department of Economic Development and Tourism
	Mpumalanga Provincial Government Office of the Premier
National Government	Just Energy Transition Investment Plan Project Management Unit in the Presidency (JET IP PMU)
State-owned company	Eskom Holdings
Statutory bodies and similar	Presidential Climate Commission
	SALGA
Development agency or DFI	The World Bank
Academia, research or think tank	Independent Consultant
	International Institute for Sustainable Development
	Stellenbosch University Centre for Sustainability Transitions
	TIPS
	University of Cape Town Energy Systems Research Group/ E3G
Non-profit organisation	GreenCape
	GroundWork
	ICLEI Africa
	Sustainable Energy Africa
	WWF South Africa
Other	Tournesol

8.4 Appendix D: Relevant legislation

Table 26: Non-exhaustive list of applicable legislation and regulations

Issue	Applicable national legislation and regulations	Additional notes	
Institutional	Public Finance Management Act 1 of 1999 (PFMA)	The Public Finance Management Act 1 of 1999 governs the financial management and fiscal responsibilities of national and provincial government departments, public entities, and other institutions in South Africa.	
	The Intergovernmental Relations Framework Act No. 13 of 2005	The Intergovernmental Relations Framework Act of 2005 (Act No. 13 of 2005) governs intergovernmental cooperation in South Africa. This Act provides a framework for cooperation, coordination, collaboration, forums, and joint decision-making processes among the various spheres of government in the country, namely national, provincial, and local government.	
	Municipal Finance Management Act 56 of 2003 (MFMA)	The Municipal Finance Management Act establishes the financial and procurement process obligations to which municipalities must adhere.	
	Municipal Fiscal Powers and Functions Act (2007) (MFPFA)		The Municipal Fiscal Powers and Functions Act governs various other aspects related to the financial powers and functions of municipalities. Some of these include:
			Revenue Generation: The MFPFA establishes the powers and functions of municipalities to generate revenue through property rates, service charges, and other fees and fines.
			Budgeting and Financial Planning: The Act sets out requirements and processes for municipal budgeting, as well as financial planning for the short and long term.
			Financial Management and Accountability: The MFPFA provides guidelines and regulations for financial management practices, including the management of funds, assets, liabilities, and financial reporting.
			Debt Management: The Act governs the borrowing powers and practices of municipalities, including the issuance of municipal bonds and the management of debt obligations.
			Procurement and Supply Chain Management: The MFPFA establishes rules and procedures for procurement and supply chain management.
			Municipal Financial Oversight: The Act outlines the roles and responsibilities of oversight bodies, such as municipal councils and provincial treasuries.
	Financial Reporting and Auditing: The MFPFA specifies requirements for financial reporting and auditing.		
	Municipal Systems Act (2000) (Systems Act)	The Act provides a legal framework for the functioning and governance of municipalities, including governance and decision-making processes, planning and development, service delivery, performance management, and public participation.	
	By-laws for Municipal functions such as Electricity Supply (vary per authority)	By-laws, which are specific to particular municipalities, cover land use and zoning, building codes, water use, and electricity reticulation.	
Disaster Management	Disaster Management Act 57 of 2002	The Disaster Management Act 57 of 2002 aims to provide a comprehensive and coordinated approach to disaster management in South Africa, including the identification and assessment of appropriate risk management.	
Spatial Development	Spatial Planning and Land Use Management Act 16 of 2013 (SPLUMA)	SPLUMA provides a framework for spatial planning and land use management, also for municipal development planning.	
Climate change	Climate Change Bill (B9-2022)	The Bill addresses various aspects of climate change mitigation, adaptation, and resilience. It aims to enhance institutional capacity and accountability for climate change, and enable cross-sector collaboration. This is still in draft; however, aspects have begun to be implemented.	
Environmental protection	National Environmental Management Act 107 of 1998 (NEMA)	South African environmental legislation is constitutionally mandated. Environmental protections extend to managing the exposure of poor and vulnerable communities to environmental risks. All economic development must balance requirements with these environmental protections. NEMA Section 2 prescribes principles of environmental management and governance, including:	
	National Environmental Management Laws Amendment Act 2 of 2022		• Polluter pays principle
			• Precautionary principle
			• Avoidance principle
			• Principle of environmental justice
			• Principle of equitable access to natural resources
			• Principle of public participation
			• Principles of openness and transparency
	• Principle of trusteeship		
National Environmental Management: Air Quality Act, 39 of 2004 (NEM:AQA)	• Principle of intra- and intergenerational environmental sustainability		
National Environmental Management Biodiversity Act 10 of 2004 (NEMBA)	• Principle of integrated environmental management		
National Environmental Management: Protected Areas Act 57 of 2003 (NEMPAA)			
National Environmental Management: Integrated Coastal Management Act 24 of 2008 (NEM:ICMA)	The NEMA provides for the specific environmental management acts (SEMAS), as specified. The National Environmental Management: Air Quality Act, 39 of 2004 (NEM:AQA) has particular relevance for Mpumalanga because of emissions associated with Eskom's power generation, other heavy industry, and mining, which are in violation of minimum air quality standards. The Highveld Priority Area in Mpumalanga, which includes Emalahleni and surrounding areas, has been recognised as an area of poor air quality and environmental concern. Activities release pollutants such as particulate matter, sulfur dioxide, nitrogen oxides, and volatile organic compounds into the air, contributing to poor air quality and associated health risks.		
National Environmental Management: Integrated Coastal Management Amendment Act 36 of 2014			

	EIA Regulations and Listed Activities Notices	EIAs require public consultation with parties affected by planned activities. EIAs must also include climate change impact assessments.
	Norms and standards regarding the remediation of contaminated land and soil quality GN 331 of 2 May 2014 (Government Gazette No. 37603)	
	Financial Provisioning Regulations, 2015 GNR 1147 of 20 November 2015 (Government Gazette 3942)	These Regulations govern the financial provision requirements for the rehabilitation and remediation of environmental damage caused by mining and prospecting activities. These regulations were established under the Mineral and Petroleum Resources Development Act, 2002 (MPRDA).
Efficient water use	National Water Act 36 of 1998 (NWA)	The NWA requires listed activities to obtain a water use licence. This water use licence prescribes conditions for use: "Conditions attached to licences will be progressively improved through research and consultation. DWAF will pay special attention to practices that limit stream flow reduction and to activities with detrimental impacts on the water resource, that promote water conservation and demand management, and that achieve environmental standards."
	Water Services Act 108 of 1997 (WSA)	The WSA governs water services provided by local government and water services boards.
	Regulations Regarding the Procedural Requirements for Water Use Licence Applications and Appeals, GNR 267 of 24 March 2017 (Government Gazette no. 40713)	Both municipalities and provincial government departments have a role in reviewing and providing input on water use license applications, ensuring compliance with relevant legislation, and safeguarding the sustainable use and management of water resources. Their involvement helps to ensure that water use activities are conducted in a manner that considers local and provincial water resource planning, protection of the environment, and the interests of various stakeholders.
Energy	National Energy Act 34 of 2008 (NEA)	The NEA refers to the need for a diversity of energy and its sources, which should be available, sustainable, and affordable. The NEA promotes energy efficiency, which is described as "economical and efficient production and utilisation of an energy carrier or resource". These requirements, together, have implications for the production and use of green hydrogen across different applications, which is relevant to Mpumalanga's economic diversification plans.
	Electricity Regulation Act 4 of 2006 (ERA)	Amendments to the ERA allow for the renewable energy capacity required for green hydrogen production to be established through bilateral transactions between independent power producers (IPPs) and industrial off-takers, pending registration (but not licensing) by the regulator.
	National Energy Regulator Act 40 of 2004 (NERA)	The NERA gives the National Energy Regulator of South Africa (NERSA) its powers.
Waste management	National Environmental Management: Waste Act 59 of 2008 (NEMA:WA)	The NEMA:WA covers waste management.
	Hazardous Substances Act 15 of 1973 (HSA)	The HSA pertains to the management and processing of e-waste and other components used in renewable energy generation and reticulation, desalination, and electrolysis.
	Hazardous chemical substances regulations GNR 1179 of 25 August 1995 (Government Gazette No. 16596) (as amended)	
Mining	Mineral and Petroleum Resources Development Act 28 of 2002 (MPRDA)	The MPRDA governs the extractives sector in South Africa and is relevant to the platinum group mining feeding into the manufacturing relevant to green hydrogen supply chains. It also requires holders of mining rights to comply with the Mining Charter, 2018.
Safety	Occupational Health and Safety Act 85 of 1993 (OHSA)	The OHSA is relevant to all employment.

8.5 Appendix E: Additional municipal information

Table 27: Selected municipal indicators (Statistics South Africa, 2016; Auditor-General South Africa, 2022)
[4]

Municipality	Local / District	District	Area (km2)	Population (2016)	Poverty rate (2016)	Leadership *	Effective risk management**	Audit outcomes	Going concern risk	Deficit for the year***	Human resource capacity gaps	Eskom Power Stations
Bushbuckridge Local Municipality	LM	Ehlanzeni	10,248	546,215	9,7%	Intervention required	In progress	Unqualified with findings				
Chief Albert Luthuli Local Municipality	LM	Gert Sibande	5,559	187,629	10,3%	In progress	Good	Qualified with findings			YES	
City of Mbombela Local Municipality	LM	Ehlanzeni	7,141	695,913	5,9%	In progress	In progress	Unqualified with findings	YES	YES	YES	
Dipaleseng Local Municipality	LM	Gert Sibande	2,645	45,232	8,4%	Intervention required	Intervention required	Qualified with findings			YES	Grootvlei
Dr JS Moroka Local Municipality	LM	Nkangala	1,416	246,016	10,2%	Intervention required	In progress	Qualified with findings			YES	
Dr Pixley Ka Isaka Seme Local Municipality (also called Pixley ka Seme Local Municipality)	LM	Gert Sibande	5,227	85,395	10,2%	In progress	In progress	Unqualified with findings		YES	YES	Majuba
Ehlanzeni	DM	N/A			7,8%	Good	Good	Unqualified with no findings		YES		
Emakhazeni Local Municipality	LM	Nkangala	4,736	48,149	8,7%	Intervention required	Intervention required	Adverse with findings				
Emalahleni Local Municipality	LM	Nkangala	2,678	455,228	10,9%	Intervention required	In progress	Qualified with findings	YES	YES	YES	Kriel, Matla, Duvha, Kendal, Kusile
Gert Sibande	DM	N/A			7,2%	Good	Good	Unqualified with findings				
Govan Mbeki Local Municipality	LM	Gert Sibande	2,995	340,091	3,9%	Intervention required	Intervention required	Qualified with findings	YES	YES	YES	
Lekwa Local Municipality	LM	Gert Sibande	4,557	123,419	5,0%	Intervention required	Intervention required		YES			Tukuka
Mkhondo Local Municipality	LM	Gert Sibande	4,882	189,036	11,9%	In progress	In progress	Unqualified with findings		YES	YES	
Msukaligwa Local Municipality	LM	Gert Sibande	6,016	164,608	6,7%	In progress	In progress	Qualified with findings				Camden
Nkangala	DM	N/A			8,2%	Good	Good	Unqualified with no findings				
Nkomazi Local Municipality	LM	Ehlanzeni	4,787	410,907	9,3%	In progress	In progress	Unqualified with findings				
Steve Tshwete Local Municipality	LM	Nkangala	3,976	278,749	5,1%	Good	Good	Unqualified with findings		YES	YES	Komati, Hendrina, Arnot
Thaba Chweu Local Municipality	LM	Ehlanzeni	5,719	101,895	5,5%	In progress	In progress	Unqualified with findings	YES	YES	YES	
Thembisile Hani Local Municipality	LM	Nkangala	2,384	333,331	6,1%	In progress	Good	Unqualified with findings				
Victor Khanye Local Municipality	LM	Nkangala	1,568	84,151	4,7%	In progress	In progress	Qualified with findings		YES	YES	
TOTAL	20	3							5	9	11	12

Table 28: Key risk areas for Electricity, Water, Wastewater, Sanitation, Health and Housing infrastructure impacting 'just' outcomes for the transition

Sector	Key Developments:	Risk Areas:	Proposed Key Action Areas:
Electricity:	<ul style="list-style-type: none"> Decommissioning of Eskom's coal fleet Electricity Regulation Act, Schedule 2 amendment Just energy transition financing opportunities Transmission Development Plan projects for Mpumalanga 	<ul style="list-style-type: none"> Inadequate consultation on decommissioning Poor transition management and accountability Aging infrastructure due to an investment shortfall resulting in worsening distribution losses Copper theft Land concessions for transmission Revenue loss from declining electricity sales volumes 	<ul style="list-style-type: none"> Implement action areas from socio-impact studies. Alignment of just energy transition with national policies to combat poverty, inequality, and unemployment Establishment of Biodiesel Tech Incubator Development of municipal SSEG policies
Water, Waste Management, and Sanitation:	<ul style="list-style-type: none"> Recent completion of Green and Blue Drop certification reports with several Mpumalanga municipalities requiring urgent remedial action Ongoing phase-out of asbestos water piping to UVPC piping to reduce water losses 	<ul style="list-style-type: none"> Severe lack of investment in new capital infrastructure Entrenched patterns of underspending in maintenance activities, leading to poor performance Lack of funding for improving skills capacity for water supply systems, wastewater treatment, and sanitation activities 	<ul style="list-style-type: none"> Decommissioning of Eskom coal-fired power stations to divert waste away from landfill to be reviewed Employment opportunities in Eskom decommissioning activities for the continuation of Water Management services Completion of the Lesotho Highlands water project
Healthcare:	<ul style="list-style-type: none"> Thungela (Goedeheop mine) to build mobile clinic and improve capacity project 	<ul style="list-style-type: none"> Lack of funding of necessary health infrastructure upgrades 	<ul style="list-style-type: none"> Construction of new community health clinics (ongoing project under way with Kamdladla clinic in Kanyamazane) Major infrastructure upgrades to increase the capacity of Themba and Rob Ferreira Hospitals Development of public housing sites
Housing:	<ul style="list-style-type: none"> Construction of new sites for residential use: Thulamahashe and Dwarloop Land acquisition in Nkangala, with over 1 000 planned housing units 	<ul style="list-style-type: none"> Lack of funding for public housing Challenges in securing land rights for public housing development 	<ul style="list-style-type: none"> Formalisation of informal settlements (flagged for Gert Sibande Municipality) Rezoning commercial and high-density areas Implementation of public housing development targets established in the MIMP
Transportation:	<ul style="list-style-type: none"> Sanral's Horizon 2030 programme includes major road upgrades (resurfacing, repairs, and new construction) R3.7 billion to be invested in the Mtolo Development Corridor project 10 ongoing Sanral routine road maintenance programmes 	<ul style="list-style-type: none"> Investment shortfall in road construction and maintenance for municipal roads Threat of construction "mafia" extorting community consultation processes and delaying construction Deteriorating road and rail infrastructure Lack of projects on freight rail upgrades Lack of adequate asset registries 	<ul style="list-style-type: none"> Implementation of routine road maintenance Implementation of rail network developments Rehabilitation projects for priority road infrastructure Investment in hydrogen-based vehicles and electric vehicles for public transport

[4] Notes on Table 27:

- All data is for the 2021/22 year, unless otherwise stated.
- *Leadership considers effective leadership culture, oversight responsibility, HR management, policies and procedures, action plans, and IT governance.
- **Risk is one of three indicators that the Auditor-General uses for governance. The other two are 'internal audit' and 'audit'.
- ***A deficit indicates total expenditure that exceeded total revenue.
- ****Umjindi Local Municipality, which has since merged with the City of Mbombela, had a recorded poverty rate of 8,5%.



www.justurbantransitions.com
www.howweadapt.com



info@howweadapt.com

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