PRESIDENTIAL
CLIMATE COMMISSION
TOWARDS A JUST TRANSITION

A Presidential Climate Commission Report

Framework for a Just Transition in South Africa

Draft for Discussion

February 2022

About the Presidential Climate Commission

The Presidential Climate Commission is a multi-stakeholder body established by the President of the Republic of South Africa to advise on the country's climate change response and pathways to a low-carbon climate-resilient economy and society.

In building this society, we need to ensure decent work for all, social inclusion, and the eradication of poverty. We also need to protect those most vulnerable to climate change, including women, children, people with disabilities, the poor and the unemployed, and protect workers' jobs and livelihoods.

The Presidential Climate Commission facilitates dialogue between social partners on these issues—defining the type of society we want to achieve, and detailed pathways for how to get there.

About this Report

This document presents a framework for achieving a just transition in South Africa.

This framework is the first building block towards reaching South Africa's vision for just and equitable transition towards climate resilience and zero-emissions development.

The framework sets out the vision, principles, planning elements and policy measures to achieve a just transition in South Africa, as well as the outcomes to be achieved over the short, medium, and long-run. In so doing, the framework aims to bring coherence and coordination to just transition planning in South Africa.

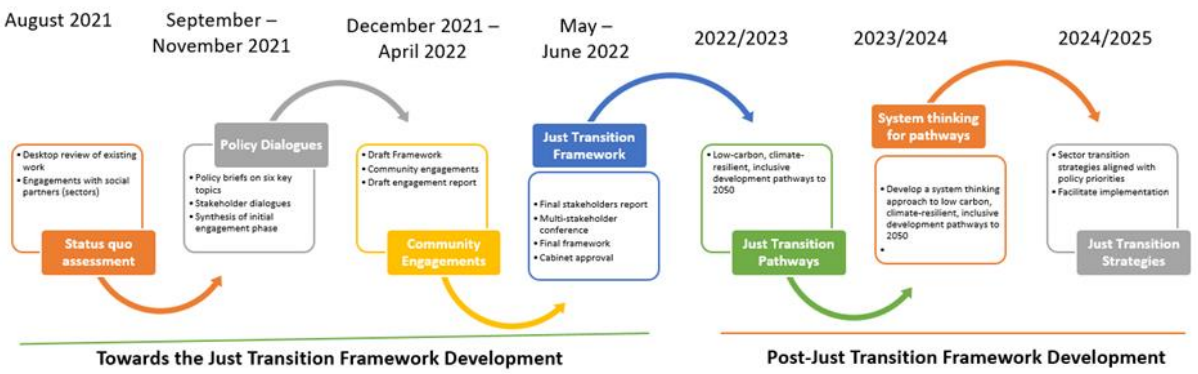
The framework builds on a series of dialogues conducted by the Presidential Climate Commission in 2021 on issues pertinent to a just transition (Figure 1). The framework also stands of the shoulders of years of research in South Africa on just transitions, as well as prior consultation process, including those facilitated by NEDLAC and the National Planning Commission. To watch the dialogues and read the related reports, visit www.climatecommission.org.za.

This framework must be tailored to those most impacted by the transitions that lie ahead. Accordingly, the Presidential Climate Commission is proceeding with a series of community consultations, along with broader outreach activities, to ensure the framework is fit-for-purpose (Figure 1). Among other issues, this consultation will be used to discuss the relationship between climate risks and the just transition, and how, specifically, and practically, the poor, women, and the youth can be empowered through this transition—ensuring that these perspectives are well situated in the framework.

The framework is intended to be a living document, updated as circumstances change, and new learning takes place.

The framework is also intended to be embraced by all social partners, adopted as a guide for all stakeholders for pressing forward with the just transition. The document is not, however, a detailed implementation plan—that will follow later.

Figure 1: Process for Creating and Implementing the Just Transition Framework



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1. Introduction

The science is clear—tackling climate change will require significant and unprecedented changes across all sectors of the economy. It will require innovations in the energy system, including a massive shift to low-carbon energy sources, as well as changes to the way we use our land and grow our food. The research is also clear—making these changes, today, can create new and better jobs in South Africa, grow the economy, help protect the environment, and improve human health.

South Africa is in one of the regions in the world that is most impacted by climate change, frequently experiencing droughts, floods, and other extreme weather events associated with global warming. These events have already caused enormous damage to infrastructure and livelihoods, and displaced thousands of people. South Africa is also one of the most vulnerable countries to transition risk—the changed forced upon people and the economy as a result of changes in the global demand for goods and services, changes in technology, and changes in global policy.

It is in South Africa's national interests to join the world in combating the rapidly accelerating climate crisis, in accordance with our national circumstances and development priorities.

Addressing climate change means strengthening adaptation measures to improve the resilience of individuals, communities, and human settlements to extreme weather events. It also requires sharp reductions in greenhouse gas emissions—the pollutants that drive climate change.

Climate change and the related economic and social impacts have already begun to affect South Africa's economy and society. Accordingly, the *just* transition is about seizing opportunities and managing risks, actively, with an overarching focus on improving the lives and livelihoods of South Africans, particularly those most impacted.

Seizing Opportunities

There are substantial opportunities in a just and equitable transition towards climate resilient and zero-emissions development. 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 clean energy minerals, like platinum, vanadium, cobalt, copper, manganese, and lithium. Climate-smart agriculture could create better yields and more resilient crops, improving the lives and livelihoods of farmers. Above all, the just trust transition can create a more jobs-rich, equitable, and inclusive economy.

Managing Risks

South Africa's reliance on coal and other fossil fuels had created a carbon-intensive economy. As the world decarbonizes more aggressively, there are risks that South Africa's international exports will be penalized and investments in carbon-intensive industries restricted. Reducing greenhouse gas emissions in a structured way and growing new green industries is crucial to building the country's medium- and long-term economic competitiveness and jobs.

Improving the Lives and Livelihoods of South Africans: Keeping People at the Centre of Decision-Making

Realising the potential benefits of the just transition requires strategies to deal constructively with the unavoidable burdens arising from the disruption caused by the transition from fossil fuels and other technologies and commodities being phased out, as well as the costs of climate change, already borne disproportionately by the poor.

Accordingly, a *just* transition responds to the following imperatives: How do we empower people and communities in the transition to a low-emissions economy? How do we ensure that the most impacted do not get left behind? How do we support the goals of social inclusion and decent work for all? How do we continue to solve South Africa's triple challenges (inequality, poverty, and unemployment) based on the roadmap laid out in the National Development Plan?

This framework begins to respond to these imperatives.

2. Purpose and Scope

This document presents a framework for achieving a just transition in South Africa—in essence, a practical introduction for giving effect to the just transition in the country.

The framework is positioned at the intersection of South Africa's broader efforts to redesign the economy to the benefit of most citizens (i.e., addressing the triple challenges), as well as the domestic response to climate change (i.e., improving resilience and making substantial cuts to greenhouse gas emissions). Accordingly, the framework does not deal with climate mitigation and adaptation policies per se, but rather with managing the social consequences and economic upside of those policies, while putting human development concerns at the centre of decision-making.

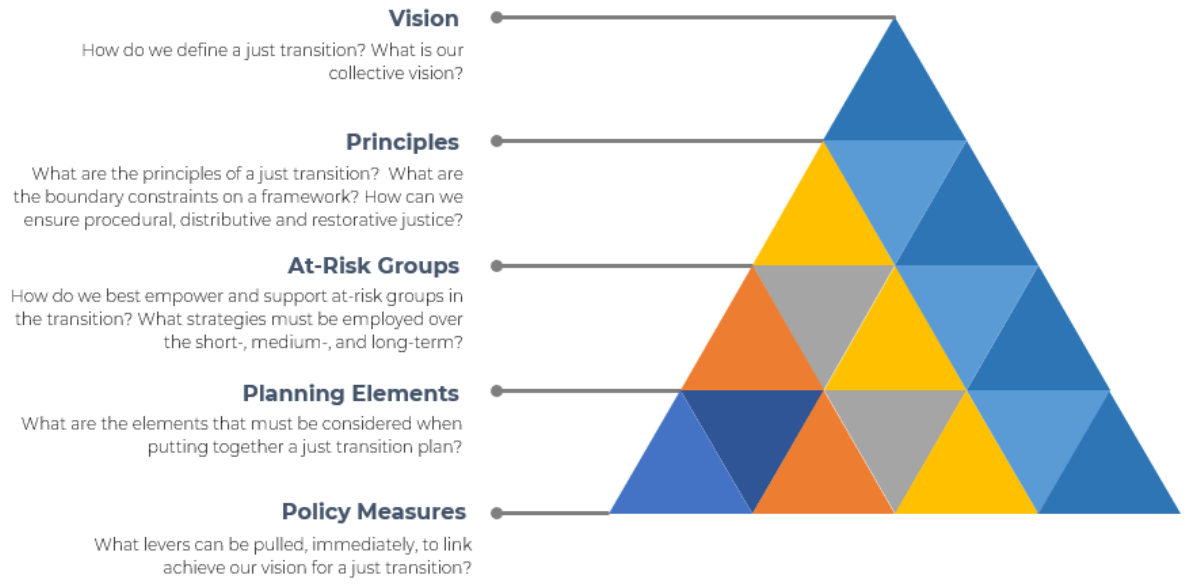
The framework is intended to be embraced by all social partners in South Africa. Indeed, the urgency for the just transition mandates an all-of-society, all-of-government response.

3. Structure

The framework is organised in the following sections (Figure 2):

- Section 4 presents the vison for a just and equitable transition in South Africa
- Section 5 highlights the overarching principles that guide the just transition and this framework
- Section 6 focuses on groups most immediately at risk, and analyses the risks and opportunities across the different phases of the transition.
- Section 7 defines the planning elements that will be required to give effect to the just transition
- Section 8 presents policy measures for the just transition—in essence, capturing the critical decisions that are required in the short-term to set in motion an effective and coordinated response to achieve a just transition

Figure 2: Framework for the Just Transition in South Africa



4. Vision

The framework is guided by a shared vision for a just transition in South Africa, building on the work done by NEDLAC and the National Planning Commission, and the definition embraced in the draft Climate Change Bill. The vision for a just transition put forward in this document is as follows:

A just transition aims to achieve a good life for all South Africans, in the context of climate resilient and 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, and 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; the conservation of natural resources; equitable access of water resources; and sustainable, equitable and inclusive land-use for all, especially for the most vulnerable.

5. Principles

A just transition encapsulates three core principles:

1. **Distributive justice:** An equitable distribution of risks and responsibilities that addresses the direct impacts resulting from the transition. As noted above, a successful transition necessitates an all-of-society approach, so this distribution must cover all levels of government, corporates, and citizens.

2. **Restorative justice:** The redress of historical damages against individuals, communities, and the environment, with the goal of rectifying or ameliorating the situations of harmed or disenfranchised communities. This is about moving forward constructively, in a manner that appropriately rectifies the harms of the past.

3. **Procedural justice:** Empowering (not only supporting) workers, communities, and small businesses, with *them* defining their own development and livelihoods in the transition—and incorporating *their* definitions in the ways government, corporates, and citizens respond.

Table 1 presents the theory of change associated with each principle.

Table 1: The Theory of Change for Just Transition in South Africa

Principles	Description	Outcomes	Means of Achievement
Distributive justice	An equitable distribution of risks and responsibilities which addresses the direct impacts resulting from the transition process	Increased resilience of workers and communities to shifts in economic activities and employment, as well as the physical impacts of climate change A higher share of the working-age population is in employment, in low carbon industries, with better quality of work,	Implementing sound economic and social policy, coupled with increased corporate responsibility and a diversified economy Equipping South Africans with skills, assets, and opportunities to participate in industries of the future, with particular attention on impacted groups, the poor, women, and the youth

Principles	Description	Outcomes	Means of Achievement
		and stable or increasing incomes	
Restorative justice	The redress of historical damages against individuals, communities, and the environment, with the goal of rectifying or ameliorating the situations of harmed or disenfranchised communities	Less land degradation, improved air quality, energy access, water quality and access A lower Gini co-efficient A qualitative improvement in income equality More equitable ownership of productive and other assets	Creating a more decentralised, zero-carbon economy, which allows for greater economic inclusion, ownership, and participation, especially for women and the youth Shifting away from resource intensive sectors and fossil fuels to (1) free up natural assets as public goods and (2) create opportunities for rehabilitation of degraded land, air sheds, and water systems
Procedural justice	Empowering (not only supporting) workers, communities, and small businesses with them defining their own development and livelihoods in the transition	Inclusive and participatory decision-making structures Processes at national, regional, and local levels that allow people to take charge of their economic destiny, with a responsive and effective state that engenders a more dynamic and equitable economy	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, allowing each to play to their respective strengths, fostering a more dynamic, competitive, diversified, and equitable economy

6. "At-Risk" Groups

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 and (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.

The value chains most immediately at-risk in South Africa include coal, auto, agriculture, and tourism.

6.1. Coal Value Chain

The coal value chain faces the earliest disruption. Demand for coal for electricity and exports already shrunk in the 2010s. It is expected to decline further from the mid-2020s. Downstream users—Eskom, Sasol (which also mines its own coal) and the electricity-intensive aluminium and ferro-alloys producers—can sustain their employment if they develop alternative non-fossil fuel sources of energy and transition to new low-emissions production models. In contrast, the coal mines, together with their suppliers and communities, will face downsizing from around 2025. The challenge will be to enable them to transition as seamlessly as possible to decent new livelihoods.

Coal mines employed around 80,000 people in 2021, having declined from 140,000 at its peak in the 1980s (i.e., coal mining jobs were also declining prior to the implementation of climate policy, because of other economic factors). Future projections suggest further declines, driven externally by reduced global demand for South African coal exports, potentially exacerbated by domestic trends to automation and the digital economy. 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.

Three quarters of coal production and electricity generation take place in eMalahleni (Witbank), Steve Tshwete (Middelburg), Govan Mbeki and Msukaligwa (Ermelo). Around 1.2 million people live in these districts. 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. That said, these municipalities all have significant advantages in developing new economic activities. They have long-standing industrial capacity, and their proximity to the national economic centre of Gauteng should make it easier to link into national and global value chains.

6.2. 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 (e-vehicles). If the South African auto industry does not keep up with this global transition, local producers risk exclusion from these crucial markets. Production of e-vehicles, 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). 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 e-vehicles by 2030. Of course, a reduction in demand for petrol and diesel fuels will also have knock-on impacts for the liquid fuels sector.

Currently, around 100,000 people work in auto manufacturing. The industry centres on Tshwane, eThekwini, Nelson Mandela Bay and Buffalo City. The larger metros can likely adapt easily if it loses some jobs, because of existing economic diversity, providing more options for other work. The Eastern Cape would face harsher outcomes unless it is assisted to develop alternative production clusters.

The largest employment impacts will be in support industries rather than auto production itself. Some 200,000 people work as auto mechanics, around a third in the informal sector. Informal mechanics are predominantly self-employed. The occupation requires significant skills, but most mechanics do not have formal qualifications and only a third have matric. That limits their ability to shift into related occupations. In addition, taxi owners will face growing pressure to procure new e-vehicles; however, most cannot afford the investment without greater state support. Finally, it is not clear how petrol stations will adapt. They make much of their profits on retail sales but rely on petrol to attract customers. To maintain this strategy for e-vehicles would require investment in new charging systems. Even then, many users might rely on overnight charging at home instead. Petrol stations employed around 150,000 people in 2019. Just over half had matric.

6.3. Agriculture

Agriculture is a very 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. The sector faced persistent droughts in some areas; intense rainfalls, which caused floods and, especially in labour-sending regions, worsened erosion; and generally higher temperatures and humidity, affecting animals and crops directly as well as incubating new pests. These trends will intensify over the coming years.

The implications of climate change for agricultural employment depend in part on the ability of commercial farmers to adopt new climate adaptive practices and technologies. They have already begun to invest in more resilient infrastructure and crops, such as shade for orchards, drip irrigation and heat-resistant varieties. The impact of climate change will vary by region, affecting the ability of different localities to adapt. In 2019, 55,000 commercial farmers registered for VAT, although the top ten companies accounted for over a quarter of total production. Labour force surveys suggest that around a third of farm owners are black.

Commercial agriculture employs 800,000 workers, with half in the Western Cape, KwaZulu Natal and Limpopo. Farmworkers typically have less education (only 15 percent have matric), lower pay, and fewer assets than other formal employees. 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. Because droughts affect seasonal workers (around half of the total) particularly severely, it proves difficult to track their employment effects. 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 R5000 for men. In other words, the median woman farmworker earned a little over half than her counterpart in other formal industries, while the median man earned 63%. The gender pay gap in farming, while apparent, is lower than in the rest of the economy.

Around 350,000 households depend primarily on the consumption or sale of their own agricultural products. They are split almost equally between urban smallholders and farmers in the historic labour-sending regions. Most do not have matric. In contrast to commercial farms, almost none have capital or access to financing for more resilient production technologies. Small-scale farmers in the labour-sending regions usually have almost no alternative employment opportunities nearby, which is particularly acute for women subsistence farmers in these areas.

There are, however, opportunities to stimulate new and decent work in agriculture, while at the same time reducing greenhouse gas emissions and improving rural livelihoods. For example, the restoration of degraded lands is a significant job creator, while bringing important climate and environmental benefits.

6.4. 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. 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.

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. 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. In 2019, there were 500,000 employees in catering and accommodation (a large proportion of these women), with 110,000 small business owners. Most served domestic and regional

customers, but the most profitable and high-end activities focused on overseas tourists. Two thirds of both employees and businesses were in Gauteng, the Western Cape and KwaZulu Natal.

Practicing tourism in a manner that reduces greenhouse gas emissions, conserves energy and water, reduces waste and plastic consumption and ensures that fair benefits accrue to communities and employees, is not just an option—it is vitally important (see more in the Department of Tourism's Green Tourism Incentive Programme).

6.5. 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 and agriculture. Anticipating these changes allows us to develop a broad phasing for the transition, as it impacts particularly at-risk groups. This is summarised in Table 2, with projected impacts through to 2050.

Table 2: Projected impacts to at-risk groups through 2050

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

Years	Trade environment	Coal value chain	Transport value chain	Agriculture	Tourism
				stabilisation despite worsening climate conditions Pressure from regional and domestic climate migration	
2040-2050	Intensification of efforts to reduce emissions in production and trade	Coal essentially phased out, with workers and communities engaged in new livelihoods	Transport no longer depends primarily on petrochemicals	As above	As above

6.6. Seizing Opportunities in the Different Phases of the Transition

While the projected impacts in at-risk groups are extremely concerning, it is important to recognise that there are also significant opportunities for economic growth and job creation, which can be maximised to ensure that the transition is just.

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 electricity. More reliable and cheaper electricity will promote national growth and job creation, while there will be growing international and domestic markets for e-vehicles and other technologies to reduce emissions and improve resilience. 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, improving efficiency, and increases housing demand, thus creating a new economy.

Beyond 2030 we can look forward to a more affordable and reliable electricity system, and other innovative investments which lay the basis for more dynamic, diversified, and equitable growth.

We need clear and determined governance responses to seize these opportunities and support a just transition (see more in section 7.4).

Over the next five years we need systems 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. We need clear political support for and implementation of an accelerated renewable energy build at a scale that allows for local manufacturing chains to develop.

As the transition accelerates in the period 2025-2030 there must be well-defined structures and responsibilities in place to drive transformation of the electricity sector, auto production and use, as well as densification and adaptation in tourism and agriculture. Affected municipalities (mining, farm, 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.

7. Planning Elements

In seizing the opportunities presented by a just transition, while responding to risks, we need to ensure that the necessary skills and resources are placed in the hands of at-risk groups to navigate the transition. This involves building human and social capital; diversifying and transforming local economies; funding new investment and access to appropriate technologies; and building the formal and informal networks that can assist with information, resourcing, and capacity. These resources are, however, relatively scarce amongst lower-level workers, especially if they do not belong to unions, as well as many small business owners and rural municipalities—emphasising the importance of concerted attention and actions focused on these groups.

The interventions required to support a just and equitable transition can be categorised in five broad areas:

1. **Active labour markets** encompassing skills development, job placement, and broader human resource development.

2. **Social protection measures** encompassing social safety nets, income support, and protecting individuals, households, and communities against climate impacts and extreme weather events (i.e., enhancing their resilience).

3. **Economic diversification**, focusing on "at-risk" sectors and promoting new industries.

4. **Effective governance**, ensuring coherence in the planning and implementation of just transition policies and activities.

5. **Climate finance**, channelling finance towards activities that improve social inclusion and drive climate-resilient and zero-emission development.

7.1. Active Labour Markets and Human Resource Development

Even before the climate crisis, South Africa faced deep-seated structural challenges in the economy, centred on unusually profound inequality, dependency on mining-based exports, and the obsolescence of coal-fuelled electricity. As a result, we cannot presume that individuals and businesses displaced by the climate crisis will be able to transition easily into new opportunities. The promotion of active labour markets and human resources development is therefore a central imperative to achieving a just and equitable transition in South Africa. This includes skills development, quality education, and the stimulation of labour-intensive industries.

Skills development

- Developing new skills for those impacted, the poor, the youth, women, and job-seekers—empowering them to seize the opportunities offered by the new industries
- Re-skilling workers whose jobs may be lost because of the transition, with a focus on creating decent work and preserving job location
- Expanding access to skills, including with certification
- Providing reliable and affordable internet access in affected areas, for online learning and job searching

Quality education

- Improving the basic education system, helping young learners understand the impacts of climate change and the shifts that lie ahead
- Improving the higher education system, providing school leavers and graduates with the competencies they need to find a job or set up an enterprise in a climate-resilient and zero-emissions society
- Adequately resourcing schools, particularly those that have been marginalised, to improve teaching competencies and provide access to computers, books, and buildings
- Reviving adult basic education and continuous learning opportunities for adults, particularly in affected areas
- Increasing the number of apprenticeships in workplaces and colleges (most employers prefer to employ qualified artisans)

Labour-intensive industries

- Maximising decent work and labour-intensive industries in the low-carbon economy such as renewable energy and battery manufacturing, production of electric vehicles and green hydrogen.
- Creating and stimulating labour-intensive industries in the context of improving climate resilience and reducing greenhouse gas emissions, for example, by rehabilitating abandoned or derelict mines, planting trees, clearing and maintaining water catchments, expanding and maintaining environmentally-protected areas, and building new climate-resilient infrastructure, including roads and bridges

7.2. Social Protection Measures

While some workers and communities may be able to transition to new industries, others will require additional support through strengthened safety nets and income support. In addition, individuals whose lives and livelihoods are particularly vulnerable to climate impacts (e.g., floods, droughts, extreme storms, etc.) will require support to enhance their resilience.

Safety nets and income support

- Providing comprehensive social security nets for displaced workers and communities, ensuring they have adequate resources to survive while they develop a new livelihood (e.g., social grants, unemployment insurance, stipends for formal education or apprenticeships, particularly for women and the youth)
- Assisting older/unwell workers to access early retirement when that is their best option

Enhancing the resilience of climate-vulnerable individuals and communities

- Ensuring universal access to basic services such as clean energy, potable water, sanitation, public transport, a clean environment, education, and health care.
- "Climate-proofing" infrastructure, such as roads and stormwater systems, with an added benefit of being a local job creator
- 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

7.3. 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 in "at-risk" sectors. 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. Indeed, rising numbers of small and informal business are critical for a more dynamic, resilient, and equitable economy. In addition, innovation is crucial to minimise the impacts of the climate crisis while boosting overall economic competitiveness, laying the basis for development and job creation.

Economic diversification

- Improving support 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 community gardens, community service programmes, credit unions and consumer and production co-ops

Innovation

- Developing competitive industries to produce inputs and support services (design, engineering, and maintenance) for low-carbon and climate resilient technologies, including renewable energy inputs, battery cells, e-vehicles, green hydrogen, and net-zero cement or cement alternatives, all of which may target domestic, regional, and where viable overseas markets
- 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 low-carbon and 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
- Focusing on technological advances that can generate employment and broaden ownership of productive assets, in a manner that supports 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

7.4. Governance

Effective governance at the national, provincial, local, and company level will be central to achieving a just and equitable transition in South Africa—driving strategy, building consensus, mobilising resources (and 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, to enhance the effectiveness of problem definition, decision making, and implementation of responses.

In addition, effective governance 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 support for new economic activities, must describe in detail the implications for the just transition.

The roles for each group are described further below.

National governance

- Providing overall policy and planning coherence in support of a just transition
- Allocating responsibilities, explicitly and consistently, to government agencies for implementing strategies and activities to support a just transition, which must be coupled with a deep understanding of the complementary roles of the main economic actors i.e., local government, private businesses and labour organisations
- Mobilising resources for deprived regions/affected groups, from both the public and private sectors, particularly considering South Africa's extraordinary spatial inequalities
- Creating forums and dispute-settlement mechanisms to ensure timely and binding decision-making around core strategies
- Advancing and coordinating the technological changes required to minimise the impacts of the climate crisis
- Providing funding to public goods, notably infrastructure
- Promoting social solidarity and collective action in at-risk communities
- Ensuring quality control for high-impact projects and policies
- Defining priority indicators to track progress toward South Africa's vision for a just transition, with metrics that are easy to understand and measure
- Monitoring progress toward the overall socio-economic aims of the just transition, building on systems already in place (e.g., the Department of Planning, Monitoring, and Evaluation's Centralised Data Management and Analysis System, an integrated date system that can be used by multiple agencies in their evaluation processes)

Provincial and local governance

- Supporting local economic diversification, with a particular focus on working people and small businesses in "at-risk" communities
- Empowering and incentivising 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
- Providing infrastructure services, and regulating planning and land management, in a manner that supports the overall aims of a just transition
- Being "first responders" to extreme weather events, with the immediate cost and obligation to respond to the impacts of climate change and implement early warning systems
- Identifying climate impacts, just transition impacts, and vulnerabilities in the region, and reporting these impacts to decision-makers

Corporate governance

- Using CSI, procurement, and investment to stimulate local enterprise in support of a just transition
- Following the recommendations of the Task Force on Climate-related Financial Disclosures, especially in relation to disclosing climate change impacts in financial statements and using scenarios to understand forward looking accounts
- Investing in skills and enterprise development to meet the demand of new industries, with worker, women, and black ownership as priorities
- Embedding environment, social, and governance (ESG) principles across all operations
- Incorporating climate risks and opportunities into business strategy and decisions
- 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
- Including executive level incentives for ESG and climate performance
- Setting a Science Based Emissions Reduction Target
- Developing an operational plan and work with others to enable the achieving of ambitious targets
- Tracking environmental, social, governance and climate impacts, and disclosing these impacts through best-practice reporting
- Using disclosure guidance and platforms like CDP and those issued by the JSE
- Establish publicly available responsibly lobbying and government engagement policies

- Setting up just transition offices in large corporations

Multi-stakeholder governance

- All stakeholders should engage under the principles of transparency, openness, impartiality and consensus, effectiveness and relevance, and coherence (per the WTO multi-stakeholder governance principles)
- All stakeholders should organise and engage through multi-stakeholder processes established by NEDLAC and the Presidential Climate Commission, amongst others
- The South African Government and multi-stakeholder process owners should clarify, transparently, the level of influence of multistakeholder-governance processes on decision-making, as well as the process for incorporating multi-stakeholder process outputs into decision making; specifically identifying how process decisions will be made binding
- In all stakeholder processes, but especially in bottom-up co-development processes, deliberate efforts should be made to identify vulnerable groups and tailor-make processes to include them in consultation (e.g., provision of childcare, travel support, multiple languages) and implementation of policy

7.5. 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. The notion of a just transition incorporates amelioration of negative social impacts associated with economic transition resulting from decarbonization and climate resilience.

Domestically, capital can be mobilised by strengthening regulation and institutional arrangements, partnership 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).

Internationally, capital can be mobilised through the provisions of the Paris Climate Agreement, 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 recent historic USD 8.5 billion financing deal struck between South Africa and the European Union, France, Germany, the United Kingdom, and the United States is illustrative of the type of financing arrangement that is possible in support of a just transition. While this is a landmark transaction for South Africa, far more will be required to achieve a just transition.

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 REIPPPP.

To increase capital mobilisation towards a just transition in South Africa, several strategies are required:

Research, analysis, and engagement ("laying foundations")

- Creating a just transition policy framework which sets out the policies required to achieve a just transition
- Costing these policies, including mitigation, adaptation, and social policies
- Creating a business case for just transition projects that ameliorate the negative impact on workers, communities and SMMEs in the fossil fuel value chain, with a particular focus on identifying financing mechanisms for projects that might not be commercially viable on a stand-alone basis
- Engaging constructively with key financial stakeholders—both public and private—on delivering against these needs and aligning institutional arrangements in the financial sector

Policies, regulations, reporting, and decision making ("greening finance")

- Designing and implementing effective and coherent policies to mobilise capital at scale within the existing financial system
- Employing a common set of definitions linked to just transition policy to enable policy alignment and tracking of financial flows
- Disclosing financial flows in a manner that supports optimal policy and economic decisions
- Integrating climate-related risks into investment decisions

Instruments and institutions ("financing green")

- Utilising green and other thematic bonds to mobilise capital for climate and transition projects, enabling access to large pools of institutional capital
- Strengthening markets for outcomes-linked commodities like carbon credits to unlock project viability by attaching a value to public goods
- Expanding the use of blended finance within the existing financial ecosystem to catalyse new investment opportunities through de-risking and so crowding in private investor participation
- Supplementing the existing financial ecosystem with institutions aligned with public policy, which can fill critical gaps in pipeline, investor mandate, risk appetite, skills, and financial instruments
- Encouraging public-private partnerships to unlock additional capital-intensive infrastructure project potential, supporting fiscal efficiency, green industrialization, and economic transformation policy objectives

8. Policy Measures for Immediate Effect

This section identifies the policy measures to give immediate effect to a just transition in South Africa. The policy measures are drawn from the vision for just transition (section 4), the principles that will drive the transition (section 5), and the core planning elements that are needed to support the transition (section 7). Table 3 sets out the long-range outcomes we are seeking, the short-term decisions and actions that are required, and associated responsibilities.

Table 3: 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	Reduction in greenhouse gas emissions Reduction in air pollution More reliable and affordable electricity supply Development of new electricity generation technologies (production of inputs, design, maintenance, services, etc.)	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 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 Eskom has completed and/or is in the process of finalising plans for decommissioning coal plants in consultation with affected workers and communities, and on that basis identifies both the impact on demand for coal over time, and the affected employees and communities 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 Plans finalised for other major energy-intensive refineries (Sasol, aluminium,	National departments with responsibility for energy and industrialisation (DMRE, DPE, dtic, NT) and Nersa Eskom Major electricity users (especially energy-intensive refineries, mines, and municipalities) Limpopo government and Musina Makhado SEZ Renewable energy and capital goods industries Domestic and international public and private funding sources, including local banks, IDC, and DBSA	National departments and Nersa continue to delay decisions due to inability to resolve disagreements Unable to find a way to reduce reliance on coal Push for gas delays and diverts resources from renewable energy build and creates fiscal risk through stranded assets Energy-intensive users close rather than developing new feedstock or energy sources Fiscal constraints squeeze new investment and support measures South Africa loses out in competition to manufacture renewable technologies 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)

What are we responding to	Long range outcomes	Short term decisions and actions required	Responsibility	Risks
		ferro-alloys and the proposed Musina Makhado SEZ) to shift to cleaner energy sources Master Plan to define realistic strategies to localise supply chain for new generation and transmission capacity		
Coal mining and coal-based electricity plants continue to downsize and retire	Affected miners, small businesses and communities can shift into decent livelihoods	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 Initial needs analysis for affected communities and workforces conducted in participation with affected groups, with estimated timelines for downsizing from mid-2020s 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	PCC to work with 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 DMRE & PCC to engage with relevant agencies across national, provincial, and local governments on structure to drive the just transition for coal communities DMRE and DoE&L to develop transition pathways for workers in the coal value chain	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 Stakeholder engagement too inclusive of unrepresentative groups or else too limited in scope to be meaningful 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

What are we responding to	Long range outcomes	Short term decisions and actions required	Responsibility	Risks
		support and collective action; and obtain adequate staffing and funding		
Shift to cleaner energy for transport	Auto industry shifts to clean-energy vehicles for domestic use and export Energy use for transport declines due to densification and improved public transport, including road and rail Affected workers and small businesses (mostly mechanics, taxis, and fuel stations) find alternative livelihoods A significant modal shift from road to rail is achieved	APDP adjusted to support production of clean-energy vehicles and to promote local production of batteries and fast-charging technologies 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 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 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	Dtic and auto industry stakeholders 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 DoT and PCC to engage with relevant agencies across national, provincial, and local governments on structure to drive the just transition for transport	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 Workers are left worse off after the transition due to lack of new employment opportunities and inadequate resources allocated to support workers

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		
Other value chains with high emissions (cement, agriculture, gas, etc.)	Other sectors reduce emissions intensity of the economy to achieve net zero CO_2 by 2050 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	PCC to work with 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	PCC to work with DFFE to improve monitoring and information on climate trends by region On that basis, PCC 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

What are we responding to	Long range outcomes	Short term decisions and actions required	Responsibility	Risks
				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 Identification of structures to drive the just transition in tourism and other industries affected by climate crisis	PCC to work with 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 identify impacts on workers, small businesses, and where relevant communities, and develop strategies and structures to ensure a just transition	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 Deadlock over responsibility and resourcing for the just transition in affected industries Climate impacts are more severe and happen sooner than predicted by science
Just transition requires substantial investment in new technologies and industrial clusters to	Financial system generates sufficient investment finance for	Initial estimates of extent and nature of financing needed for just transition investments, and implications for	PCC to work with NT, Reserve Bank, and stakeholders to identify financing needs and ways to meet them	Unable to identify or package fundable projects

What are we responding to	Long range outcomes	Short term decisions and actions required	Responsibility	Risks
generate alternative livelihoods	new technologies and production clusters	financial-sector products and regulatory framework 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	IDC, DBSA and Land Bank as well as other national, provincial, and municipal financial institutions and small-business financing agencies	Risk aversion and lack of competition in financial sector Regulators unwilling to innovate Development finance agencies resist additional burden and cost of monitoring impacts and improving them
Limited success to date of efforts to diversify the economy and promote engagement by working people on economic policy	Strategies succeed in diversifying economy as part of the just transition Working people engage more on policy and collective action to implement it	Networks and forums established 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 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 Improved capacity for development of relevant strategies based on evidence	PCC to establish networks and forums, including annual conference PCC to identify capacity needs inside and outside of government PCC to engage with Presidency on financing for membership-based organisations	PCC lacks capacity or resources to initiate and manage networks and forums PCC unable to get necessary funding for building relevant capacity amongst stakeholders and for membership organisations

What are we responding to	Long range outcomes	Short term decisions and actions required	Responsibility	Risks
		and engagement with economic stakeholders Improved capacity in membership-based organisations (small business associations, unions, civics, cooperatives, ward committees, community-based organisations))		

9. Conclusion

In the absence of strategies to ensure fair outcomes, the costs of the transition will fall disproportionately on workers, the poor, poorer communities, and small businesses. This risk is particularly pressing in South Africa, where apartheid entrenched exceptionally high levels of spatial and income inequality, unemployment, and poverty.

Key constituencies must be equipped with the capacity and power to manage—and even benefit from—the impacts of the transition and the climate crisis. Indeed, "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). By extension, the aims of the just transition require that affected communities participate meaningfully in planning, co-design, implementing, and monitoring strategies.

In this context, the most immediate task is to set up or reorganise structures that capacitate stakeholders, including affected communities, to respond constructively to the climate crisis. Key elements are systems to identify the impacts of the climate crisis and the transition on working people and their communities, and institutions with the capacity and resources to respond appropriately. All affected economic and civil society stakeholders need to participate in and support this process. That said, the democratic state has a central role in shaping collective action to achieve long-run social and economic goals.