



**PRESIDENTIAL
CLIMATE COMMISSION**
TOWARDS A JUST TRANSITION

A Presidential Climate Commission Report

A Framework for a Just Transition in South Africa

May 2022

About the Presidential Climate Commission

The Presidential Climate Commission (PCC) is a multi-stakeholder body established by the President of the Republic of South Africa to (1) advise on the country's climate change response and (2) support a just transition to a low-carbon climate-resilient economy and society. The PCC facilitates dialogue between social partners on these issues—defining the type of economy and society we want to achieve, and detailed pathways for how to get there.

About the Just Transition Framework

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

Table of Contents

Introduction	3
About the Just Transition Framework	4
1. Foundations for a Just Transition Framework	8
2. Defining a Just Transition for South Africa	9
3. Principles	9
4. At-Risk Value Chains and Sectors	11
5. Key Policy Areas for a Just Transition	19
6. Effective Governance for a Just Transition	24
7. Finance for a Just Transition	28
Looking Ahead	30
References	31
Annex: Selection of Priority Interventions to Give Effect to a Just Transition	36

Introduction

South Africa is in a part of the world that is severely impacted by climate variability. The country frequently experiences droughts, floods, and other extreme weather events, with evidence that the frequency and intensity of such events are increasing because of climate change (IPCC 2022). These events have already caused enormous damage to infrastructure, ecosystems, lives, and livelihoods, and displaced thousands of people, and continue to be a stark reminder that it is poorer communities—women and young people, the unemployed, those living in informal settlements—that are most vulnerable to climate change. Climate change also places significant stress on food security and South Africa's already-constrained water resources, creating knock-on impacts in other sectors (DFFE 2019; NPC 2020).

Climate change exacerbates South Africa's triple challenges of poverty, unemployment, and inequality. South Africa is one of the most unequal countries in the world; the divide between the rich and the poor is larger than ever; currently, the unemployment rate, at over 35 percent, is at record levels (StatsSA 2022). The health impacts from the burning of fossil fuels (a major driver of climate change) also impacts poorer communities, further highlighting these inequities (Gray 2019; Madonsela et al. 2022). The PCC's community engagements in the early part of 2022 identified the hardships that many South Africans are experiencing. Workers, jobseekers, and community members have spoken passionately and articulately about the unfairness of their current situations, the inequalities they experience, and their visions for a more equal and more inclusive society (PCC 2022a). At the same time the capacity of the state to respond to these challenges has never been weaker, and communities have expressed the view that the state is failing them.

It is in South Africa's national interests to join the world in combating climate change, in accordance with national circumstances and development priorities. This is not only an environmental imperative, but an economic one too, as countries around the world start to shift toward low-emissions policies, affecting global trade as well as demand for goods and resources.

Addressing climate change means strengthening adaptation measures to improve the resilience to immediate events (e.g., extreme weather, disasters) as well as long-term climatic shifts that impact water security, food security, and human health (DFFE 2019), with a particular focus on vulnerable groups, particularly rural communities, the poor, women, the youth, and children. Addressing climate change also necessitates sharp reductions in greenhouse gas emissions—the harmful pollutants that drive climate change. The scale of the challenge also demands an effective State, significant government capacity, and trust among all stakeholders, which has been significantly eroded in recent years because of the loss of accountability and professional ethos linked to state capture (The Presidency 2022).

Tackling climate change will require urgent, significant, and transformational changes across all sectors of the South African economy. It will require innovations in urban and infrastructure planning; a massive shift to clean energy sources; and

changes to how we use our land, water, and obtain our food (IPCC 2022). The changes will be difficult for some, particularly the workers and communities whose lives and livelihoods are tied to fossil fuel industries, as well as the women, the youth, and the poor, who are already disproportionately bearing the brunt of South Africa's hardships and triple challenges. Managing the transition will require strategies that both deal with the unavoidable burdens arising from the transition, as well as strategies that seize the opportunities offered by the green economy, with wide sharing of benefits.

People must be at the centre of the climate change response (ILO 2015; DFFE 2022). Indeed, the aim is a *just transition*: seizing the opportunities and managing the risks associated with climate change, with an overarching goal of improving the lives and livelihoods of ALL South Africans, particularly those most impacted. The scope of a just transition is wide, both in the focus on people, and on the time scales of action and delivery.

About the Just Transition Framework

What is the Just Transition Framework?

One of the first tasks of the Presidential Climate Commission (PCC) was to design a just transition framework for South Africa. In December 2020, President Cyril Ramaphosa created the PCC to oversee and facilitate a just transition to a low-emissions and climate-resilient economy. The just transition framework is the first building block towards this objective, bringing *coordination* and *coherence* to just transition planning in the country. The just transition framework sets out a shared vision for the just transition, principles to guide the transition, and policies and governance arrangements to give effect to the transition.

How was the Just Transition Framework Developed?

The just transition framework builds on research, policies, and consultations on the just transition in South Africa, as well as international best practice guidelines. The framework stands on the shoulders of years of research in South Africa on the just transition, done by government, business, civil society, academia, and labour unions. The framework incorporates learnings from prior consultation processes on the just transition, including those facilitated by the National Planning Commission (NPC 2019) and the National Economic Development and Labour Council (NEDLAC 2020). The framework complements international best practice guidance on achieving just transitions (ILO 2015). The framework also links with other just transition plans and work by various stakeholder groups that have been developed or are under development in South Africa (see more in Section 1).

In developing the just transition framework, the PCC:

- Deepened the evidence base around an effective and equitable transition for South Africa and commissioned a series of policy briefs on key issues relevant to

the transition (Beukman & Reeler 2021; Lowitt 2021; Makgetla 2021a; Makgetla 2021b; Maseko 2021; Montmasson-Clair 2021; Patel 2021), culminating in a final synthesis report published in late 2021 (PCC 2021)

- Conducted a series of publicly broadcasted workshops and events on these issues, incorporating views of government ministers, civil society, business, labour, traditional leadership, youth, and the research community, among others, to form a comprehensive view of the major topics for a just transition framework (visit www.climatecommission.org.za to watch the events and recordings)
- Commissioned a series of essays from experts in different fields (academia, business, labour, and civil society), exploring what it will take to achieve a just transition in South Africa, with a focus on enhancing resilience (PCC 2022c)
- Consulted widely with workers, communities, small businesses, and social partners in the country in 2021 and 2022 on the framework (PCC 2022a; 2022b), in line with international best practice guidance (ILO 2021), allowing impacted groups to discuss their own development pathways and livelihoods
- Invited written comments of the draft just transition framework in March and April 2022, where 43 written submissions were received from many stakeholder groups, including youth, labour, business, financial institutions, all spheres of government, non-governmental organisations (NGOs), and academia
- Embarked on a series of in-person community consultations between March and May 2022, to better understand the needs of communities that are being impacted in the shift away from fossil fuel-based economies, ensuring that the framework is tailored to those most impacted by the changes that lie ahead (PCC 2022a). This included significant engagement with municipalities and traditional leaders in affected regions (PCC 2022a).

The research and consultations culminated in a large multi-stakeholder conference in May 2022 in Johannesburg, where participants underscored the urgency of a just and equitable transition, and many announced their support for the just transition framework (PCC 2022b).

From the review of existing work, as well as reports and dialogues conducted by the PCC (PCC 2021; PCC 2022b), it is clear that:

- There is broad consensus on how to define a just transition, and broad commitment across all stakeholders to the principle
- There is also consensus on who constitute the vulnerable—not just workers in fossil fuel value chain, but also unemployed, poor households, communities, youth, and women affected by both climate change and mitigation measures

- The climate transition is not just an environmental issue; it is more directly an economic and social issue with profound implications for the future competitiveness of the South African economy and livelihoods of its people
- It is important to sequence and align economic, social, and mitigation and adaptation measures, which means the country will need a just transition framework that is translated into an implementation plan and detailed employment and skills strategies
- There is commitment among social partners to procedural justice, involving the most affected in decision making process, and reconfiguring governance processes to ensure all aspects of justice in the transition are addressed (procedural, redistributive, and restorative)

The just transition framework builds on these findings and areas of consensus.

Why is there a Need for a Just Transition Framework?

While there are clear areas of consensus on the just transition in South Africa, there has not yet been a single policy frame that sets out the vision, principles, and interventions that will give effect to this transition, as agreed to by all social partners. As a result, the multiple efforts by social partners to respond to the climate transition are uneven and uncoordinated. The work done to prepare this just transition framework—and indeed the framework itself—fills this gap. This framework provides a foundation for the government to adopt a unifying national policy statement to guide work on the just transition.

What is the Scope of the Just Transition Framework?

The just transition framework is positioned at the nexus of climate and development issues in South Africa. The framework therefore supports South Africa's broader efforts to redesign the economy to the benefit of most citizens to enable *deep, just, and transformational* shifts (i.e., addressing the triple challenges), in the context of delivering an effective response to climate change (i.e., improving resilience, making substantial cuts to greenhouse gas emissions, and protecting and promoting the health of communities).

The framework does not deal with climate mitigation and adaptation policies per se. Rather, the framework focuses on managing the social and economic consequences of those policies, while putting human development concerns at the centre of decision-making. The framework also considers the alternative economic models that may be needed to enable a just transition (Albert 2020; Hickel et al. 2021; Fanning et al. 2022).

The just transition framework is not exhaustive, nor a detailed implementation plan, but rather a first organising frame to give effect to a just transition in South Africa. The PCC will continue to update the framework as new learnings and stakeholder

consultations take place. The PCC will continue to engage with all stakeholders, especially those most impacted, to ensure that their voices and experiences support a just transition in South Africa. The PCC will also work with all social partners in developing a detailed implementation plan for the just transition, building on existing policies and initiatives.

Who is the Just Transition Framework for?

The just transition framework is for all social partners in South Africa, across all sectors. There is, however, no “one size fits all” approach to the just transition (ILO 2015). Social partners in South Africa will need to design their own policies and programmes in line with their specific conditions, responsibilities, and realms of influence, based on the vision, principles, and interventions articulated in this framework.

Moreover, in applying this framework, it will be important to consider the gender dimension in the transition in South Africa. Women are particularly vulnerable to the effects of climate change and other forms of environmental degradation; solutions to climate change are documented to be more effective when involving women (ILO 2021). At the same time, there should be a strong focus on South Africa's youth, as well as workers that form part of the informal economy—empowering these groups to seize the opportunities in the new green economy.

How is the Just Transition Framework Organised?

The just transition framework is organised in 7 main sections:

Figure 1: South Africa's Just Transition Framework



1. Foundations for a Just Transition Framework

The work on just transitions in South Africa dates back more than a decade, first originating with the labour movement. In 2009, at the tenth national congress, the Congress of South African Trade Unions (COSATU) highlighted the importance of a just transition to “protect the most vulnerable from the effects of climate change” (COSATU 2009). COSATU built on this definition in its 2011 climate change policy paper, explicitly calling for a just transition to a low-carbon economy, where the “just transition” focused on mitigating transition impacts on working-class groups, including workers, communities, and small businesses (COSATU 2011).

The focus on achieving a just transition soon followed from national government. In 2011, the National Climate Change Response White Paper emphasised a just transition as a policy imperative and an essential part of an effective climate change response (DEA 2011). In 2012, South Africa adopted a National Development Plan (NDP) after an extensive consultation process, with a focus on environmental sustainability and charting an equitable transition to a low-carbon economy (NDP 2012). The NPC also engaged in social dialogues between 2017 and 2019 on the just transition, in all provinces and among a variety of stakeholders, including the youth and energy-intensive users (NPC 2019). In December 2020, President Cyril Ramaphosa established the PCC (originally named the Presidential Climate Change Coordinating Commission), with an explicit aim to “advise on and facilitate a common understanding of a just transition, cognisant of the socio-economic, environmental and technological implications of climate change” (The Presidency 2020). South Africa’s Draft Climate Change Act also includes the just transition imperative as part of the overarching objectives and principles guiding South Africa’s response to climate change (DFFE 2022).

Government departments have advanced the just transition agenda. For example, the Department of Forestry, Fisheries and the Environment (DFFE) was instrumental in creating the National Employment Vulnerability Assessment (Makgetla et al. 2019) and Sector Jobs Resilience Plans (Makgetla et al. 2020c); the Department of Mineral Resources and Energy (DMRE) has engaged in several scoping studies and developed a draft just energy transition plan (DMRE 2020); National Treasury has created working groups focused on climate change and the just transition, as well as deepened work on financing a sustainable economy (National Treasury 2021; National Treasury 2022). The Department of Trade, Industry and Competition (dtic) has developed a roadmap for the local production of electric vehicle and components in South Africa (dtic 2021); the Department of Public Enterprises (DPE) has developed a roadmap for Eskom as part of a reformed electricity industry (DPE 2019).

The just transition imperative has now been entrenched and embraced by most major stakeholder groups in South Africa. There is broad consensus among social partners that climate change will impact people and the economy, and that a just transition to a sustainable, cleaner, and more inclusive economy is required (PCC 2022b). All social partners are clear that a just transition should protect constituents,

provide a reasonable opportunity to work, and empower those that are most impacted (PCC 2022b).

The just transition framework builds on and complements these learnings and the perspectives of different social partners.

2. Defining a Just Transition for South Africa

The framework is guided by a shared definition of a just transition in South Africa. The definition builds on the work done by NEDLAC (NEDLAC 2019), the National Planning Commission (NPC 2020), the definition articulated in the draft Climate Change Bill (DFFE 2022), and the views expressed in the stakeholder consultations and community engagements facilitated by the PCC (PCC 2022a; 2022b).

The definition for a just transition, put forward in this framework, is therefore as follows:

A just transition aims to achieve a quality life for all South Africans, in the context of climate resilient and net-zero-emissions development.

A just transition contributes to the goals of decent work for all, social inclusion, and the eradication of poverty.

A just transition puts people at the centre of decision making, especially those most impacted, the poor, women, people with disabilities, and the youth—empowering and equipping them for new opportunities of the future.

A just transition builds the resilience of the economy and people through affordable, decentralised, diversely owned renewable energy systems; conservation of natural resources; equitable access of water resources; and sustainable, equitable, inclusive land-use for all, especially for the most vulnerable.

3. Principles

The Bill of Rights, set out in Chapter 2 of the South African Constitution, enshrines first generation democratic and political rights, along with second generation socio-economic rights (e.g., shelter, health care, food, water and social services) and third generation collective development rights (e.g., environment and sustainable development, rights to collective organization and economic activities, rights of cultural and linguistic communities). These rights are given further expression in Chapter 1 of the National Environment Management Act (Act 107 of 1998), which contains a justiciable set of principles including putting human development concerns at the centre of decision making, producer and polluter responsibility, equitable access to environmental resources, and equipping people to participate in decision making.

In building on these progressive principles, this framework advances three principles as underpinning a just transition towards an environmentally sustainable economy

and society in South Africa: *distributive justice*, *restorative justice*, and *procedural justice*. These principles are drawn from literature on the just transition (Cahill and Allen 2020; McCauley and Heffron 2018), consultations facilitated by the PCC (PCC 2022a, 2022b), and international best practice guidelines (ILO 2015, 2021).

The theme of environmental justice also underlies all these principles—increasing the resilience of people and the environment to climate impacts. Resilience can be increased by, for example, protecting South Africa's strategic water sources areas, improving ecosystem services, improving biodiversity, implementing sustainable land-use practices, and restoring ecosystems to their natural forms, among other activities (Beukman & Reeler 2021; SANBI 2018).

3.1. Distributive Justice

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

The principle of *distributive justice* can be embodied in South Africa by:

- Equipping South Africans with skills, assets, and opportunities to participate in industries of the future, with particular attention on impacted groups, the poor, women, people with disabilities, and the youth.
- Implementing transformative national economic and social policies that clearly consider how benefits and burdens will be distributed (this includes clear indication of where jobs are gained, where jobs are lost, and the quality and longevity of future employment).
- Increasing provincial and local capacity (both resources and skills) to promote local economic development.
- Ensuring corporate responsibility to support a green and inclusive economy.

3.2. Restorative Justice

Historical damages against individuals, communities, and the environment must be addressed, with a particular focus on rectifying or ameliorating the situations of harmed or disenfranchised communities. It is about redress: healing people and the land, which was an immediate need echoed by all communities that the PCC has consulted with (PCC 2022a).

The principle of *restorative justice* can be embodied in South Africa by:

- Acknowledging the health and environmental impacts to communities in coal and other fossil fuel impacted areas, and supporting all South Africans' constitutional rights to a healthy environment.
- Shifting away from resource intensive sectors and fossil fuels to (1) improve ecosystems with community ownership and stewardship, (2) improve energy security and eliminate energy poverty, and (3) create opportunities for

rehabilitation of degraded land, air sheds, and water systems, the improvement of biodiversity, as well as related employment opportunities.

- Creating a more decentralised, net-zero-emissions economy, which allows for greater economic inclusion, ownership, and participation, especially for women and the youth.
- Remedying past harms by building on, and enhancing, existing mechanisms such as equitable access to environmental resources, land redistribution and Broad-based Black Economic Empowerment.

3.3. Procedural Justice

Workers, communities, and small businesses must be empowered and supported in the transition, with them defining their own development and livelihoods. It is about embracing the sentiment, “nothing about us without us!” (PCC 2022b).

The principle of *procedural justice* can be embodied in South Africa by:

- Assisting communities to understand what the just transition entails, specifically, and discuss points of agreement and disagreement openly and transparently.
- Supporting worker and community organisations (unions, civics, advocacy groups, etc.) to participate actively in just transition policy-making processes ensuring decisions are made in their best interests and allow them to take advantage of opportunities.
- Collaborating actively with a range of stakeholders, through inclusive and participatory decision-making structures, allowing each to play to their respective strengths, fostering a more dynamic, competitive, diversified, and equitable economy.
- Supporting the design and implementation of just transition projects, as proposed by individuals and communities in affected areas.

4. At-Risk Value Chains and Sectors

An effective just transition demands an understanding of the working people and communities that are (1) negatively impacted by climate change i.e., when their lives and livelihoods are directly impacted by droughts, floods, and other extreme weather events or other long-term climate impacts (e.g. food security risks, water scarcity) and/or (2) negatively impacted by the sectoral shifts in response to climate change i.e., when their means of securing income and work are tied to high-emissions industries that are phased out over time.

This framework begins by focusing on four sectors and value chains that are at-risk in the transition, which form part of the formal economy: (1) the coal value chain, (2) the auto value chain, (3) agriculture, and (4) tourism, as a first illustration of these risks. These analyses draw on earlier work done in preparing South Africa's National Employment Vulnerability Assessment (Makgetla et al. 2019) and Sector Jobs Resilience Plans (Patel et al. 2020; Maseko et al. 2020; Makgetla et al. 2020a; Makgetla et al. 2020b) but are not exhaustive.

Further work is required to examine the vulnerabilities in other groups and sectors, as well as workers in South Africa's informal economy. This work must include a spatial lens—considering spatial disparity as an important binding constraint in South Africa's inclusive development and resilience to shocks, including climate shocks. South Africa's spatial exclusion, rooted in the apartheid legacy (e.g., in the form of townships and informal settlements on marginal and vulnerable lands), continue to disadvantage certain groups, undermining both the resilience of affected communities and the urban dividend in South Africa's development.

4.1. Coal Value Chain

The coal value chain in South Africa faces one of the earliest disruptions in the global transition towards reaching net-zero emissions. Demand for coal for electricity and exports shrunk in the 2010s and is expected to decline further in the long term as countries reduce their greenhouse gas emissions (Patel et al. 2020). Projections from the International Energy Agency show an increase in global coal demand through 2024, and then plateauing. Coal consumption will need to decline quickly and sharply thereafter to reach the goals of the Paris Agreement (IEA 2021). This will create significant risks in South Africa, including revenue loss from reduced coal exports; job losses across the coal value chain; and loss of the economic ecosystems around coal mining communities, potentially creating ghost towns without effective economic diversification.

The sector will also face risks from the impacts of climate change. Coal production requires a significant amount of water, and climate change is likely to increase water scarcity and competition throughout South Africa (Beukman and Reeler 2021). Mining operations for coal and other products are also vulnerable to increased temperatures and extreme weather events, so it is important for the transition process to look at adaption pathways to reduce risk along the value chain and to communities in mining areas (NBI 2021b).

Downstream users of coal—Eskom, Sasol (which also mines its own coal) and the electricity-intensive aluminium and ferro-alloys producers—can reduce risks to their operations and sustain their employment if they develop alternative non-fossil fuel sources of energy and transition to new low-emissions production models (Makgetla 2021b). In contrast, the coal mines, together with their suppliers and communities, will face downsizing from around 2025 (Makgetla 2021b). The challenge will be to enable them to transition their business operating models, as seamlessly as possible, and for local and regional economies in these areas to design development plans for growth, employment creation, and decent new livelihoods.

The coal industry directly employed around 93,000 people in 2021 (Minerals Council South Africa 2022). From the 1980s to early 2000s employment in the sector declined from its peak of roughly 130,000 jobs to its lowest point of around 50,000 jobs before rising to 90,000 in the 2010s (Makgetla 2021b). Future projections suggest declines, driven externally by reduced global demand for South African coal exports, potentially exacerbated by domestic trends to automation and the digital economy

(Strambo et al. 2019; Makgetla 2021b). Most miners have matric qualifications yet earn around 50 percent more than the median for the formal sector. This makes it harder to find equivalent livelihoods outside of mining (Makgetla 2021b).

Coal production is geographically concentrated with 80 percent occurring in Mpumalanga and over 70 percent of South Africa's total value added from coal coming from just four towns— eMalahleni (Witbank), Steve Tshwete (Middelburg), Govan Mbeki and Msukaligwa (Ermelo) (Patel et al. 2020; Makgetla 2021b). Around 1.1 million people live in these districts (Stats SA 2011). Besides the direct employment effects, the downsizing in coal will affect a range of businesses and informal sector work that support the mines' labour force. Moreover, the municipalities depend on Eskom and the mines to provide some infrastructure and services (Patel et al. 2020).

With appropriate planning and support, some of the job losses in the coal value chain can be offset by further development of the domestic renewable energy manufacturing industry. The Draft South African Renewable Energy Masterplan (SAREM) outlines some of the potential benefits that can be realized by industrialising the renewable energy value chain, including targeted job creation in areas where former coal sector employees live (DMRE, dtic and DSI 2022). As the SAREM is aligned with the Integrated Resource Plan (IRP), any updates to the IRP that increase the renewable energy targets for 2030 or beyond would likely result in increases to the projected job and GDP growth potential of the plan.

4.2. Auto Value Chain

The auto industry depends on exports to Europe and the United States, which have committed to accelerating the introduction of electric vehicles (EVs) (Maseko et al. 2020; European Parliament 2022; The White House 2021). If the South African auto industry does not keep up with this global transition, local producers risk exclusion from these crucial markets. Production of EVs, however, requires far fewer inputs and jobs than petroleum-based cars, though jobs may be created to develop the infrastructure for charging stations, as well as the activities flowing from battery management (e.g., safe disposal, recycling, and refurbishment) (Maseko et al. 2020). The timeframes for the transition away from petroleum-based transport depend largely on developments in the global North and, to a lesser extent, regional markets. Europe and the United States have committed to mass use of EVs by 2030 (European Parliament 2022; The White House 2021). A reduction in demand for petrol and diesel will also have knock-on impacts for the liquid fuels sector.

Currently, around 100,000 people work in auto manufacturing (Maseko et al. 2020). The industry centres on Tshwane, eThekweni, Nelson Mandela Bay and Buffalo City (Maseko et al. 2020). The Eastern Cape could face particularly harsh outcomes unless the province is able to develop alternative production clusters (Maseko et al. 2020). The largest employment impacts will be in support industries rather than auto production itself. Around 250,000 people work as auto mechanics, over a third in the informal sector (Maseko et al. 2020). Informal mechanics are predominantly self-employed. An additional 250,000 people are taxi owners and drivers; this group will

face growing pressure to procure new e-vehicles, however, most will not be able to afford the investment without some form of state support (Maseko et al. 2020). It is not yet clear how petrol stations will adapt. They make much of their profits on retail sales but rely on petrol to attract customers (Makgetla et al. 2019). Petrol stations employ around 130,000 people and just over half of employees have matric (Makgetla et al. 2019).

While the global transition towards net-zero emissions creates risks to the auto value chain, there are also opportunities. The Department of Trade, Industry and Competition's draft Auto Green Paper on the Advancement of New Energy Vehicles in South Africa lays out a policy framework for advancing the EV market, among others, with interventions including tax reforms to stimulate greater domestic demand for EVs as well as an EV industrialisation strategy (dtic 2021).

4.3. Agriculture

Agriculture is a labour-intensive sector both in terms of employment per unit of output and in terms of its potential as an employment multiplier. Agriculture has already begun to experience the impacts of increasingly volatile weather, with ever-deeper fluctuations in production through the 2010s (DFFE 2019). The sector has faced persistent droughts in some areas; shifts in seasonal rainfall; intense rainfalls, which caused floods and, especially in labour-sending regions, worsened erosion; and generally higher temperatures and humidity, affecting farmworkers, affecting animals and crops directly, as well as incubating new pests and increasing water demand (DFFE 2019). These trends will intensify over the coming years. Climate change is also likely to create permanent changes in the suitability of regions to produce different crops in South Africa.

Climate-induced changes in water availability are likely to have the most immediate and significant impact on the sector. Agriculture accounts for over sixty percent of all water usage in South Africa (Beukman and Reeler 2021). The extent to which farmers can more efficiently use water and adopt other climate adaptive practices and technologies will significantly influence impacts on the sector. Commercial farmers have begun to invest in more resilient infrastructure and crops, such as shade for orchards, drip irrigation and heat-resistant varieties (Chisoro-Dube and Roberts 2021). Many smallholder farmers, however, lack the resources to invest in climate-smart approaches without support from the government or financial incentive schemes (Beukman and Reeler 2021).

The difference in adaptive capacity between commercial and smallholder farmers is representative of the power dynamics in the sector. The agricultural value chain is highly concentrated, with relatively few agro-industrial farms producing most products; roughly 50,000 industrial farms were responsible for over 90 percent of agricultural products sold in formal retail outlets in the 2010s and around 70 percent of all agricultural income is earned by less than 7 percent of farms (Makgetla et al. 2020a; NBI 2021a). Labour force surveys suggest that around a quarter of formal farm owners are black and black farmers account for just five percent of water use

(Makgetla et al. 2020a; Beukman and Reeler 2021). Addressing these existing inequalities within the sector must be considered as part of the just transition.

Farmworkers typically have less education (only 15 percent have matric), lower pay, and fewer assets than other formal employees (Makgetla et al. 2019). Moreover, they often live on isolated settlements on farms, making it harder for them to organise or to find new livelihoods. Under 5 percent are union members (Makgetla et al. 2019). Because droughts affect seasonal workers (around half of the total) particularly severely, it proves difficult to track their employment effects (Makgetla et al. 2019). The outcomes appear, not as retrenchments, but as a failure to hire temporary workers, which farmers do not have to report.

Median earnings for farmworkers came to R2,500 a month for women in 2017, and R2,800 for men. For other formal employees, the median earnings for women were R4,000 a month, and R5,000 for men (Makgetla et al. 2019). The median woman farmworker earned a little over half than her counterpart in other formal industries, while the median man earned 63 percent. The gender pay gap in farming, while apparent, is lower than in the rest of the economy (Makgetla et al. 2019).

In historic labour-sending regions, about 1.7 million people are engaged in farming or gardening and roughly 154,000 depend on it as their primary income or food source (Makgetla et al. 2020a) Most do not have matric. In contrast to commercial farms, almost none have capital or access to financing for more resilient production technologies (Makgetla et al. 2019). Small-scale farmers in the labour-sending regions usually have no alternative employment opportunities nearby, which is particularly acute for women subsistence farmers (Makgetla et al. 2019).

There are, however, opportunities to stimulate new and decent work in agriculture, while at the same time reducing greenhouse gas emissions, more efficiently using water resources, and improving rural livelihoods. For example, the restoration of degraded lands, the improvement of biodiversity, and/or the implementation of climate-smart agriculture are job creators, while bringing important climate and environmental benefits. The empowerment of community-based organisations to implement micro-projects will also support climate and broader societal resilience, particularly in rural or labour-sending regions. The agriculture sector will also benefit enormously from successful global climate change mitigation, since the most severe impacts of climate change on agriculture will be avoided if global warming can be restricted to well below 2°C.

4.4. Tourism

Tourism faces a variety of pressures because of climate change. Climate-driven degradation and disruption to cultural and natural heritage negatively affects the tourism sector, reduces the attractiveness of destinations, and lessens the economic opportunities for local communities. This is because natural and cultural resources are the foundation for the tourism sector's competitiveness, some of which are threatened by increasing heat, droughts, and rainfall (Makgetla et al. 2020b).

Indeed, the recent catastrophes in Mozambique, Zimbabwe, and South Africa are evident that our region is on the leading edge of climate impacts. Adverse global publicity around water shortages in Cape Town during the 2016 drought also saw a marked fall in visitors, with only a slow recovery (Makgetla et al. 2020b). In addition, overseas tourism—a small but highly lucrative part of the market—faces growing pressure from efforts to reduce emissions from long-distance air travel (Makgetla et al. 2020b). It is not clear how this trend will affect foreign tourism to South Africa, or over what timeframes.

Data on tourism are always problematic, because the sector does not report as a separate category in the national accounts. Moreover, the COVID-19 pandemic led to sharp downsizing in 2020, making it harder to discern trends (Stats SA 2021). In 2018, there were nearly 600,000 employees in catering and accommodation (a large proportion of these women), and an estimated 700,000 in the sector (Makgetla et al. 2020b). Two thirds of both employees and businesses were in Gauteng, the Western Cape and KwaZulu Natal (Makgetla et al. 2019).

Responsible tourism (as set out in the National Minimum Standard for Responsible Tourism (SANS 1162) can reduce greenhouse gas emissions, conserve energy and water, reduce waste and plastic consumption and ensure that fair benefits accrue to communities and employees (Department of Tourism n.d.)

4.5. Phases and Timeframes for Impacts

The phases of the climate transition will be marked by steadily increasing global mean temperatures with associated physical impacts, alongside the increasing urgency of the global mitigation response. In the next five years (2021 – 2025), the global energy transition will accelerate, with increasing pressure on disinvestment in fossil fuels. By 2030 a global carbon price will be established, with constraints on emissions entrenched in trading systems, as countries move to prevent carbon leakage. In developed countries, the production of the internal combustion engine will be phased out, and fossil fuel markets will enter a more rapid decline. We will also see more extreme weather events with harmful impacts on people's health and livelihoods, and consequential impacts on tourism, agriculture, transport, and trade. Anticipating these changes allows us to develop a broad phasing for the transition, as it impacts particularly at-risk value chains and sectors. This is summarised in Table 1, with projected impacts through to 2050.

Table 1: Projected impacts to select at-risk sectors and value chains through 2050

Years	Trade environment	Coal value chain	Auto value chain	Agriculture	Tourism
2021-2025	<p>Major trading partners initiate border adjustment taxes</p> <p>Growing pressure from civil society and major businesses to reduce emissions from freight transport and personal flights</p>	<p>No closures of Eskom plants to meet emissions targets, but some aging out</p> <p>Increased renewables generation</p> <p>Surge in coal prices due to pandemic recovery and reduced supply followed by decline</p> <p>Sasol plans new feedstock; energy-intensive refineries begin to use renewable energy or to downsize</p>	<p>Major export markets commit to e-vehicles as predominant mode from end of 2020s</p> <p>Initial investment in e-vehicle production and infrastructure in South Africa</p> <p>Growing need for a modal shift (freight and passenger) from road to rail, or raise prices to cover emissions</p> <p>Continued periodic severe floods, often localised, damaging physical infrastructure</p>	<p>Continued periodic severe droughts and floods, often localised</p> <p>Heat begins to affect farmworkers, livestock, and crop production, leading to some adaptation of products and investment in mitigation technologies by commercial farmers</p> <p>Water use in this sector comes under increasing pressure as most catchments have more demand than available water</p> <p>Low adaptive capacity increases vulnerability</p>	<p>Initial recovery from COVID-19 pandemic faces rising pressure due resistance to high-carbon long-haul flights</p> <p>Eco-tourism sites face growing problems from droughts and floods, and from internal and regional climate migration</p>
2025-2030	<p>Border adjustment taxes increase in most countries</p> <p>Decline in demand for conventional vehicles in global North and for coal internationally</p> <p>Innovations provide opportunities to reduce emissions from freight and travel, but may cost more at least initially</p>	<p>Depending on strategic choices around electricity and carbon taxes, start to see downsizing in coal production and employment</p> <p>Coal districts in Mpumalanga begin to see impact of energy transition on economies</p>	<p>Accelerated transition to production and use of electric vehicles internationally, with greater adoption in SA</p> <p>Reduced need for private vehicles, including through densification and public transport</p> <p>Continued intensification in floods, with growing impact on physical infrastructure</p>	<p>Continued intensification in droughts and floods, with growing impact on employment and livelihoods in affected regions</p> <p>Shifts in demand nationally and globally increase pressure to reduce emissions (especially meat) and trade (especially bulk products, including horticulture)</p>	<p>Continued stagnation in overseas tourism (and potentially local tourism) unless there are more consistent measures to reduce travel emissions and conserve sites</p>
2030-2040	<p>Intensification of efforts to reduce emissions in production and trade</p>	<p>Accelerating decline in coal demand, production, and related employment</p>	<p>Accelerating use of e-vehicles</p>	<p>Gradual relocation of some production to mitigate impacts of climate crisis</p> <p>Innovations in production and freight transport permit stabilisation despite worsening climate conditions</p> <p>Pressure from regional and domestic climate migration</p>	<p>Stabilisation in high-end overseas tourism but limited prospects for substantial growth</p>
2040-2050	<p>Intensification of efforts to reduce emissions in production and trade</p>	<p>Coal largely phased out, with workers and communities engaged in new livelihoods</p>	<p>Transport no longer depends primarily on petrochemicals</p>	<p>As above</p>	<p>As above</p>

4.6. Seizing Opportunities in the Different Phases of the Transition

While the projected impacts in select at-risk value chains and sectors are extremely concerning, it is important to recognise that there are also significant opportunities in the transition—to improve the well-being of the economy, where people live and work in meaningful and positive relationships with each other and the planet.

In an ideal case, when seizing the opportunities presented by a greener economy while managing and mitigating all risks:

- In the 2021-2025 period there will be soaring demand and financing for renewable energy, with associated technology advances and new employment and livelihood opportunities. Coal stakeholders and communities will be actively seeking opportunities for economic diversification. There will also be increasing domestic and international demand for more climate resilient agriculture, infrastructure, and housing, and for cleaner transport.
- As the transition accelerates in the period 2025-2030, very rapid investment will take place in new transmission lines and technologies for power generation and storage. More reliable and cheaper electricity will promote a more sustainable economy and job creation, while there will be growing international and domestic markets for e-vehicles and other technologies to reduce emissions and improve resilience, which South Africa is well placed to respond to. Investments will seek to diversify economies in coal-dependent communities, and there is the prospect of greater urban densification which reduces commuter and labour costs and increases housing demand, thus creating new economies.
- Beyond 2030, there will be a more affordable and reliable electricity system, and other innovative investments which lay the basis for a more dynamic, diversified, and equitable economy. Renewable energy production will make electricity cheaper and more dependable and will create new manufacturing and maintenance jobs. This will have positive knock-on effects on energy-dependent economic sectors, including mining, cement, and manufacturing. Investments in electric vehicles and hydrogen will equip South Africa to meet the global clean energy future. The clean energy transition will also open new markets for the supply of other minerals, like platinum, vanadium, cobalt, copper, manganese, and lithium, opening new export opportunities. Climate-smart agriculture could create better yields and more resilient crops, improving food security and the lives and livelihoods of small-scale farmers.

Clear and determined governance responses are necessary to seize these opportunities and support a just transition. Over the next five years, systems must be established to ensure consistent and vigorous responses to climate change across the state while building partnerships with stakeholders, with clear mandates and monitoring systems. Support must be initiated for community mobilisation and capacity to implement just transition strategies. There must be clear political support for and implementation of an accelerated renewable energy build at a scale that allows for local manufacturing chains to develop, supported by an updated IRP.

As the transition accelerates in the period 2025-2030 there must be well-defined structures and responsibilities in place to drive transformation of the energy sector, auto production and use, as well as densification and adaptation in tourism and agriculture. Affected municipalities (mining, farming, and tourism towns) must be identified and capacitated, while community and worker organisations need the resources and forums to collaborate productively with government and business.

By 2030 increasingly mature systems and structures must integrate just transition strategies across government and stakeholder practice, while stakeholder mobilisation and improved state capacity to deal with climate change should underpin stronger participatory democracy and industrial policy.

5. Key Policy Areas for a Just Transition

The following policy areas constitute a basic framework to address the challenges of a just transition for all South Africans, drawn from work done by the ILO (2015), Montmasson-Clair (2021), and Patel (2021), among others. These policies should be applied in an integrated manner and aligned so that policies in one field do not undermine objectives and measures in other policy fields.

5.1. Human Resource Development and Skills Development

South Africa faces deep-seated structural challenges in the economy, centred on unusually profound inequality and high levels of unemployment. As a result, affected groups may not be able to shift into new opportunities in the climate transition. Skills development and education is therefore essential to respond to the transition risk and support people in becoming more climate resilient.

Recommendations in this framework are focused on three broad areas: (1) reskilling and upskilling existing adult workers so that they are better equipped to navigate the transition; (2) aligning the skills development system with the anticipated labour force needs of the future, particularly focused on green jobs to support a just transition; and (3) ensuring foundational skills through the education system to improve the adaptative capacity of the broader workforce. Many of these reforms are set out in the White Paper for Post-School Education and Training (DHET 2014), which envision an effective post-school education system that is youth-focused and adult user-friendly and strongly linked to the world of work.

Reskilling/upskilling affected adult workers to support a just transition:

- Providing training to workers in the formal sector (e.g., courses, workplace-based learning opportunities) to facilitate movement into new career pathways, based on existing education and skill levels, and with effective mechanisms for recognising prior learning
- Providing training in the informal sector, with focus on overcoming barriers to skills development given typically lower levels of foundational skills

- Promoting active labour market policies to help people redefine job goals and how to prepare for them, help in job search as job opportunities shift, and support to relocate as industries rise/fall
- Creating new job opportunities for workers with lower levels of foundational skills, in the context of improving climate resilience and reducing greenhouse gas emissions, e.g., implementing nature-based solutions, rehabilitating abandoned or derelict mines, planting trees, clearing and maintaining water catchments, expanding and maintaining environmentally protected areas
- Modernising public employment services
- Providing a basic package of support for the unemployed/transitioning workers
- Providing reliable and affordable internet access in affected areas, for online learning and job searching

Building skills for green jobs to support a just transition:

- Strengthening the mechanisms (such as the Organizing Framework for Skills and List of Occupations in High Demand) for identifying future skills needs by improving the flow of information between these mechanisms and providing more disaggregated and actionable data
- Investing in the skills development capacity to develop and deliver new occupational standards, curricula, and training programs at scale, with strong private sector participation
- Making targeted investments in the skills ecosystem where the workforce lacks the technological competencies needed for green jobs
- Building skills in labour-intensive industries in the green economy, e.g., renewable energy and battery manufacturing, production of electric vehicles, green hydrogen
- Building skills for “climate-proofing” new or existing infrastructure e.g., roads, bridges, buildings

Improving foundational skills to improve the adaptive capacity of the broader workforce:

- Ensuring the basic education system is delivering quality foundational literacy and numeracy, which are prerequisites to livelihood adaptation
- Improving the responsiveness of the education system to changing skills needs (including green and green-affected jobs) through effective employer engagement in post-secondary education
- Stimulating higher education institutions to focus on climate-related science, technology, health and social science programmes at undergraduate and postgraduate levels
- Expanding pathways to skills acquisition, including by improving the access to workplace-based training/apprenticeship opportunities through strengthened and more responsive sector education and training authorities, as well as effective labour market information systems
- Strengthening the resilience and adaptive capacity of the education system to provide safe learning environments for learners, in buildings that are multi-hazard resilient and promoting safety and disaster risk management practices in schools
- Planning and preparing for alternate modes of education delivery, with an emphasis on reaching the most vulnerable, in the event of a disaster

- Adequately resourcing schools, particularly those that have been marginalised, to improve teaching competencies and provide access to computers and learning materials
- Reviving adult basic education and providing continuous learning opportunities for adults, particularly in affected areas
- Increasing the number of apprenticeships in workplaces and colleges as most employers prefer to employ qualified artisans

5.2. Industrial Development, Economic Diversification, and Innovation

Industrial development and economic diversification are essential to supporting a just and equitable transition. New economic clusters will be needed to create new jobs and replace jobs where they may be lost. These clusters can be designed to meet local needs, for instance, by producing local necessities such as food, construction materials, entertainment, education, or healthcare; alternatively, these clusters can provide products for regional or global markets. Rising numbers of small and informal business are critical for a more resilient and equitable economy.

New economic clusters need not only be thought of in the context of energy or industry, but also in terms of the "biodiversity economy," which encompasses businesses and other economic activities that either directly depend on biodiversity for their core business, or that contribute to the conservation of biodiversity through their activities. The biodiversity economy, for example generates over 418,000 jobs in South Africa (SANBI 2018), with jobs in sectors such as the restoration of biodiversity, fisheries, wildlife ranching, biodiversity-based tourism, traditional medicine, and indigenous tea production. Many of the biodiversity-related jobs are outside the urban centres and are labour intensive, contributing to rural development, poverty alleviation, inclusive growth, and labour absorption (SANBI 2018).

Importantly, the new economic clusters and opportunities should account for the spatial disparities that exist in South Africa and try to address those intrinsic challenges. These new opportunities must not entrench existing inequalities.

Economic diversification can be achieved by:

- Improving support (income and relocation) for formal small and medium enterprises, as well as the informal / so-called "hustle" economy, which constitutes the main livelihood strategy for many unemployed people in affected areas
- Providing or facilitating financing, sites, and inputs for new small and micro enterprises, ideally as part of a strategy to promote local economic diversification
- Resolving blockages to economic diversification through holistic approaches that address limited assets and financing; poor quality or expensive infrastructure; a lack of suitable retail or industrial sites; poor access to market outlets; excessively priced inputs; and/or inadequate education, skills, and experience
- Identifying viable new economic clusters, considering the strengths and disadvantages of individual communities; proposals should be reviewed to

examine the extent of demand and market access, as well as supply-side factors such as existing business capacity, infrastructure, and skills

- Enabling measures that enhance and support local and subsistence food production, including composting, access to climate resilient seed stock and water-wise irrigation systems
- Encouraging collective action to improve livelihoods, for instance urban and regenerative agriculture, which could encompass community gardens, community service programmes, credit unions and consumer/production co-ops

Innovation is also a crucial component of industrial development and economic diversification, minimising the impacts of climate change while boosting overall economic competitiveness and creating new jobs. Innovation in the South African economy may include:

- Developing competitive industries to produce inputs and support services (design, engineering, and maintenance) for green technologies, including renewable energy inputs, battery cells, e-vehicles, green hydrogen, and net-zero-emissions cement or cement alternatives, all of which may target domestic, regional, and where viable overseas markets
- Developing innovative technologies that improve climate resilience, such as regenerative agriculture and artificial wetlands
- Promoting the circular economy, including as a job creator
- Establishing regulatory frameworks that promote new technologies, including by changing regulations that restrict them unnecessarily (as in the case of renewable energy for electricity)
- Setting technical standards that enable and encourage new technologies
- Ensuring the South African National System of Innovation is "climate-aware" and fosters innovations which support net-zero-emissions, climate-resilient activities
- Disseminating information about new technologies, including their up-front financial and technological requirements and longer-term viability
- Managing lobbying from established producers that aim to protect older, uncompetitive production sites, and resist technological change and innovation
- Stimulating technological advances that can generate employment and broaden ownership of productive assets, to support a just transition
- Balancing support for innovation between large companies/enterprises and small and medium businesses/cooperatives, in a manner that considers both the aim of greater inclusion and the realities of power, capacity, and historic responsibility

5.3. Social Protection Measures

While some workers and communities may be able to transition to new jobs and industries, others will require transitional or long-term support according to their unique situations. Support for the chronically poor and unemployed (i.e., through the social security system) may differ from transitional mechanisms to support those affected by longer-term sectoral changes in the economy or by immediate climate-related disasters. The current social security system has significant gaps, with no mandatory system for social security pension provision, and no provision for people without income but who do not meet the criteria to receive social grants (affecting

the 18 - 59 age group). The Department of Social Security has proposed a comprehensive reform of social security and retirement provisions (DSD 2021), and further work is being undertaken to define the scope and structure of these social protection measures in the context of South Africa's fiscal constraints.

In considering comprehensive social security reform, it is important to factor in the requirements for social support within the climate transition. Security of those affected by the transition will be significantly enhanced by basic income support and mandatory retirement and disability provision provided through a national social security fund. Workers and communities in affected sectors and regions should be eligible for income support, regardless of their income or assets. Such sectoral and regional measures could form an initial step towards a comprehensive social protection floor.

Providing comprehensive social security nets for displaced workers and communities will ensure they have adequate resources to survive while they develop a new livelihood (per the mechanisms outlined in section 5.1). Social protection measures (e.g., social grants, unemployment insurance, stipends for formal education or apprenticeships) must be targeted at and reach vulnerable groups, particularly women and young people, and be integrated with education, training, and active labour market policies. The social support should include mechanisms that promote entrepreneurship and self-employment, where possible, complemented by social protection funds for a specified period

Specific measures are required for *shock responsive* social protection for the poor/vulnerable who experience a climate-induced shock to income/assets and need temporary help to get back on their feet. This could take the form of a permanent, time bound, Social Relief of Distress (SRD) grant-type fund that is triggered in cases of climate-related disasters

In addition, individuals and communities will require support to enhance their climate resilience. This includes resilience to near-term impacts like floods, droughts, extreme storms, as well as long-term impacts that reduce water availability and food security. As set out in the *National Climate Change Adaptation Strategy* (DFPE 2019), activities to enhance the resilience of vulnerable individuals and communities to reduce impacts of climate-induced shocks will include:

- Identifying communities at greatest risk for impacts of climate change (e.g., those residing in low-lying river basins, coastal communities, poorly designed informal settlements, etc.) and applying targeted interventions to minimise impacts
- "Climate-proofing" physical infrastructure, such as roads and stormwater systems, with an added benefit of being a local job creator, which includes proper planning
- In line with the Integrated Urban Development Framework (COGTA 2016), designing more compact, connected cities, which includes addressing housing and proximity to jobs in South African cities and improving public services (especially transport, electricity and water and waste services) to build resilience of poor and vulnerable communities

- Developing more climate-friendly human settlements through densification (to reduce commutes and land use), improved, safe and green public transport, greening urban spaces and more climate resilient housing and building practices
- Investing in ecological infrastructure (naturally functioning ecosystems that generate and deliver valuable services to people, such as fresh water, climate regulation, soil formation and disaster risk reduction (SANBI 2016)); implementing ecosystem-based responses to climate change (e.g., ecosystem-based adaptation, ecosystem-based mitigation, ecosystem-based disaster risk reduction (see DEA & SANBI 2016)); implementing sustainable land-use practices; and restoring ecosystems—all in support of the development of jobs and alternative livelihoods
- Fostering community stewardship of natural resources and considering indigenous knowledge
- Developing systems of health surveillance to monitor those at greatest risk for impacts of climate change
- Ensuring universal access to basic services such as clean energy, potable water, sanitation, public transport, a clean environment, education, and health care

6. Effective Governance for a Just Transition

The imperative of a just transition is not only set within the context of low economic growth, existing social inequality, environmental degradation, and increasing severity of extreme weather events, but also in the context of a severely weakened state in South Africa. State capture, the loss of capable managers, erosion of accountability, and lack of professionalism, has severely hampered the ability of the state to implement good governance at all tiers (The Presidency 2022).

Effective governance at the national, provincial, and municipal levels will therefore be central to achieving a just and equitable transition in South Africa—implementing plans, building consensus, mobilising resources (importantly, avoiding decisions/investments that are not aligned with the just transition), coordinating implementation, and monitoring progress. The nature of climate risks and the urgency of the transition is such that stakeholders must work intentionally, in concert. Mainstreaming the just transition imperative in planning and budgeting is a crosscutting issue that requires a whole-of-government response.

Effective governance also requires far-sighted thinking, with due consideration of the imperatives of a just transition. Existing processes are mostly weighted toward short-run and immediate effects on workers and businesses. These processes often do not pay sufficient attention to the long-run economic and environmental damage done by high emissions and out-dated technologies. It follows that any decision with a substantial long-range economic impact, especially around energy, infrastructure, and new economic activities, must consider the implications for the just transition.

6.1. National Government

National government has a crucial leadership and policy role to play in implementing the just transition. The just transition policy imperative (and this framework) should be located within the central planning system of government, specifically in the National Development Plan, the Medium-Term Strategic Framework, Annual Performance Plans, and annual budgeting processes. Each government department should be encouraged to define their roles in relation to these objectives. Close collaboration between government departments will be crucial to establish policies and programmes that can adapt to changes in the fiscal landscape and support the development of skills and employment opportunities. The nature of scale of the transition requires cooperative governance arrangements in line with the principles articulated in the Intergovernmental Relations Framework Act (Act 13 of 2005) and the Draft Climate Change Act (DFFE 2022).

Other specific roles of national government in supporting a just transition include:

- Providing overall policy and planning coherence in support of a just transition, with clear execution timelines and targets
- Allocating responsibilities, explicitly and consistently, to government agencies for implementing strategies and activities to support a just transition (these responsibilities must be allocated taking cognisance of the complementary roles of other economic actors i.e., provincial governments and districts, municipal governments, private businesses, and labour organisations)
- Mobilising resources, from both the public and private sectors, particularly considering South Africa's extraordinary spatial inequalities
- Integrating the just transition imperative into the national budget and public spending
- Supporting capacity building at the provincial and municipal levels for effective implementation of the just transition agenda, including remedying the harms from State Capture and poor governance
- Supporting municipalities to develop a new revenue model for electricity sales in the transition to clean electricity system
- Providing financial incentives to spur a just transition
- Creating forums and dispute-settlement mechanisms to ensure timely and binding decision-making around core strategies
- Promoting social solidarity and collective action in at-risk communities
- Monitoring progress toward the overall aims of the just transition, building on systems already in place (e.g., from the Department of Planning, Monitoring, and Evaluation (DPME)) and ensuring that the results effect course corrections when required
- Ensuring that mining companies adhere to social and labour plans in line with MPRDA regulations and make adequate financial provision for end-of-life mine rehabilitation in line with NEMA regulations (DFFE 2021)

6.2. Sub-National Government

Provincial and local governments have crucially important roles to play in responding to spatially specific climate transition impacts and coordinating just transition measures in their provinces and municipal areas. At the same time many of them have limited means and, in some cases, struggle to deliver basic services. These spheres of government will therefore require support to improve capacity, both in terms of financial resources and technical expertise, to give effect to a just transition while improving resilience to the impacts of climate change. It is also vital that subnational governments' mandate is clearly defined, owned, and resourced, as overlapping mandates threaten to weaken ownership.

Specific roles of provincial and local governments in supporting a just transition include:

- Identifying climate impacts, just transition impacts, and vulnerabilities in the province or municipality, along with community needs and adaptation requirements, and integrating these into Provincial Growth and Development Strategies and Integrated Development Plans, as well as local climate action plans
- Implementing and managing adaptation projects to improve community resilience, including disaster risk management strategies and early warning systems
- Providing essential infrastructure services, including service delivery, which requires extensive efforts to improve capacities, to improve the efficiency of public spending, and to improve the operations and maintenance of these services
- Regulating planning and land management, in a manner that supports the overall aims of a just transition
- Supporting local economic diversification, with a particular focus on working people and small businesses in at-risk communities, recognising that different approaches will be required in different provinces, based on economic activity
- Empowering individuals, communities, ward committees, municipalities, unions, and civil society organisations to engage in discussions around the transitions that lie ahead (including the creation of new economic clusters), and incorporating their inputs into decisions
- Facilitating collaborations and partnerships with social partners including traditional leaders, in support of a just transition

6.3. Other Social Partners

Other social partners will need to play their part in the just transition—embracing the vision, principles, and key policy interventions set out in this framework. To do this, social partners must be equipped with the capacity and power to manage—and even benefit from—the impacts of the climate transition. In this instance, *“capacity is not the ability to implement someone else's agenda, but the ability to set and pursue your own agenda and, in that sense, it should be a core element of any*

development narrative" (Sokona 2021). This principle embodies the spirit of a just transition in South Africa.

Specifically, labour unions must continue the fight for decent work and protecting jobs in support of a just transition. Civil society must continue to champion the social and environmental agenda and hold stakeholders to account for the promises they make. Research institutions and academia must continue to deepen thinking around the opportunities and risks associated with the just transition and make evidence-based recommendations that inform planning for the climate transition. The youth must continue to champion a sustainable future for all. Business must drive the innovation and investment in clean technologies that create and/or sustain employment, at the same time as shouldering their responsibilities for environmental, social and governance issues.

Business should pursue long-term value creation by considering the needs of all their stakeholders, and society at large, in line with the principles of stakeholder capitalism (Schwab & Vanham 2021). Further roles of business in supporting a just transition include:

- Using corporate social investment to stimulate local enterprises and support skills development, pursuing the principles of Broad-Based Black Economic Empowerment including women's empowerment
- Incorporating climate risks and opportunities into business strategies and decisions
- Employing recommendations from the Task Force on Climate-Related Financial Disclosures (TCFD), especially in relation to disclosing climate change impacts in financial statements and using scenarios to understand future impacts
- Embedding environment, social, and governance (ESG) principles across all operations; ensuring a board member has overall responsibility for ESG and climate change (and that the board receives regular ESG and climate change training and at induction); appointing non-executive directors with strong ESG/sustainability/climate change experience and qualifications; implementing executive-level incentives for ESG and climate performance)
- Setting Science Based Emissions Reduction Targets, where possible and considering equity and fair share approaches
- Tracking environmental, social, governance and climate impacts, and disclosing these impacts through best-practice reporting, including through the CDP and Johannesburg Stock Exchange
- Establishing just transition offices in large corporations, when applicable to business operations
- For mining companies in particular, implement social and labour plans in line with Regulation 46 of the Mineral And Petroleum Resources Development Act (Act 28 of 2002), and make adequate financial provision for end-of-life mine rehabilitation in line with NEMA regulations (DFFE 2021).

6.4. Collective Action

A just transition will benefit through collective action by all social partners, requiring a shared commitment towards:

- Engaging under the principles of transparency, openness, impartiality and consensus, effectiveness and relevance, and coherence
- Finding ways to better integrate the children, the youth, and women into policymaking for the just transition at national, provincial, and local levels (e.g., provision of childcare, travel support, multiple languages)
- Developing just transition plans through a spatial lens, considering different just transition approaches in different regions (e.g., Mpumalanga will need a new regional development plan beyond coal; the disparities in the rural areas and coastal regions of South Africa make certain communities more vulnerable than others, etc.)

7. Finance for a Just Transition

Achieving a just transition in South Africa will require significant capital mobilisation, from both public and private sources, both domestically and internationally. It is estimated that South Africa will require at least US\$250 billion over the next three decades to transform the energy system, excluding the additional requirements to transition to a fully green economy (Blended Finance Taskforce & Centre for Sustainability Transitions 2022).

Domestically, capital can be mobilised by strengthening regulation and institutional arrangements, partnerships between the public and private sector for delivery, and attracting capital into new markets, technologies, business models, and enterprises (including small- and medium-sized enterprises). Historically, around three-quarters of South Africa's climate finance flows (public and private) have been allocated to clean energy generation projects, which has largely been a function of the commercial maturity of the renewable energy sector, spearheaded by the Renewable Energy Independent Power Producers Procurement Programme. National Treasury has a key leading role to play in incorporating climate considerations and the just transition imperative into national financing and budgeting, to ensure alignment with national objectives. National Treasury has already created working groups focused on climate change and the just transition, as well as deepened work on financing a sustainable economy, among other activities (National Treasury 2021; National Treasury 2022).

Internationally, capital can be mobilised through the provisions of the Paris Agreement, among others, where developed countries are required to provide support to developing countries in reaching their climate goals. Support includes finance, capacity building, and technology transfer. The US\$ 8.5 billion Just Energy Transition Partnership, currently being defined, between South Africa and the European Union, France, Germany, the United Kingdom, and the United States in November 2021 is illustrative of the type of financing arrangement that is possible in support of a just transition (The Presidency 2021). The PCC will continue to assist the

Presidential Climate Finance Task Team—who are overseeing the negotiations for this financial package and developing an associated investment plan before submitting recommendations to the Inter-Ministerial Committee chaired by the President—by providing guidance, analysis, and pathway and investment advice to ensure that the just transition outcomes contained in this framework are embedded in the JETP. The lessons drawn from the JETP could also help mobilise further international support for just transition all around the world, as well as develop a pipeline of bankable projects.

Several interlinked strategies are required to mobilise capital towards a just transition in South Africa:

- Reviewing existing mechanisms, such as taxes and subsidies, and determining whether they are “fit for purpose” or require adjustments to support a just transition e.g., piggybacking on the carbon tax or developing more avenues for own-source revenues for cities or municipalities
- Revisiting whether and how public resources have been effective in supporting improved service provision and in closing the inequality gap
- Creating a business case for just transition projects, with a particular focus on identifying financing mechanisms for infant industries
- Improving the efficiency of public spending, including to just transition projects
- Gradually eliminating perverse and/or regressive subsidies that do not support a just transition
- Applying economic instruments to support a just transition, such as performance-based grants, progressive subsidies, tax benefits, tax rebates, or incentive schemes
- Integrating the just transition framework into the national budget and reorienting state spending in support of a just equitable transition
- Integrating climate-related risks and the just transition imperative into all investment decisions
- Employing a common taxonomy for tracking just transition financial flows, aligned with National Treasury's Green Finance Taxonomy (National Treasury 2022), and disclosing these flows in a manner that supports transparency and optimal policy and economic decisions
- Utilising green and other thematic bonds to mobilise capital for climate and transition projects, enabling access to large pools of institutional capital
- Expanding the use of blended finance to catalyse new investment opportunities for the just transition, supporting private investor participation
- Encouraging public-private partnerships to deliver capital-intensive infrastructure projects that support a just transition

Looking Ahead

The just transition has implications for all social partners. Indeed, a successful transition requires collective action, pulling toward a shared vision, with a high degree of trust between all parties (PCC 2022b). The urgency and scale of the task at hand necessitates a sincere commitment by all stakeholders. The President has frequently spoken of the need for a social compact to build South Africa's economy, address poverty and inequality and heal our divided society. Various engagements with business, labour and other social partners have taken place and are ongoing in this regard. The major economic, social and environmental decisions required for a just transition similarly require social partners to forge a consensus around the climate transition. The just energy transition, in particular, needs partners to agree around the pace of decarbonization, the scaling up of low carbon energy and the value chains that support it, the upgrading of the energy grid and the mobilization of climate finance, at scale, to enable a just transition. Further work, in consultation with all social partners, is required to develop a detailed just transition implementation plan, with this document as the guiding frame. The PCC will continue to support a social compact around the just transition, undertaking evidence-based research and bringing together all stakeholders to define future development pathways, considering the risks and opportunities posed by a changing climate.

References

- Academy of Science of South Africa (ASSAf). "Forum for a Just Transition in South Africa." Accessed 14 May 2022.
<https://www.assaf.org.za/2015/02/20/climate-change/>
- Albert, M.J., 2020. "Beyond continuationism: climate change, economic growth, and the future of world (dis)order." *Cambridge review of International Affairs*.
<https://doi.org/10.1080/09557571.2020.1825334>.
- Beukman, R. and J. Reeler. 2021. A Just Transition in the Water Sector: Policy Brief for the Presidential Climate Commission. Johannesburg: WWF South Africa
- Blended Finance Taskforce & Centre for Sustainability Transitions. 2022. *Making Climate Capital Work: Unlocking \$8.5bn for South Africa's Just Energy Transition*. London: SYSTEMIQ.
- Cahill, B. M. Allen. 2020. Just Transition Concepts and Relevance for Climate Action. Washington, D.C.: Center for Strategic and International Studies (CSIS).
- Chisoro-Dube, S., and S. Roberts. 2021. "Innovation and Inclusion in South Africa's Citrus Value Chain." Working paper for Innovation and Inclusive Industrialisation in Agro-processing project.
- Congress of South African Trade Unions (COSATU). 2009. *Final Draft Consolidated Resolutions to the COSATU 10th National Congress*. Johannesburg: COSATU.
- Department of Cooperative Governance and Traditional Affairs. 2016. *Integrated Urban Development Framework: A New Deal for South African Cities and Towns*.
- Department of Environmental Affairs (DEA) and South African National Biodiversity Institute (SANBI). 2016. *Strategic Framework and Overarching Implementation Plan for Ecosystem-Based Adaptation (EbA) in South Africa: 2016 – 2021*. Pretoria: DEA.
- Department of Environmental Affairs (DEA). 2011. *National Climate Change Response White Paper*. Pretoria: DEA.
- Department of Forestry, Fisheries and the Environment (DFFE). 2019. *National Climate Change Adaptation Strategy*. Pretoria: DFFE.
- DFFE. 2021. National Environmental Management Act, 1998 (Act No. 107 of 1998). Proposed Regulations Pertaining to Financial Provisioning for the Mitigation and Rehabilitation of Environmental Damage Caused by Reconnaissance, Prospecting, Exploration, Mining or Production Operations. Government Gazette, Pretoria: 27 August 2021.

- DFFE. 2022. *Draft Climate Change Bill*. Pretoria: DFFE.
- Department of Higher Education and Training (DHET). 2014. White Paper for Post-School Education and Training. Pretoria: DHET.
- Department of Mineral Resources and Energy (DMRE). 2020. *Strategic Plan 2020 – 2025*. Pretoria: DFFE.
- Department of Mineral Resources and Energy, Department of Trade, Industry and Competition and Department of Science and Innovation (DMRE, dtic and DSI). 2022. *Draft South African Renewable Energy Masterplan*. Pretoria: DMRE, dtic and DSI.
- Department of Social Security. 2021. Green Paper on Comprehensive Social Security and Retirement Reform (2021). Government Gazette no. 741, Pretoria: 18 August 2021.
- Department of Tourism. n.d. "[Green Tourism Incentive Programme](#)."
- Department of Trade, Industry and Competition (dtic). 2021. Draft Auto Green Paper on the Advancement of New Energy Vehicles in South Africa. Pretoria: dtic.
- European Parliament. 2022. "Fit for 55: MEPs back CO2 emission standards for cars and vans." Press Release, 11 May 2022, Strasbourg: European Parliament.
- Fanning, A., O'Neill, D.W., Hickel, J., and Roux, N., 2022. "The social shortfall and ecological overshoot of nations." *Nature Sustainability*. <https://doi.org/10.1038/s41893-021-00799-z>.
- Gray, H.A. 2019. Air Quality Impacts and Health Effects Due to Large Stationary Source Emissions in and Around South Africa's Mpumalanga Highveld Priority Area (HPA). Cape Town: Centre for Environmental Rights.
- Hickel, J., Brockway, P., Kallis, G., et al. 2021. "Urgent need for post-growth climate mitigation scenarios." *Nature Energy*. (6) 766-768.
- ILO. 2021. User's manual to the ILO's Guidelines for a just transition towards environmentally sustainable economies and societies for all. Switzerland: ILO.
- Intergovernmental Panel on Climate Change (IPCC). 2022. *Climate Change 2022: Mitigation of Climate Change*. Geneva: IPCC.
- International Energy Agency (IEA). 2021. *Coal 2021: Analysis and forecast to 2024*. Paris: IEA.
- International Labour Organization (ILO). 2015. Guidelines for a just transition towards environmentally sustainable economies and societies for all. Switzerland: ILO.

- Lowitt, S. 2021. *Finance and the Just Transition*. Pretoria: Trade & Industrial Policy Strategies (TIPS).
- Madonsela B.S., T. Maphanga, B.S. Chidi, K. Shale, and V. Zungu. 2022. Assessment of air pollution in the informal settlements of the Western Cape, South Africa. *Journal of Air Pollution and Health* 7, no. 1: 1-14.
- Makgetla, N. 2021a. *Governance and the Just Transition*. Pretoria: TIPS.
- Makgetla, N. 2021b. *The Just Transition in Coal*. Pretoria: TIPS.
- Makgetla, N., N. Maseko, G. Montmasson-Clair, and M. Patel. 2019. National Employment Vulnerability Assessment: Analysis of potential climate change related impacts and vulnerable groups. Pretoria: TIPS.
- Makgetla, N., N. Maseko, G. Montmasson-Clair, and M. Patel. 2020a. *Sector Jobs Resilience Plan: Agriculture Value Chain*. Pretoria: TIPS.
- Makgetla, N., N. Maseko, G. Montmasson-Clair, and M. Patel. 2020b. *Sector Jobs Resilience Plan: Tourism Value Chain*. Pretoria: TIPS.
- Makgetla, N., N. Maseko, G. Montmasson-Clair, and M. Patel. 2020c. *The SJRP Toolbox: Summary for Policy Makers*. Pretoria: TIPS.
- Maseko, N. 2021. Unemployment and Sustainable Livelihoods: Just Transition Interventions in The Face of Inequality. Pretoria: TIPS.
- Maseko, N., N. Makgetla, G. Montmasson-Clair, and M. Patel. 2020. *Sector Jobs Resilience Plan: Petroleum-Based Transport Value Chain*. Pretoria: TIPS.
- McCauley, D. and Heffron, R. 2018. "Just transition: Integrating climate, energy and environmental justice." *Energy Policy* (119): C1-7. DOI: 10.1016/j.enpol.2018.04.014
- Minerals Council South Africa. 2022. *Facts and Figures 2021*. Johannesburg.
- Montmasson-Clair, G. 2021. *A Policy Toolbox for Just Transitions*. Working Paper. Pretoria: TIPS.
- Montmasson-Clair, G. 2021. *Policy Primers for a South African Just Transition Framework*. Pretoria: TIPS.
- Montmasson-Clair, G., N. Makgetla, N. Maseko, M. Patel. 2020. *Sector Jobs Resilience Plan: Metals Value Chain*. Pretoria: TIPS.
- National Business Initiative (NBI). 2021a. *Decarbonising the Agriculture, Forestry and Land Use Sector in South Africa*. Johannesburg: NBI.

- National Business Initiative (NBI). 2021b. *Decarbonising the South African Mining Sector*. Johannesburg: NBI.
- National Economic Development and Labour Council (NEDLAC). 2020. *NEDLAC Report on the Climate Change Bill*. Johannesburg. NEDLAC.
- National Planning Commission (NPC). 2012. *National Development Plan 2030. Our future – make it work*. Pretoria: NPC.
- NPC. 2019. *Social Partner Dialogue for a Just Transition*. Pretoria: NPC.
- NPC. 2020. *National Water Security Framework for South Africa. Summary, Principles, and Recommendations*. Pretoria: NPC.
- National Treasury. 2021. *Updated Technical Paper on Financing a Sustainable Economy*. Pretoria: National Treasury.
- National Treasury. 2022. *South African Green Finance Taxonomy, First Edition*. Pretoria: National Treasury.
- Patel, M. 2021. *Towards a Just Transition: A Review of Local and International Policy Debates*. Pretoria: TIPS.
- Patel, M., N. Makgetla, N. Maseko, G. Montmasson-Clair. 2020. *Sector Jobs Resilience Plan: Coal Value Chain*. Pretoria: TIPS.
- Presidential Climate Commission (PCC). 2022a. *Community and Stakeholder Engagement on a Just Transition in South Africa*. Johannesburg: PCC.
- PCC. 2022b. *Chair's Summary from the First Multistakeholder Conference on a Just Transition in South Africa*. Johannesburg: PCC.
- PCC. 2022c. *Expert Perspectives: Supporting a Just and Climate-Resilient Transition in South Africa*. Johannesburg: PCC.
- SANBI. 2018. *National Biodiversity Assessment*. Pretoria: SANBI.
- Schwab, K. and Vanham, P. 2021. *Stakeholder Capitalism: A Global Economy that Works for Progress, People and Planet*. Wiley: New Jersey
- Sokona, S. 2021. "Building capacity for 'energy for development' in Africa: four decades and counting." *Climate Policy*. DOI: 10.1080/14693062.2020.1870915
- South African Bureau of Standards (SABS). 2011. *South African National Standard: Responsible Tourism – Requirements*. Pretoria: SABS.

South African National Biodiversity Institute (SANBI). 2016. *Lexicon of Biodiversity Planning in South Africa*. Pretoria: SANBI.

Statistics South Africa (Stats SA). 2011. Statistics by place.
https://www.statssa.gov.za/?page_id=964

Statistics South Africa (Stats SA). 2021. *Tourism 2020*. Pretoria: Stats SA.

Statistics South Africa (StatsSA). 2022. *Quarterly Labour Force Survey (QLFS) – Q4:2021*. Pretoria: StatsSA.

Strambo, C., J. Burton, and A. Atteridge. 2019. *The end of coal? Planning a “just transition” in South Africa*. Stockholm: Stockholm Environmental Institute.

The Presidency. 2020. “Presidential Climate Change Coordinating Commission appointed.” Media Statement, 17 December 2020. Pretoria: The Presidency.

The Presidency. 2021. “Presidency on international partnership to support a just transition to a low carbon economy and a climate resilient society.” Media Statement, 2 November 2021. Pretoria: The Presidency.

The Presidency. 2022. “Statement by President Cyril Ramaphosa at the handover of the first part of State Capture Commission report.” Media Statement, 4 January 2022. Pretoria: The Presidency.

The White House. 2021. “FACT SHEET: President Biden Announces Steps to Drive American Leadership Forward on Clean Cars and Trucks.” Statements and Releases, 5 August 2020. Washington, DC: The White House.

Annex: Selection of Priority Interventions to Give Effect to a Just Transition

This annex identifies a selection of priority interventions to give effect to a just transition in South Africa. Table A sets out the long-range outcomes we are seeking, the short-term decisions and actions that are required, and associated responsibilities.

Table A: Action Plan to Give Immediate Effect to a Just Transition

What are we responding to	Long range outcomes	Short term decisions and actions required	Responsibility	Risks
Need to shift to cleaner and more competitive generation technologies	<p>Reduction in greenhouse gas emissions</p> <p>Reduction in air pollution, water pollution, and land degradation, and improved ecosystem and biodiversity</p> <p>Improved human health</p> <p>More reliable and affordable electricity supply</p> <p>Development of new electricity generation technologies (production of inputs, design, maintenance, services, etc.)</p>	<p>Review IRP to ensure it will achieve national goals for reducing emissions by 2030, aligned with SA's fair share and a safe climate; finalise proposals for renewable energy sources to meet energy demand</p> <p>Increased responsiveness and flexibility in governance of electricity, including price setting and municipal capacity, with dispute-settlement mechanism to avoid long delays where agencies disagree</p> <p>Eskom has completed and/or is in the process of finalising plans for decommissioning coal plants in consultation with affected workers, communities, and municipalities, and, on that basis, identifies both the impact on demand for coal over time, and the affected employees and communities</p> <p>Decision on ownership of generation capacity (that is, the role of Eskom and other actors) in the medium to long run, based on analysis of impacts on reliability and cost of electricity, including cost of financing new investments and assessment of the scope for small-scale generation</p> <p>Plans finalised for other major energy-intensive refineries to shift to cleaner energy sources</p> <p>Develop a Master Plan that defines realistic strategies to localise supply chain for new generation and transmission capacity to ensure grid stability, including storage</p> <p>Develop a Master Plan for green hydrogen</p>	<p>National departments with responsibility for energy and industrialisation (DMRE, DPE, dtic, NT) and NERSA</p> <p>Eskom</p> <p>Major electricity users (especially energy-intensive refineries, mines, and municipalities)</p> <p>Renewable energy and capital goods industries</p> <p>Domestic and international public and private funding sources, including local banks, IDC, and DBSA</p>	<p>National departments and NERSA continue to delay decisions due to inability to resolve disagreements</p> <p>Unable to find a way to reduce reliance on coal</p> <p>Push for gas delays and diverts resources from renewable energy build and creates fiscal risk through stranded assets</p> <p>Energy-intensive users close rather than developing new feedstock or energy sources</p> <p>Fiscal constraints squeeze new investment and support measures</p> <p>South Africa loses out in competition to manufacture renewable technologies</p> <p>South Africa's lock-in to fossil fuel-based energy supply results in imposition of increased export tariffs like the EU's Carbon Border Adjustment Mechanism (CBAM)</p>

What are we responding to	Long range outcomes	Short term decisions and actions required	Responsibility	Risks
Coal mining and coal-based electricity plants continue to downsize and retire	<p>Affected miners, small businesses and communities can shift into decent livelihoods</p> <p>Affected municipalities provide effective services and create sustainable jobs in partnership with all social partners to improve community livelihoods and reducing vulnerabilities</p>	<p>Agreement between stakeholders on (a) the success indicators for the just transition in the coal value chain, (b) phasing of the just transition in coal (when will downsizing start? what preparations are needed before then?), and (c) core strategies to achieve the success indicators</p> <p>Initial needs analysis for affected communities and workforces conducted in participation with affected groups, with estimated timelines for downsizing from mid-2020s</p> <p>Agreement on an agency, government structures and stakeholder forums to drive the just transition in the coal value chain, with role clarity and capacity to develop viable proposals to support communities and individual workers; ensure effective and responsive measures; mobilise local support and collective action; and obtain adequate staffing and funding</p>	<p>PCC to work with DFFE and DMRE to convene stakeholders, including Limpopo and Mpumalanga provinces, to agree on requirements and phasing for the just transition in the coal value chain, and on the affected communities and workforces</p> <p>DMRE engages with relevant agencies across national, provincial, and local governments on structure to drive the just transition for coal communities</p> <p>DMRE and DoE&L to develop transition pathways for workers in the coal value chain</p>	<p>Stakeholders cannot reach agreement on timing of coal phase out, on definition of at-risk communities, on core strategies for the just transition, or on the nature of the agency to drive them</p> <p>Stakeholder engagement too inclusive of unrepresentative groups or else too limited in scope to be meaningful</p> <p>Proposals for agency do not ensure it has adequate power and resources to secure alignment across stakeholders, or make it excessively bureaucratic and complex, and therefore unable to respond to changing needs</p>
Shift to cleaner energy for transport	<p>Auto industry shifts to clean-energy vehicles for domestic use and export</p> <p>Energy use for transport declines due to densification and improved public transport, including road and rail</p> <p>Affected workers and small businesses (mostly mechanics, taxis, and fuel stations) find alternative livelihoods</p> <p>A significant modal shift from road to rail is achieved</p>	<p>APDP adjusted to support production of clean-energy vehicles and to promote local production of batteries and fast-charging technologies</p> <p>Agreement between stakeholders on (a) the success indicators for the just transition in the transport value chain, (b) phasing (when will consumption of petrochemicals for transport start to decline? what preparations are needed before then?), and (c) core strategies to achieve the success indicators</p> <p>Initial identification of affected workforces and how to reach them given their dispersal across the country, with a better understanding of when the effects of the transition will begin to intensify</p> <p>Agreement on an agency, government structures and stakeholder forums to drive the just transition in transport, with role clarity and capacity to develop viable proposals to support affected workers and small businesses; ensure effective and responsive</p>	<p>PCC to work with DoT to convene stakeholders to agree on requirements and phasing for the just transition in the transport value chain, and to identify affected workers and small businesses, focusing on taxi owners and drivers; rail operators; mechanics; and petrol stations</p> <p>DoT and PCC to engage with relevant agencies across national, provincial, and local governments on structure to drive the just transition for transport</p>	<p>Unable to establish new transport options or to promote densification affordably or timeously, so end up locked out of export auto markets while missing local emissions targets</p> <p>Workers are left worse off after the transition due to lack of new employment opportunities and inadequate resources allocated to support workers</p> <p>Not reaching consensus with various actors in the transport industry</p> <p>Unable to access green electricity for vehicle manufacture, constrained by inability to create</p>

What are we responding to	Long range outcomes	Short term decisions and actions required	Responsibility	Risks
		measures; mobilise support and collective action from the affected groups; and obtain adequate staffing and funding		wheeling arrangements with independent power producers
Other value chains with high emissions (cement, agriculture, gas, etc.)	Other sectors reduce emissions while improving efficiencies and creating new economic opportunities	Identification of priority sectors for reducing emissions outside of coal and petrochemicals, and on that basis identification of timelines for reducing emissions, impact on employment and small businesses, and strategies for a just transition	dtic to identify additional priority sectors and engage with stakeholders to initiate a just transition	PCC does not have capacity to identify additional priority sectors Government and stakeholders at sectoral level do not engage on just transition or deadlock
Climate change affects agricultural production, with impacts especially on farm workers (particularly seasonal), small producers, and communities in historic labour-sending regions	Climate impacts minimised as far as possible through innovations that sustain production Where livelihoods harmed by climate change, the affected working people find alternatives	Improved understanding of climate trends by region and impacts on farmworkers and communities in historic labour-sending regions, enabling identification of affected communities, understanding of likely timeframes for impacts, and on that basis development of effective strategies for a just transition Establishment of effective and coordinated structures to drive the just transition and climate adaptation in agriculture	DFFE to improve monitoring and information on climate trends by region On that basis, DFFE to work with national and provincial agricultural departments and with stakeholders in the agricultural value chain to identify impacted workers and communities, and develop strategies, with agencies to drive them	Unable to mobilise resources to track climate trends more consistently, or data are inconclusive Lack of capacity to develop effective plans and agencies to drive the just transition in government agencies and/or agricultural stakeholders Deadlock over responsibility and resourcing for the just transition in agriculture Climate impacts are more severe and happen sooner than predicted by science
Climate change affects other industries, including tourism	Climate impacts minimised as far as possible through innovations that sustain production Where livelihoods harmed by climate change, the affected working people find alternatives	Improved understanding of climate trends by region and impacts on eco-tourism sites, enabling identification of affected workers, small businesses and communities and understanding of likely timeframes for impacts Analysis of other ways the climate crisis may affect tourism and other industries, with projections of impacts by region and likely timeframes	DFFE and Department of Tourism to propose improved monitoring and information on climate trends by region, and on that basis identify impacts on eco-tourism and other industries, with timelines PCC to analyse other ways the climate crisis may affect industries On that basis, PCC to work with stakeholders in affected industries to	Unable to mobilise resources to identify impacts of climate crisis on tourism and other industries more consistently, or findings are inconclusive Lack of capacity to develop effective plans and agencies to drive the just transition in affected industries

What are we responding to	Long range outcomes	Short term decisions and actions required	Responsibility	Risks
		Identification of structures to drive the just transition in tourism and other industries affected by climate crisis	identify impacts on workers, small businesses, and where relevant communities, and develop strategies and structures to ensure a just transition	<p>Deadlock over responsibility and resourcing for the just transition in affected industries</p> <p>Climate impacts are more severe and happen sooner than predicted by science</p>
Just transition requires substantial investment in new technologies and industrial clusters to generate alternative livelihoods	Financial system generates sufficient investment finance for new technologies and production clusters	<p>Initial estimates of extent and nature of financing needed for just transition investments, and implications for financial-sector products and regulatory framework</p> <p>Local development finance institutions to publish the impact of their investments on greenhouse gas emissions on a regular basis, and identify how they can do more to mobilise financing for just-transition investments</p>	<p>NT, Reserve Bank, and stakeholders to identify financing needs and ways to meet them</p> <p>IDC, DBSA and Land Bank as well as other national, provincial, and municipal financial institutions and small-business financing agencies</p>	<p>Unable to identify or package fundable projects</p> <p>Risk aversion and lack of competition in financial sector</p> <p>Regulators unwilling to innovate</p> <p>Development finance agencies resist additional burden and cost of monitoring impacts and improving them</p>
Limited success to date of efforts to diversify the economy and promote engagement by working people on economic policy	<p>Strategies succeed in diversifying economy as part of the just transition</p> <p>Working people engage more on policy and collective action to implement it</p>	<p>Media to improve learning process around industrial policy and mobilisation of working people and their communities for the just transition, linking officials, economic stakeholders including affected workers and communities, and policy researchers to exchange ideas and evidence</p> <p>Annual conference on strategies for the just transition focused on experiences in promoting economic diversification and inclusion, and in supporting collective action by working people and their communities</p> <p>Improved capacity for development of relevant strategies based on evidence and engagement with economic stakeholders</p> <p>Improved capacity in membership-based organisations (small business associations, unions, civics, cooperatives, ward committees, community-based organisations))</p>	<p>PCC to establish networks and forums, including annual conference</p> <p>PCC to identify capacity needs inside and outside of government</p> <p>PCC to engage with Presidency on financing for membership-based organisations</p>	<p>PCC lacks capacity or resources to initiate and manage networks and forums</p> <p>PCC unable to get necessary funding for building relevant capacity amongst stakeholders and for membership organisations</p>

What are we responding to	Long range outcomes	Short term decisions and actions required	Responsibility	Risks
<p>Health impacts associated with proximity to fossil fuel combustion (e.g., coal-fired power plants, industrial operations, etc)</p>	<p>Communities and individuals at risk for adverse health outcomes are systematically monitored</p> <p>Health surveillance systems in place to address issues of emerging health challenges</p> <p>New health services (fixed/mobile clinics; health care centres and/or district hospitals) established to address the needs of climate impacted communities</p>	<p>Identification of communities at risk for adverse health outcomes</p> <p>Determination of health monitoring and surveillance systems required for these communities</p> <p>Determination, through consultation, of the health service needs of these communities</p>	<p>National Treasury to make necessary resources available</p> <p>Department of Health to implement and oversee relevant programmes, systems and services</p>	<p>Lack of resources available for implementation of programmes, systems and services</p>