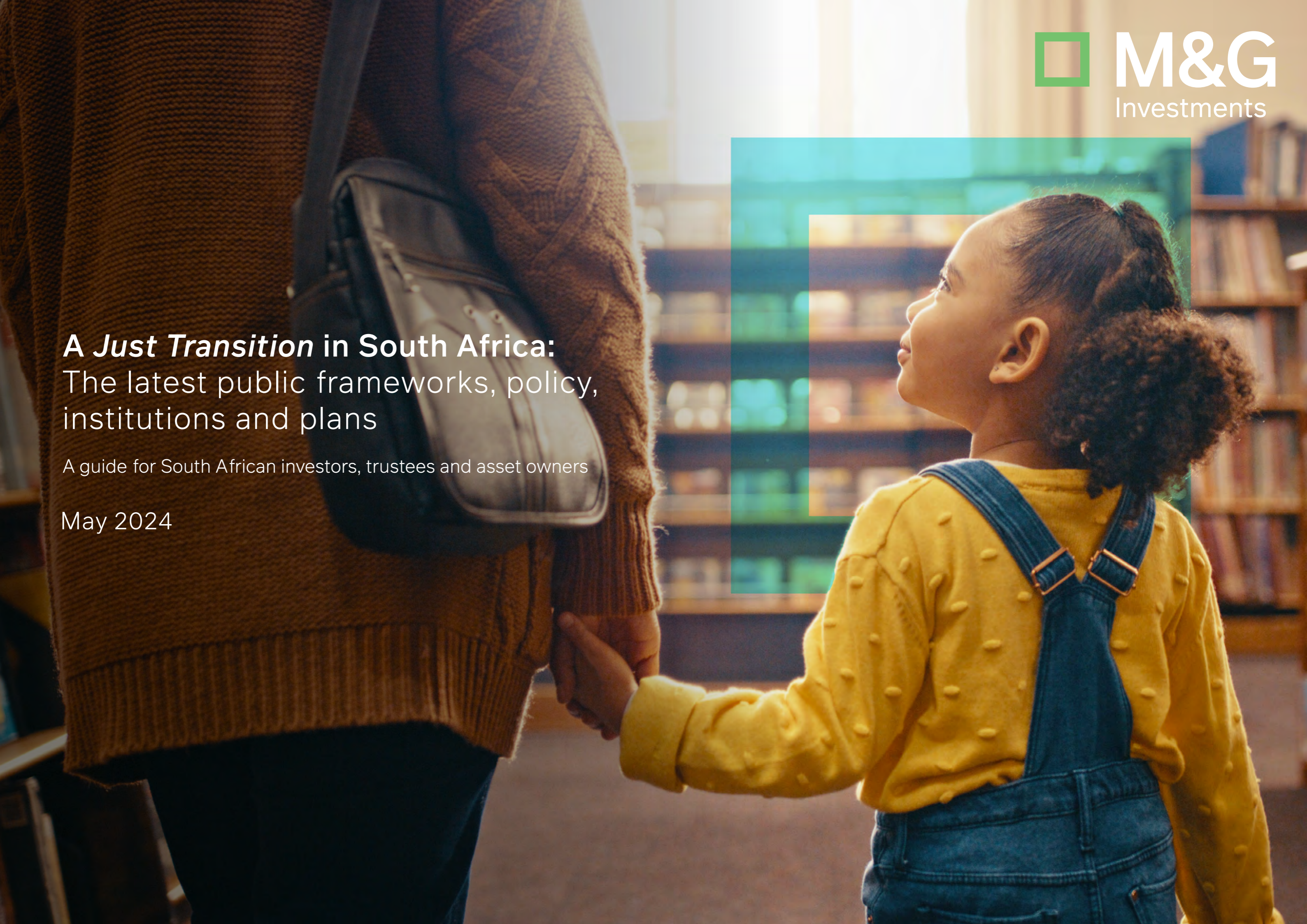


***A Just Transition in South Africa:***  
The latest public frameworks, policy,  
institutions and plans

A guide for South African investors, trustees and asset owners

May 2024





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## THE JUST TRANSITION AND SOUTH AFRICA

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# Purpose

M&G Investments Southern Africa (M&G SA) has compiled this document in order to help South African investors, trustees, Board members and asset owners navigate the complexities of implementing a Just Transition<sup>1</sup> in South Africa. With numerous global guidelines, local regulations, policies, plans and frameworks being agreed or updated over time, not to mention the many role-players involved, it is important to have a shared understanding of what a Just Transition means, and a guide or “snapshot” of where official policy stands in South Africa. It is equally important to have an idea of the latest cost estimates and funding required to implement a Just Transition. We hope that this provides a base of relevant information which collectively can help inform decision-making on this critical matter.

This document is to explore the role of M&G SA as a global and national actor in facilitating the world-wide, low-carbon economy transition commitments in line with the Paris Agreement. In understanding this, M&G SA, can individually and collaboratively respond through active stewardship and play an integral role in sustaining the economy whilst being a responsible agent for change.

## Additional context: M&G plc and the Just Transition

The International Labour Organisation’s Just Transition Tool of 2022 emphasises and reminds entities within the banking and investing sector, that integrating just energy transition considerations not only de-risks various regulatory, financial and reputational aspects of financial services, exposes investors to new opportunities and partnerships in ‘greener’ businesses, but also upholds fundamental human rights enshrined within the Sustainable Development Goals (SDGs).

These exact commitments have been highlighted in M&G plc’s position, as reflected within the International Labour Organisation’s Just Transition Finance Tool report. This document reminds investors of the agency and significance asset managers play in this just transition:

*“M&G plc. has released a position statement on its role in supporting a just transition. It highlights its commitment to financing companies that help achieve a socially just transition, as well as shift carbon-intensive companies to ‘green’ business models. As an asset owner it promises to integrate just transition consideration into the allocation of capital between asset classes and regions, while as an asset manager it commits to consider future transition-related risks and opportunities in research, portfolio construction and engagement.”*



<sup>1</sup>Just Transition Finance Tool for Banking and Investing Activities, 9





# The Just Transition and South Africa

## 1. Global Just Transition Definition

A significant outcome from COP26 is that many countries, more notably, many developing countries are undertaking their 'just' energy transitions from fossil fuel energy dependence towards renewable energy sources. At the heart of these policies are strategies to ensure that these objectives are not solely environmentally sustainable, but that they are socially and economically viable too. These efforts were committed to through the signing of the Just Transition Declaration by various countries.

The Declaration recognises the interconnectedness of climate change mitigation and global efforts in lowering emissions, and that of economic growth across all sectors and regions. The declaration further acknowledges that *climate change affects economies and societies disproportionately, especially carbon-intensive workforces, thus making certain energy and resource-sectors more vulnerable throughout transition processes.*

To ensure an inclusive transition, aligned with the Paris Agreement and the Sustainable Development Goals, signatories have committed their efforts towards six principles<sup>2</sup>:

1. **Support for workers in the transition to new jobs**
2. **Support and promote social dialogue and stakeholder engagement**
3. **Economic Strategies**
4. **Local, inclusive, and decent work**
5. **Supply chains**
6. **Paris Agreement reporting and Just Transition**



## 2. Just Transition in South Africa

One of these signatories was South Africa.

The PCC (Presidential Climate Committee) defines itself as “an independent multistakeholder body” established by the South African President, Cyril Ramaphosa, aimed at facilitating and providing oversight to an equitable transition towards a low-emissions economy.

### The PPC defines South Africa’s Just Transition as:

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

*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; an environment that is not harmful to one’s health and well-being; and sustainable, equitable, inclusive land-use for all, especially for the most vulnerable<sup>3</sup>.”*

<sup>3</sup>Presidential Climate Commission, A Framework for a Just Transition in South Africa,7.





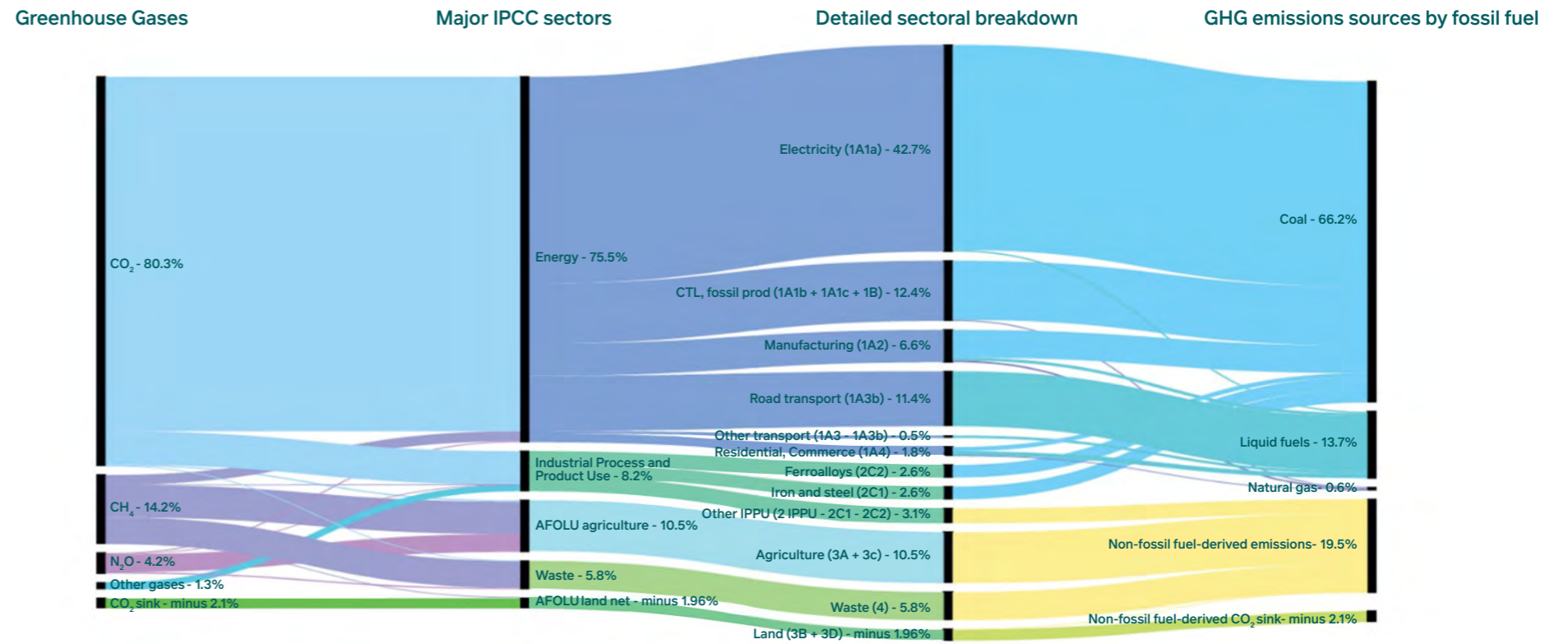
### 3. South Africa's Transition Dilemmas

To understand and assess the feasibility of moving towards a low-emissions economy, contextualising the state of South Africa's current energy composition and reliance is needed.

#### 3.1. Electricity dependence on coal

The graph below highlights the incredible dependence on coal for electricity production and for liquid fuels for road transport. The heart of South Africa's just transition problem is its shortfall in financial and technical resources to transition to cleaner energy sources.

In South Africa, approximately 85% or 42,000MW, of the nation's electricity is generated via coal-fired power stations.\* For all intents and purposes this is entirely provided by the state electricity supplier, Eskom.



GHG emissions for 2021 - modelled in SATIMGE. The CO<sub>2</sub> sink at the bottom of the diagram represents negative CO<sub>2</sub> emissions. Process emissions from iron and steel, ferroalloys, and all emissions from the CTL process have been allocated to coal, since that is the source of the carbon in these emissions. GWPs = IPCC 5<sup>th</sup> Assessment Report. Percentages reflect shares of, from left to right, total GHG emissions excluding CO<sub>2</sub> sinks, total GHG emissions excluding land use emissions/sinks, total GHG emissions excluding land use emissions/sinks, total GHG emissions excluding CO<sub>2</sub> sinks.



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## Why the current infrastructure cannot easily pivot to a more diverse energy mix

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### A country already in an energy crisis

Within an analysis of South Africa's energy makeup, the National Infrastructure Plan report articulates the loadshedding challenge the South African economy has been grappling with over the last decade and counting.

Loadshedding is a planned series of 'brown-outs' that can affect electricity supply to the country for up to 6-8 hours per day during certain periods. This is so extensive that during 2023, South Africans only had (on average) electricity for 80% of the day, and at times 65% of the day. (More detail later in this document).

This is largely due to underperformance of existing and new-build coal capacity, the degradation of the existing Eskom coal fleet and delayed commissioning of new generation capacity. The degradation of the coal fleet has required constant maintenance to be undertaken, which as a result has caused the energy availability factor (EAF) to consistently decline.

As previously highlighted, 85% of the electricity consumed by South Africa is coal based. After reviewing the latest IRP report, it is clear to see that mining closures have been postponed and renewable energy is hard to come by. If the country were to prematurely forgo its coal dependency, various other industries within the South African economy would be gravely impacted.

### The entire economy would come to a halt without the current fleet of coal-based power stations and coal mining.

If adequate, alternative renewable energy sources have not been secured to meet the country's energy demands, this could significantly suppress economic performance. Eskom's incapacity to meet the current energy needs through its Grid has resulted in a poor EAF (Energy Availability Factor) of 55% and resulted in 6,800 hours of loadshedding in 2023. Loadshedding has increased year on year since 2018. It is not evident to what extent loadshedding will take place in 2024 and onwards, as although renewable energy supply from the private sector is increasing in mitigation, but the EAF of the coal power station fleet continues to fall (illustrated further below).



**Defunding Eskom will bring all services industry and mining to a complete halt.  
More bluntly put, the country shuts down.**

A significant impediment in South Africa's transition towards a lower-carbon intense economy and, likewise, economic growth, is poor maintenance and lack of investment in infrastructure across key sectors. The National Infrastructure Plan (NIP) 2050<sup>4</sup>, released in 2022, similarly highlights the need for public infrastructure as a pivot towards inclusive and transformative, broad-based black economic growth.

**Additional Information:**

The NIP 2050 plan identifies four "mission-critical infrastructure areas", comprising of energy, water, freight transport and digital communications. Whilst M&G SA acknowledges water and digital communications as vital infrastructure pillars of the South African economy, as well as the interconnectedness of water risks and development of the economy's digital capabilities; for the purposes of understanding South Africa's Just Energy Transition and M&G plc's Net-Zero ambitions, greater attention will be given to energy and freight infrastructure pillars. Within these two areas, the National Infrastructure Plan reports on the recent status of these sectors and some of the challenges experienced in each respectively.

<sup>4</sup>National Infrastructure Plan 2050 (NIP 2050) Phase 1,5-8.





## 3.2. Timing – employment and equity impacts of rapid ‘de-coaling’ in South Africa

South Africa's significant reliance on coal producers make the coal value chain one of the most vulnerable sectors that will be affected in South Africa's transition to low-carbon emissions. The Minerals Council SA reported that 94,531 people were employed within the coal mining industry in 2023. Conversations with mining houses indicated that the average miner, given South Africa's high unemployment and birth rate, directly supports an average of eight South Africans.



These figures are expected to decline with future reductions in coal demand. It is stated that most miners have matric (end of high school diploma) qualifications; finding jobs outside of mining for these individuals will be a significant challenge in the future for miners. More significantly, analysis<sup>6</sup> has shown that mining closures will not only affect those employed by mining companies, but this impact will affect the wider mining communities.

Coal mines are located in two metropolitan municipalities and 19 local municipalities. Within these, **there exists 69 mining host communities for 2.5 million people. These coal mining communities already have high unemployment rates of 39%.** This analysis includes Census data that<sup>7</sup> reported the mining community populations then had low levels of income and education, and 37% lived below the poverty line of R19,600 annual household income. Abrupt decommissioning and closure of mines would significantly compound these figures.

<sup>5</sup>Minerals Council South Africa, Facts and Figures Pocketbook 2023. Johannesburg: Minerals Council South Africa,23.

<sup>6</sup>Cole, Mthenjane & van Zyl, Assessing coal mine closures and mining community profiles for the 'just transition' in South Africa, 334-337.

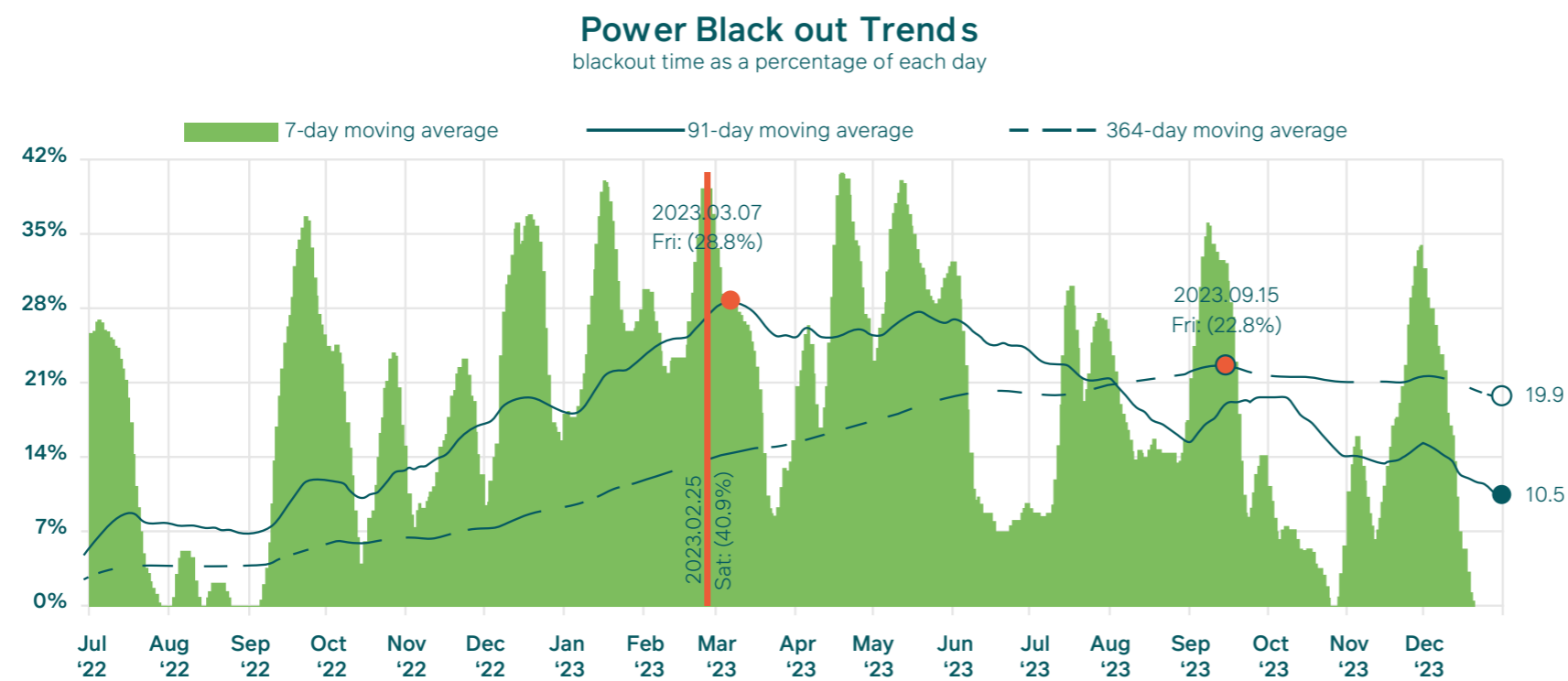
<sup>7</sup>StatsSA, SuperCross Census 2011 Version 1.



### 3.3. Economic implications of 'de-coaling' in an already energy starved region

As discussed above, South Africa experiences ongoing rolling planned brownouts called 'loadshedding'.

Below is an illustration of the average amount of time the average South African experiences no electricity supply, which can amount to an astonishing 30% of the day for 7-day periods, and just under 20% of the day for 2023.



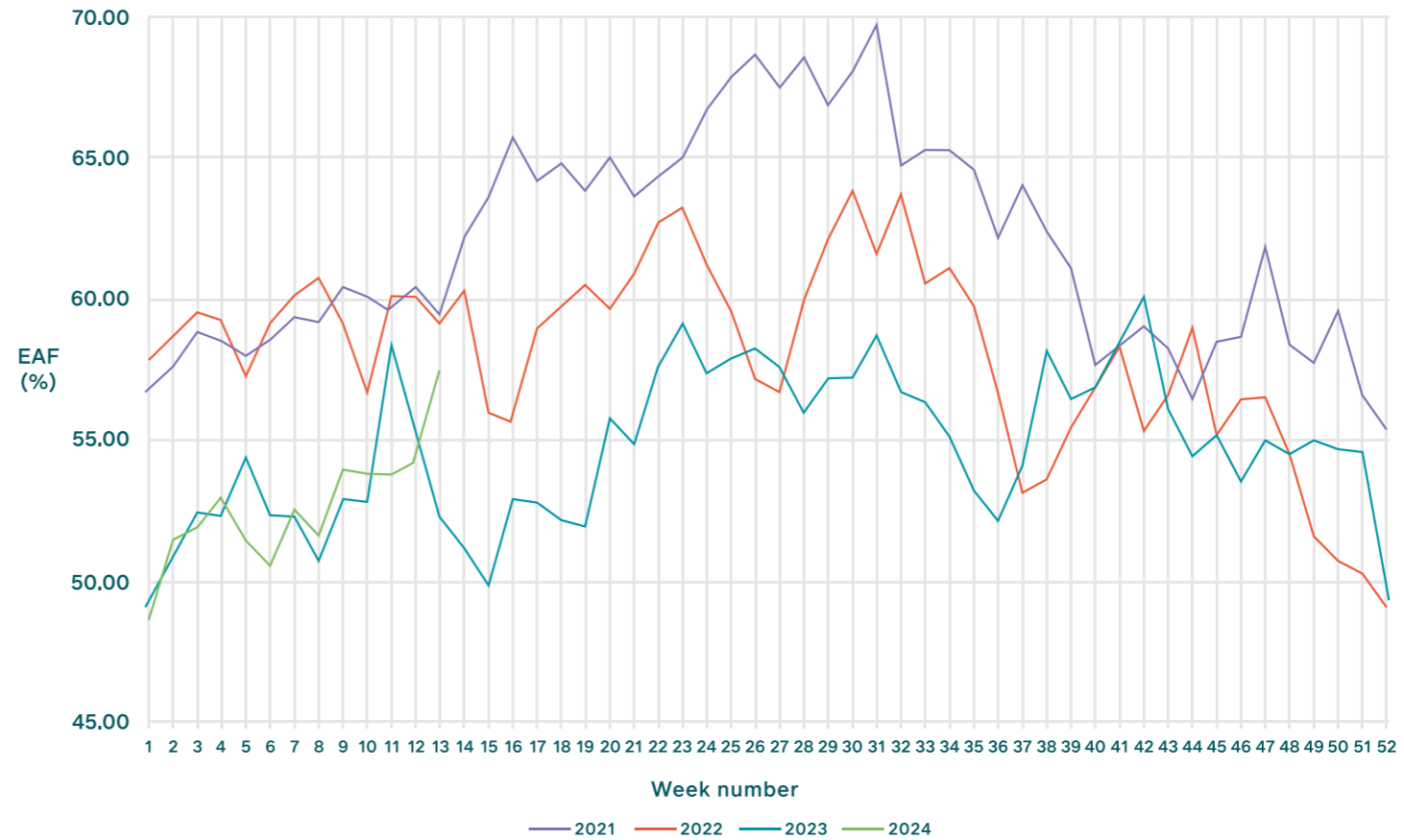
Source Data: Power Blackout Statistics for South Africa · Analysis: P Jordaan





For heavy industry in particular to continue to operate in an environment of uncertainty and regular power outages is extraordinarily challenging. Many operations simply cannot easily be interrupted for hours on end. As illustrated below, unplanned losses for the country-wide supply of electricity continued to increase year on year.

**Eskom Energy Availability Factor (EAF) from Week 1, 2021, to date**



Data source: Eskom; Graph: EE Business Intelligence

According to analysis by CODERA<sup>8</sup>, the SARB has estimated that loadshedding reduced economic growth by 1.8 % in 2023, while PWC estimated this to be closer to 7%. Lacking sufficient, viable renewable energy sources, and an already poor supply of coal electricity supply seen with loadshedding, South Africa demonstrates its inconsistent energy capabilities.

To remove significant coal resources over and above inadequate energy supply will potentially further damage economic growth, if not precipitate a full economic crisis.

Looking at the impact of exiting coal rapidly not only affects the immediate mining sector and urban communities, but the wider economy.

<sup>8</sup>Codera Analytics, Estimates of the cost of loadshedding in SA





## 4. Does South Africa have a transition plan?

### 4.1. Just Transition Framework

A Just Transition Framework has been developed by the Presidential Climate Commission (PCC) as a guiding framework through which South Africa transitions from its current extensive coal reliance, towards more renewable energy sources as a means to adapt and mitigate climate change, aligned with the Paris Agreement. To facilitate this process and enable a sustainable and successful transition for South Africans, the framework brings to the forefront communities and industries most vulnerable to the socio-economic impacts in this energy transition. The livelihoods of individuals and families dependent on job opportunities within fossil fuel-producing industries, youth, women and those economically disadvantaged, are for this reason, the spheres of society towards which this framework is most directed.

**“A just transition builds the resilience of the economy and people through affordable, decentralised, diversely owned renewable energy systems; conservation of natural resources; equitable access of water resources; an environment that is not harmful to one’s health and well-being; and sustainable, equitable, inclusive land-use for all, especially for the most vulnerable.”**

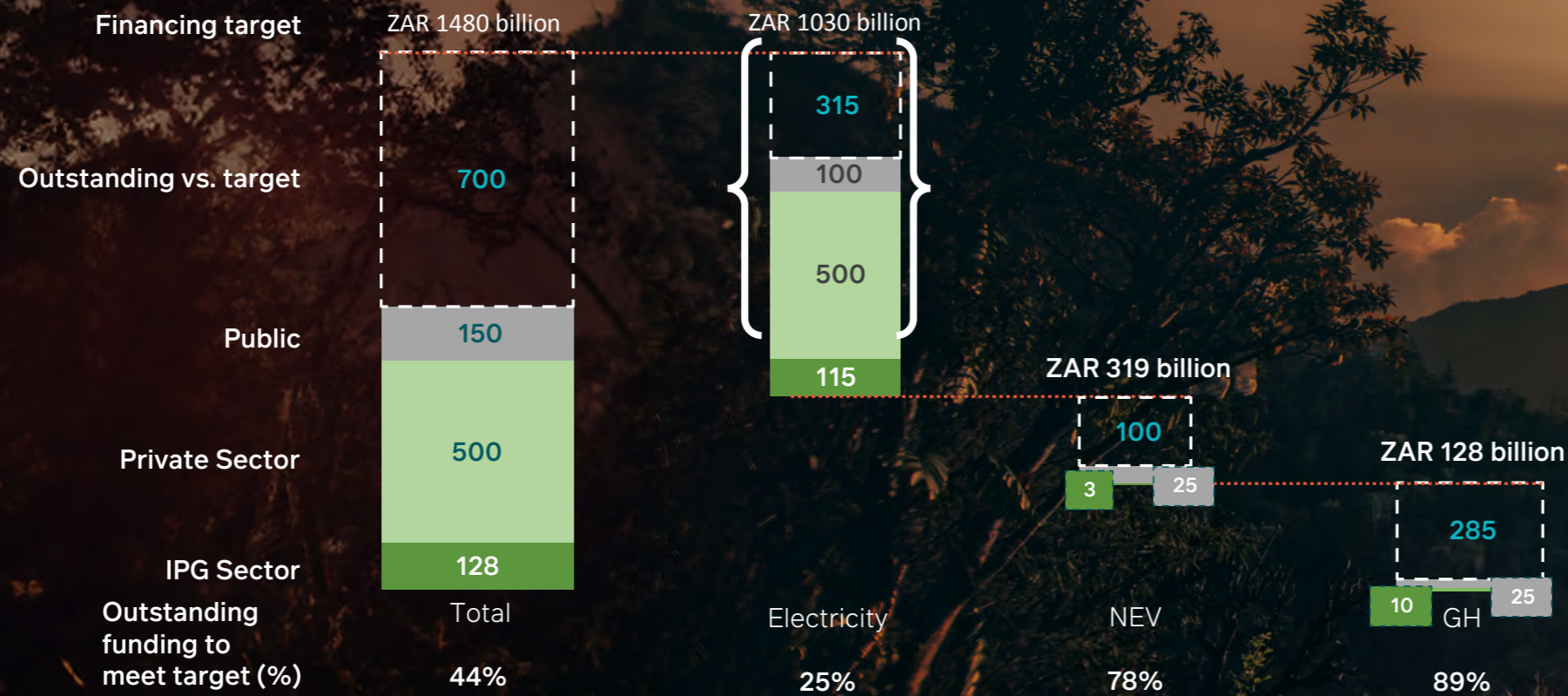
Through extensive research and engagement with stakeholder groups, the PCC has outlined three principles aimed at facilitating inclusive economic development. These three principles also address fundamental first generation (democratic and political), second generation (shelter, health care, water, food, social services), as well as third generation (environmental and sustainable development, rights to collective organisation and economic activities etc.) within the Just Transition Framework, thus addressing the framework’s aim to ensure a quality life.

The guiding principles can be found in [Appendix 2](#).



## 4.2. Overall Financing for the Just Economic Transition (“JET”) Framework

Below is a stark visualisation of the enormity of the finances required to facilitate a just transition



Source: Presidential Climate Commission presentation – Feb 2023

As will be discussed further below, there is a R700 billion shortfall, but even without this shortfall there is an assumption that the private sector will be able to finance some R500 billion of the total.

The true current shortfall is therefore R1.2 billion of the R1.48 billion required for the transition.

The International Partners Group has targeted R128 billion, announced at COP 26, but political comments from leading ministers after the announcements and a lack of government co-operation and co-ordination, as well as complete lack of reporting, means it is unclear how this funding is being allocated and utilised.



## 4.3. JET Investment Plan

Alongside the JET Framework that aims to bring the Just Transition into effect is the JET-IP<sup>9</sup> (Just Energy Transition Investment Plan). The JET-IP breaks down the various key areas that need financing to ensure that South Africa meets its NDCs in support of its move to a low-emissions economy, while supporting the most at-risk sectors and stakeholders as outlined

in the JET Framework. The JET-IP has prioritised funding to be allocated to developing five key sectors and areas to implement this: Electricity, New Electric Vehicles, Green Hydrogen, Skills Development and Municipal Capacity. The total planned capital allocated to these areas amounts to R1 480bn (\$98.7bn) between 2023 to 2027.



### Across these 5 areas, investment priorities include:

- Modernisation of the electricity distribution system
- Managing the decommissioning of retiring coal generation fleet in line with the IRP (Integrated Resource Plan)
- Development of renewable energy at scale and pace
- Strengthening transmission grid infrastructure to accommodate shift to renewable energy
- Repowering and repurposing of coal plants & restoring and repurposing coal mining land
- Developing local infrastructure
- Promoting economic diversification to support local livelihoods, enterprises, and job creation
- Supporting workers to transition out of coal
- Investing in training, placements, and career opportunities for youth and workers currently in the coal value chain
- Building a NEV supply chain and localisation and transition automotive sector value chain
- Protecting sector employment and promoting new growth in sustainable manufacturing
- Incubating local GH2 ecosystems and becoming a "world-leading exporter of GH2"
- Development of national skills to match growth in clean sectors and supporting worker transition

More detail around the investment area can be found in [Appendix 3](#)

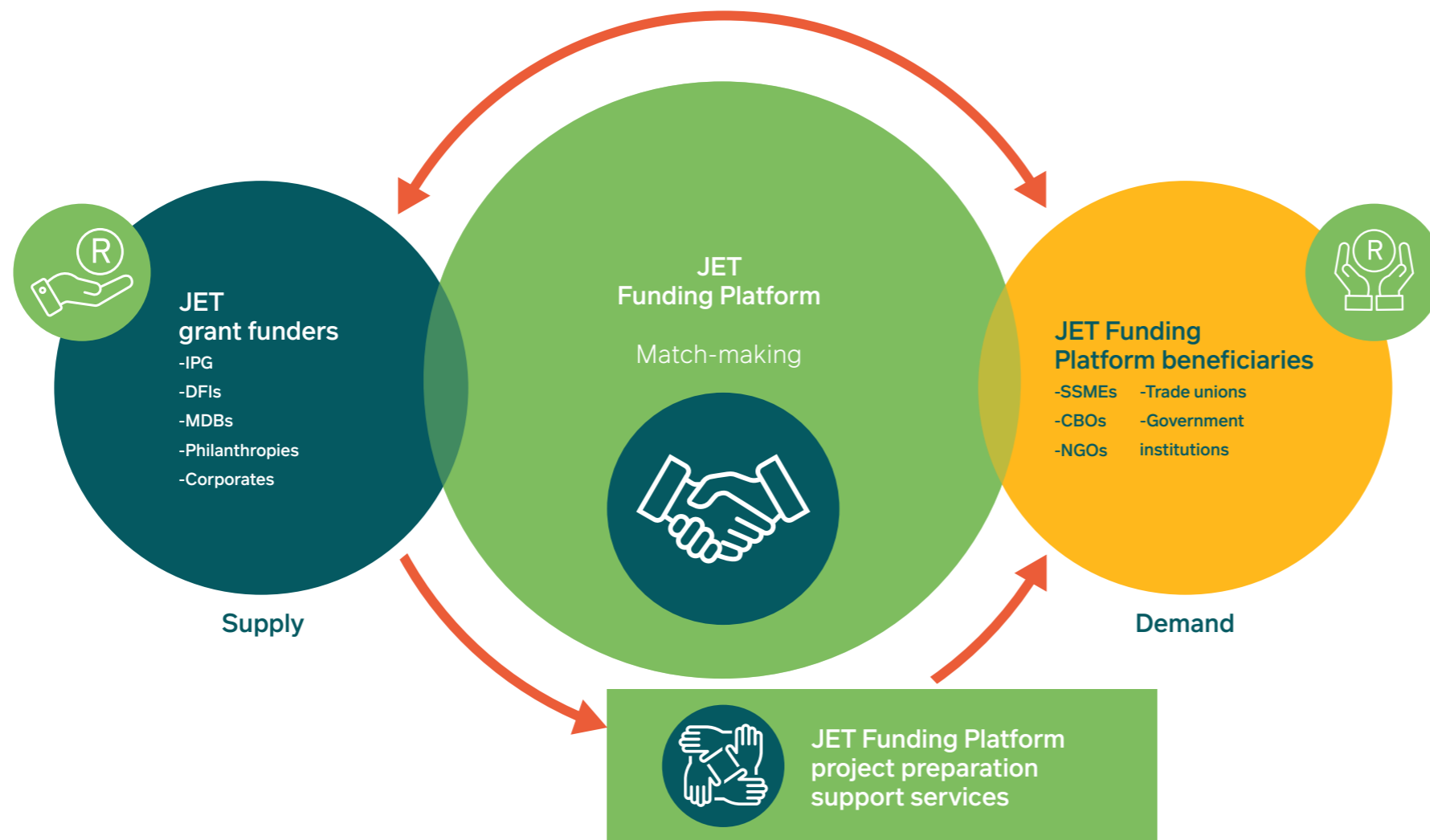
The existing funding is planned to be integrated into the JET Funding Platform which will serve as a 'matchmaker' between suppliers of grant funding and potential JET beneficiaries. Additionally, the platform will provide the public with transparent data and analysis of the funds towards projects, as well as provide project preparation support services to project originators that require fund grants. This will be managed by the JET Management Unit tasked with monitoring and evaluating the JET IP, amongst other responsibilities.

<sup>9</sup>South Africa's Just Energy Transition Investment Plan (JET IP) for the initial period 2023-2027 2022, p. 163.



Necessary funding for these objectives is currently broken down across the Public and Private sectors, as well as IPG (International Partners Group) pledges that were announced at COP 26 in 2021 and included pledges from the UK, the US, France and Germany. Thus far, planned investment targets from the IPG amount to R128bn, plus R150bn from the public sector, and R500bn from the private sector, **leaving a large shortfall of R700bn (47%) to meet the proposed R1 480bn budget to finance these various plans. It is worth noting that even unsecured investments from the private sector alone accounts for 34% of this.** The private sector, and its various actors, institutions and businesses, are thus key, collective contributors to the implementation and success of the JET IP. It remains uncertain as to how the outstanding amount will be financed, posing a significant challenge to the envisioned transition to a low-carbon economy.

Simply put, 81% of funding is unaccounted for currently, and a further 9% of promised funds from international partners looks uncertain to ever materialise given political interference.



## 4.4. The Developing Regulatory Framework

In addition to JET and the JET-IP, the South African government has introduced additional plans and legislation to support its low-carbon economic transition. Key policies and plans include South Africa's Carbon Tax regulation, the IRP (Integrated Resource Plan), the Climate Change Bill, SAREM (the South African Renewable Energy Masterplan) and the Electricity Regulation Amendment Bill (B 23 -2023).

### Electricity Regulation Amendment Bill

As previously mentioned, Eskom's EAF has decreased significantly, which has resulted in persistent loadshedding. One initiative the government has introduced to address this challenge is the Electricity Regulation Amendment Bill<sup>10</sup>. According to Parliamentary public statements<sup>11</sup>, the objectives of the Bill are to end loadshedding and improve the ineffective EAF. This will be achieved by introducing significant updates to the existing Electricity Regulation Act 4 of 2006 (ERA), of which includes the unbundling of Eskom into separate entities through the establishment of the TSO (Transmission System Operator). The TSO will act as a Transmitter (maintain and expand electricity grid), a System Operator (maintain and manage the

integrated power system to avoid loadshedding) and a Market Operator (establish a fair-trading platform that will facilitate the purchasing and selling of electricity between various energy suppliers and consumers). The establishment of a CPA (Central Purchasing Agent) will be tasked with ensuring that there is a reliable source of electricity from various companies for electricity purchases. If implemented effectively, the Bill sets out to lower electricity prices, improve electricity supply, maintain and develop electricity infrastructure and attract greater investment into the electricity sector. The Bill is currently under consideration by the National Assembly.

<sup>10</sup>South Africa. Electricity Regulation Amendment Bill [B 3 – 2023], 2023.

<sup>11</sup>Parliamentary Press Releases 2023.

### Climate Change Bill

A second piece of legislation that has aimed to assist the country to better adapt to and mitigate climate change while enabling a just transition to a low carbon economy, through national and local government structures, is the Climate Change Bill<sup>12</sup>. The Bill will be applied together with the National Environmental Management Act and will require institutional and governmental structures to undertake the various plans and principles it outlines. This includes the establishment of the PCC (Presidential Climate Commission – also responsible for the JET framework), MECs (members of Executive Council), mayors of municipalities and metropolitan areas, and the Cabinet Minister of Environmental Affairs. The formation of the PCC aims to advise government on climate change mitigation, adaption and the reduction of GHGs. One responsibility to be undertaken by the relevant minister is the creation of a national GHG Inventory Report, which will require a national system of data collection to do this. The minister will also be

tasked to establish carbon budgets to the major emitters within the GHG Inventory. Benefits of a carbon budget will also require the specifications and phasing out of synthetic GHGs with specific timeframes. To facilitate a reduction in the national GHGs, a National Adaption and Strategy plan will be implemented which will also aim to reduce the vulnerability of society, the environment and the economy to climate change effects. Furthermore, government bodies (both national and local government), need to ensure that various provinces and municipalities carry out their own climate change risk assessments and implementation plans, that are to be continuously monitored and adjusted. In conjunction to this, the Bill aims to conduct assessments across various South African sectors to identify key areas, ecosystems and communicates and their climate change risks. Sectors will also have their own targets to ensure that they contribute to the national GHG emission reduction trajectory.

<sup>12</sup>South Africa. Electricity Regulation Amendment Bill [B 3 – 2023], 2023.







## Carbon Tax Act

An older policy that the government has implemented is the Carbon Tax Act<sup>13</sup>, designed to tax companies on Scope 1, stationary direct GHG emissions. When certain thresholds for combustion have been reached (under the operational control approach of GHG inventories), including the installed nett megawatts of combustion appliances, fugitive emissions on sites and the nature of emitters, this will trigger emitters to report their GHGs to SAGERS (the South African Greenhouse Gas

Emissions Reporting System). Tax allowances were introduced to allow companies to reduce their carbon footprint tax payments as the country transitions to low-carbon economy. An important development since 2019 included an announcement from the Minister of Finance, Enoch Godongwana, that the carbon tax allowances will be extended until December 2025<sup>14</sup>. It is not yet confirmed whether companies will benefit from these tax reductions beyond this.

<sup>13</sup>South Africa. Carbon Tax Act 15 of 2019. 2019.

<sup>14</sup>South African Government News Agency, 2022.

## SAREM

SAREM (the South African Renewable Energy Masterplan) was designed by government as a plan aimed at accelerating the development and implementation of the renewable energy value chain in South Africa, in line with the country's just transition policies<sup>15</sup>. The updated plan was published by the Department of Mineral Resources and Energy (DMRE)

in July 2023 and encouraged public commentary in the following months up to August. It is not yet evident whether the plan will continue to allow for commentary and stakeholder/public engagement or whether this latest draft will be further amended before it will be finalised for signature by the EOC before implementation.

<sup>15</sup>South African Renewable Energy Masterplan, 2023.



SAREM aims to leverage renewable energy to drive industrial and inclusive development with a specific focus on solar energy, wind energy, lithium ion battery and vanadium-based battery technologies.

**Additional Information on SAREM:**

The plan outlines four key pillars that aim to achieve its vision:

- 1. Improve economic growth by introducing renewable and storage projects with large-scale rollouts of energy systems.
- 2. Expand the industrialisation within the renewable and energy value chain in both private and public sectors, with specific focus on manufacturing operations.
- 3. Create and sustain inclusive development and employment, in line with South Africa's just transition across these value chains.
- 4. Support skills development for workers already established within the energy and manufacturing industries.

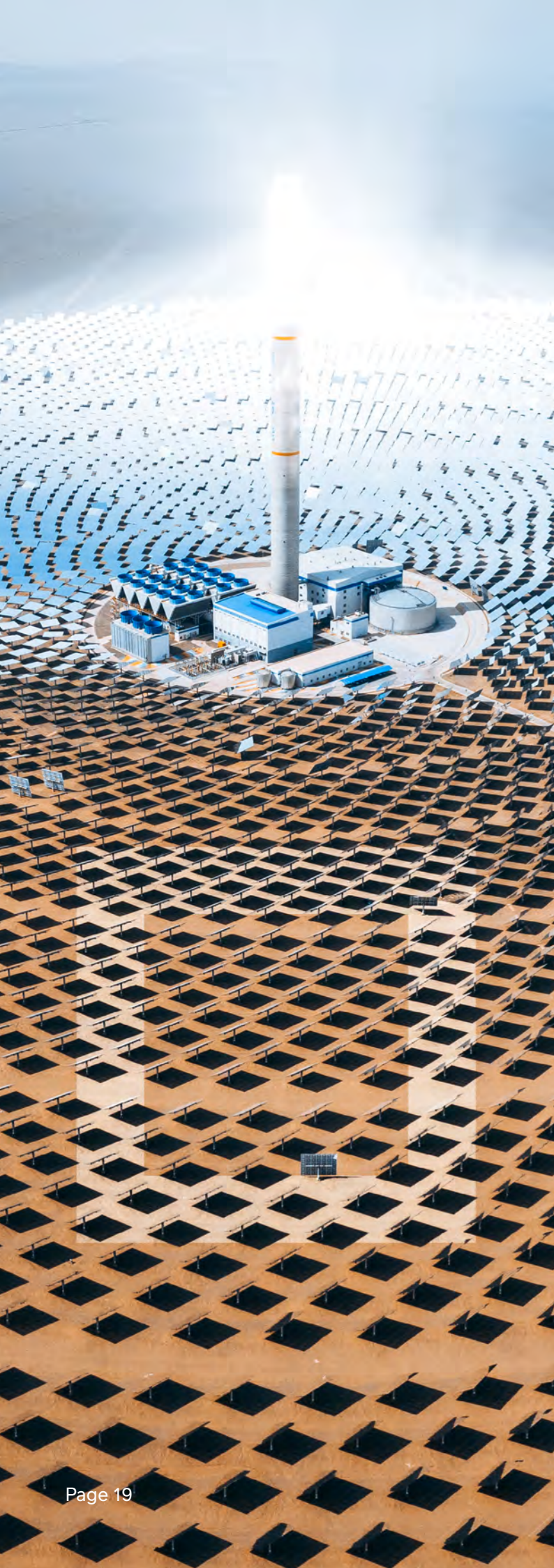
A detailed table of sub-objectives, interventions and rationale for each of these pillars from the plan can be found in [Appendix 3](#). In addition to these 43 detailed interventions, SAREM aims to include targets to be pursued in the future that will be negotiated with by various social partners. While the plan is also supportive of both private and public energy procurement, as seen with its support of the REIPPP (the Renewable Energy Independent Power Procurement Programme implemented by the Department of Mineral Resources and Energy in 2011 to facilitate investments into the development of renewable energy projects); the document needs to be updated in line with the latest IRP 2023 plan (released in Jan 2024) to ensure that the aforementioned targets it plans to set will complement the IRP renewable energy procurement pathways. As this plan has yet to be implemented and as the targets are still undecided and unclear, it is inconclusive to assess the feasibility of SAREM's vision and execution.

SAREM is overseen by an Executive Oversight Committee (EOC) and is chaired by the Minister of Mineral Resources and Energy. The committee also comprises industry representative, labour and civil society and senior government officials. Furthermore, a Steering Committee has been established, and similarly made up of various stakeholders, to provide guidance to the project on a regular basis.



<sup>4</sup>National Infrastructure Plan 2050 (NIP 2050) Phase 1,5-8.





## 4.5. Policies and Plans - IRP 2019 and IRP 2023

The IRP is a national electricity infrastructure development plan was first promulgated in 2011, by the Department of Energy with the aim of diversifying South Africa's coal reliant energy mix to a more diversified supply of energy. Since then, two further plans have been released, the IRP 2019 plan and most recently, the IRP 2023 plan. For this analysis, commentary is limited to IRP 2019 and IRP 2023 to better understand the current energy status, which will be the basis for future consideration.

Key objectives that were outlined in the IRP 2019<sup>16</sup> consisted of shifting away from coal energy production to increased supply of nuclear power and renewables such as Hydro Power, PV, Wind, CSP, Gas and other generation (e.g. Biomass) along with the procurement of energy storage.

To facilitate this process, the IRP planned to undertake the following decisions (among various others):

- Decommission several Eskom coal fleets/plants (such as Komati, Grootvlei and others).
- Retrofit existing Eskom plants and add limited coal supply to improve the current coal supply and EAF. All new coal additions to be projects based on "high efficiency, low emission technologies and other clean coal technologies".
- Apply for the plant design life for the Koeberg nuclear energy plant for an additional 20 years. Support Eskom to comply with the MES (Minimum Emissions Standards) under the Air Quality Act of 2004. Ensure grid stability through battery procurement.
- Procure a diversified energy mix and facilitate strategic power projects and regional, cross-border trading. Plans for this energy procurement were projected until 2030, increasing renewable energy capacity from 6,600 MW to 26,700 MW by 2030.
- Support the development of a just transition plan.

The most recent IRP 2023, published at the start of 2024, however, has left many South Africans pessimistic on the progress of improving a more sustainable energy supply for the country. The latest plan has improved in certain aspects of its reporting, such as the introduction of a modelling tool called Plexos, that has undertaken a review of electricity demand forecast, unplanned outages, and production profiles of renewable generation resources such as wind and solar. Further research and the integration of this tool have produced two future horizons of energy supply that the report has introduced for analyses: one horizon leading up to 2031 and the second horizon analysed between the years 2031 to 2050.

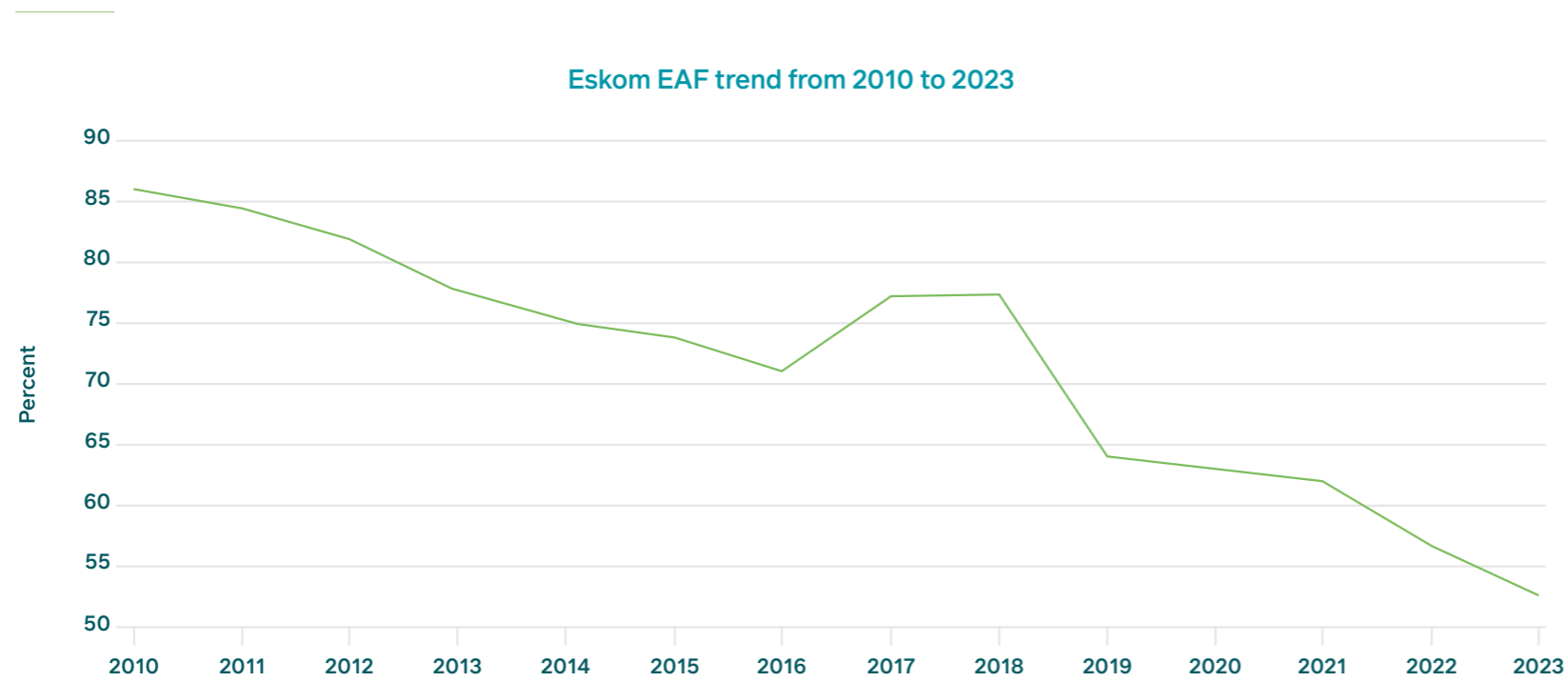
Details on the two future horizons can be found in [Appendix 4](#)

<sup>16</sup>IRP, 2019



Despite these various scenarios provided, objectives outlined in the IRP 2019 have indicated a slow progression. One area of this is the slow rate of renewable energy procurement. In the visuals below, taken from the IRP 2019 and 2023, respectively, the pace of securing a diversified energy mix has been protracted. For example, IRP 2019 had planned for a total of 17,742 MW of wind capacity to be installed by 2030. While Wind has increased in its base, the new updated MW figures leading up to 2030 only totals to 7,911 MW. Similar trends are seen across Hydro and Solar PV. Gas has also seen no improvements since its current base, so it's unclear whether the new projected figures in IRP 2030 could even materialise.

In addition to this, for the original Eskom coal plants that were earmarked for shutdown in IRP 2019 in the years leading up to 2050, IRP 2030 indicates that they will be operating for longer than anticipated. The latest report also indicated that Eskom's New Build Program that was part of plans to retrofit and add limited new coal to the grid, did not perform well (such as the Medupi 6 plant and others) due to design and construction defects. As a result, the EAF of the national electricity grid has continued to underperform, dropping to 54% in 2023, as illustrated below.

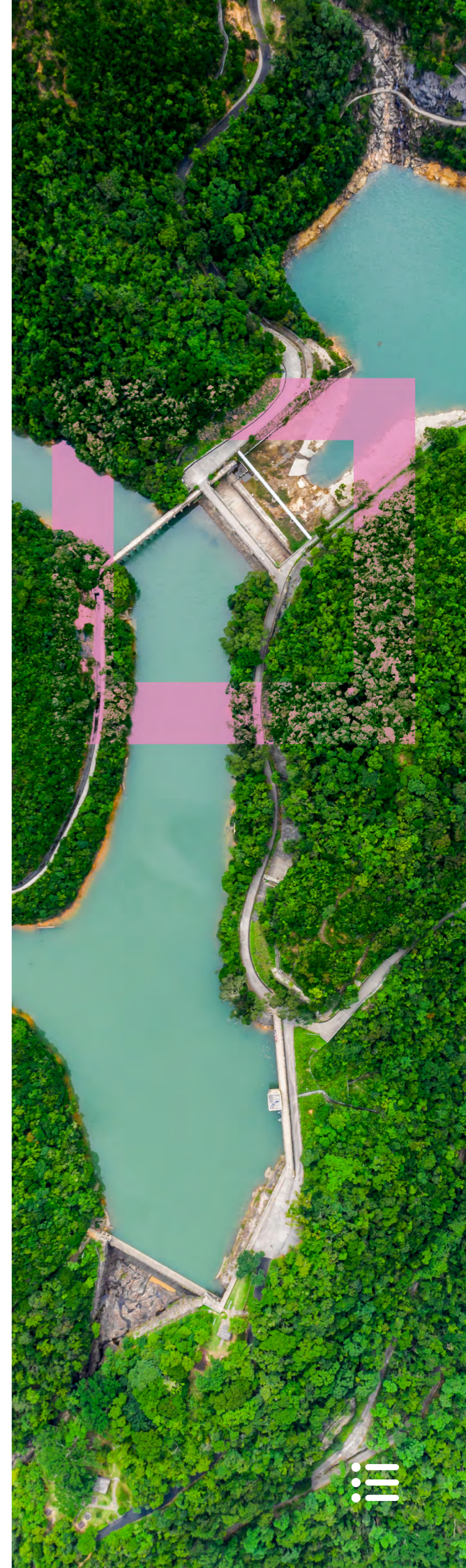


Sources: Draft Integrated Resource Plan, 2023; Government Gazette, 4 January 2024

Grid developments that form part of Eskom's Transmission Development Plan2 (TDP) 2022-2030 have also experienced capacity constraints in areas such as the Eastern Cape, Northern Cape and Western Cape. Only 4,000 km of grid transmission lines and networks were constructed between 2013 and 2022. A further 14,000km is aimed to be constructed by 2032 to meet efficiency demands. Furthermore, the Koeberg nuclear site's license is set to expire in 2024 and is still under review by the NRR (National Nuclear Regulator). There have also been no further updates around the MES requirements for Eskom's fleet. If these plants are later marked as non-compliant

by regulators and as a result need to shut down, this could potentially cause the grid to lose 16,000MW with immediate effect and 30,000MW after March 2025.

The lack of renewable energy procurement, the continuation of various coal plants, poor grid performance and development -all bring to question the feasibility of the various projections in the two horizons put forward in IRP 2030 that are aiming to be in line with the country's NDCs and JET framework. The current progression across these various energy supply objectives reflects the government's inability to ensure energy security.



## 4.6. Will JET succeed?

While the JET framework outlines various objectives to facilitate a more economically inclusive transition to a low-carbon economy, understanding South Africa's context and potential constraints can enable both public and private stakeholders to better tackle these and implement the necessary policies and initiatives. A study<sup>17</sup> that interviewed various stakeholders and industry experts reported that the biggest challenges facing South Africa include:

### Techno-economic challenges:

- Investment risk
- Supply-side coal dependency
- Insufficient infrastructural capacity

### Socio-political:

- Corruption
- Insufficient institutional capacity
- Lack of transparency for implementing and monitoring REI4P (Renewable Independent Power Producer Programme)
- Lack of policy support for renewable energy

### Socio-technical:

- Skills shortage
- Lack of community engagement and social resistance
- Employment security

The JET framework does seem to address the social-technical issues through its engagement with communities and its focus to secure jobs through skills development. Similarly, the development of policies such as SAREM, the Climate Change Bill and the Electricity Regulation Amendment Bill show that the government is addressing an urgent need for climate mitigation and adaptation through renewable energy. However, issues around the implementation of these various initiatives, as noted in the referenced study, could pose significant challenges, such as corruption and transparency (Socio-political challenges).

This is already evident when looking at the current state of the energy and logistics infrastructure (Techno-economic challenges), as discussed with Eskom and Transnet. The country's continuous reliance on coal (Techno-economic challenges) and investment risks could hinder the advancement of a just transition. Whilst the study provides insight into these potential barriers, if considered, this presents an opportunity for investors and asset managers to utilise their positions as shareholders of entities that have significant impact in the energy sector and the role it plays in the South African economy.

<sup>17</sup>P, Mirzani., J, Gordon., B, Nazmiye et al. 2023.





## Appendices

### Appendix 1: The Presidential Climate Committee – Guiding Principles

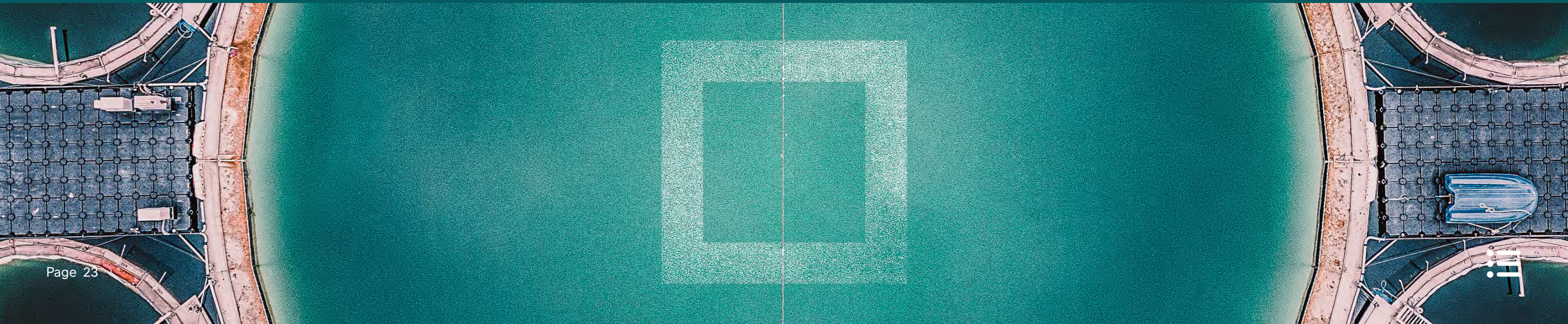
The three guiding principles<sup>18</sup> are:

- Distributive Justice – an aim to distribute socio-economic risks and opportunities of a low emissions transition by equipping those most at risk through equipping South Africans with relevant skills, assets, opportunities to participate in future industries; increasing provincial and local capacity to promote local economic development; implementing transformative national economic and social policies and ensuing corporate responsibility.
- Restorative Justice – an aim to address challenges marginalised and disenfranchised communities have experienced with specific focus on land and environmental impacts. This will be done through addressing health and environmental impacts to fossil fuel communities and impacted areas; creating a net zero, decentralised economy; transitioning away from resource intensive sectors and addressing past land and resource injustices through access to equitable access to environmental resources, land redistribution and Broad-based Black Economic Empowerment.
- Procedural Justice – an aim to enable and support workers, communities and small businesses within the transition, consolidating their own agency in this transition: “nothing about us without us”. This aims to be achieved through supporting worker and community organisations in policy-making processes; ensuring participatory decision-making through various stakeholder collaboration; assisting in educating what just transition entails to communities through transparent dialogue of agreements and disagreements; and supporting the design and implementation of just transition projects by individuals and communities in affected areas.



# Appendix 2: Detailed JET-IP Spending

New Energy Vehicles	Skills	Municipalities	Electricity	Mpumalanga Just Transition
Supply-side incentives for the automotive industry to unlock New Energy Vehicle (NEV) production and supply chain investments and protect and grow manufacturing employment	Establishment of a three-tier JET skills ecosystem to coordinate and align JET skills in alignment with Department of Higher Education and Training's (DHET's) national Skills Masterplan 2030	Capability development: including the municipal JET coordination structures, secretariat, and databases, municipal readiness assessments, cost-of-supply studies, and capability plans per municipality	Large-scale and distributed Renewable Energy (RE) generation and battery storage, mostly by the private sector	Utilising the JET Funding Platform and its project preparation support to link appropriate sources of finance to immediate JET projects identified by the Provincial Government to achieve tangible community benefits
Co-funding for investments in NEV auto assembly and supplier parts, component manufacturing and supply chains, and early-stage investments in project and business development for decarbonising transport and logistics supply chains and associated charging infrastructure	Establishment of Skills Development Zones focused on three core value chains: in Mpumalanga (renewable energy and transmission); in the Eastern Cape (NEVs); and in the Northern Cape (GH2), anchored in local education institutions in partnership with business to support local economic development initiatives	Finance structuring: quantification and financing plans for municipal distribution infrastructure maintenance and upgrades, for new distribution infrastructure, and the development of suitable financing mechanisms	Large-scale transmission grid expansion, led by Eskom/National Transmission Company of South Africa (NTCSA), with opportunities for investment by the private sector through various partnership models to be piloted urgently and scaled up	Implementing the Accelerating Coal Transition Investment Plan (ACT IP) in a manner that front-loads repurposing, repowering, and community development at selected Eskom coal power stations, ahead of decommissioning
Project preparation for investments in NEV public transport (taxis and buses) and associated charging infrastructure	JET skills need assessments for each of these three core JET value chains, and the implications for tertiary education institutions	Energy access: efficient application of the Free Basic Electricity (FBE) grant, energy efficiency in households, and access to affordable energy efficient appliances.	Widespread investment in maintenance and upgrades of distribution systems in Eskom and municipalities	Promoting community-driven projects that empower local people to shift their dependence on coal value chains by developing new economic opportunities alongside existing activities, and by playing stronger roles in defining their transition plans
Investments in the battery industry, including battery precursor materials and components, minerals beneficiation, and extraction	JET capacity development for government and key government institutions		The front-loading of repurposing and repowering investments by the private sector, and alternative livelihoods for workers, communities, and SMMEs at the retiring coal power plants, with decommissioning schedules that do not disrupt electricity supply.	Augmenting existing structures in Mpumalanga's overall plan with specific national JET Portfolios and workstreams, particularly in skills development and municipal capabilities for the just transition





## Appendix 3: SAREM Detailed Pillars and Objectives

Pillar	Objective	Intervention	Rationale
Supporting demand	Clarify the market for renewable energy and storage	Publish and update quarterly the pipeline of public procurement (e.g. REIPPPP, ESIPPPP, DPWI, provinces, municipalities) for renewable energy and storage technologies	Public procurement can operate as the anchor market for industrial and inclusive development. Industrial development is conditioned on continual market demand. Public procurement generally sets the tone in terms of inclusive development. A clear picture (on a yearly basis) of public procurement to 2030 (all spheres of government and organs of state) is necessary to support SAREM objectives.
		Publish and update quarterly the pipeline of private procurement (large-, medium- and small-scale projects) for renewable energy and storage technologies	Private procurement is forecasted to account for the majority of renewable energy and storage demand in the foreseeable future. As such, private procurement is set to drive the market going forward. Existing stocktakes, such as the one done by the Minerals Council, are a starting point but only provide a partial understanding. A clear picture (on a yearly basis) of private procurement to 2030 (all market segments, including SSEG) is necessary to support SAREM objectives.
Driving industrial development	Establish clear localisation objectives	Establish a consistent set of local content targets and criteria for future public and private procurement programmes, with the aim of achieving xx% local content by 2030	For public and private procurement to act as the anchor market for industrial development, consistent, realistic local content targets for localisation (along general tender specifications) are required alongside a clear picture of yearly rollout.
		Re-activate the 12i tax allowance incentive with a focus on supporting the development of renewable energy and battery manufacturing value chains	A number of cross-cutting programmes provide a degree of support to local manufacturing. Based on international experience, ambitious industrial development in the renewable energy and battery value chains requires dedicated supply-side support and is a no-regret intervention given spillover benefits associated with manufacturing. The existing, but currently inactive, provisions for the 12i tax incentive provide an effective avenue for such support.
	Align industrial policy and programmes with renewable energy and storage localisation	Align existing public sector programmes and policy support with SAREM's localisation objectives (e.g. Energy Resilience Scheme, Industrial Development Corporation (IDC) funding, Department of Small Business Development (DSBD) Bounce Back scheme, municipal/provincial procurement)	Government programmes, policies and support schemes directly or indirectly support a large number of entities in rolling out renewable energy and storage systems. To support SAREM objectives, particularly industrial development, such measures must include localisation objectives and/or conditionalities.
		Formulate and implement value proposition (including energy security) to attract investment in the country, particularly Special Economic Zones (SEZs)/Industrial Development Zones/ industrial parks (including incentives where relevant)	The competition to attract industrial investment in the renewable energy and storage value chain is extremely high. The lack of a clear value proposition from South Africa (particularly industrial parks), harnessing all possible tools at disposal and supported by all spheres of government, has hindered their ability to attract investment.





Pillar	Objective	Intervention	Rationale
Fostering inclusive development	Establish clear transformation objectives	Develop and implement B-BBEE sector specific scorecard for renewable energy and storage, with the aim of achieving B-BBEE Level X by 2030	The lack of a sector-specific B-BBEE scorecard for renewable energy and storage has hindered progress in terms of inclusive development. The development of the scorecard will provide a clear trajectory for the industry.
	Foster integration of	Develop, resource and establish Transformation Fund to support new entrants in the value chain (e.g. competitive rates for factory investment capital as well as warranties/guarantees)	Local suppliers in the renewable energy and storage value chain face a number of finance-related challenges. A dedicated fund targeting new entrants and emerging suppliers is required to support their growth.
	emerging suppliers	Launch public procurement rounds for renewable energy and storage for Mpumalanga and other just transition hotspots (based on grid availability), notably leveraging Renewable Energy Development Zones (REDZs).	Less than 2% of South Africa's renewable energy and storage generation capacity is located in Mpumalanga. Given the imperative of a just transition and the infrastructural assets of the province (e.g. the grid and proximity of the load centre of Gauteng), a significant ramp-up of the rollout of projects is not only possible, but actually sensible economically, socially and environmentally. Multiple other areas, such as REDZs, also host significant potential.
	Direct renewable energy and storage activities to just transition hotspots	Launch solar PV rollout programme for schools/ clinics/etc. based on panels replaced by large projects	A large number of well-functioning solar panels are replaced by utility-scale IPPs on a yearly basis. Projects for early REIPPPP rounds are also considering partial repowering. These panels could be utilised to power public and community structures. A dedicated programme is required to drive the collection, refurbishment (if needed), installation and maintenance of such panels.
Building the capabilities	Map and build skills	Develop and run a digital match-making platform (PowerUp) between industry, education providers and social compact partners, creating a demand-led skills and planning communication hub, to address skills priorities in the sector	The availability of skills is rapidly becoming a hindering factor for the growth of the industry. A dedicated platform (inspired by the HighGear platform for the automotive value chain) focused on matching the skills required by industry with the broader education system is necessary to address the growing constraint. In turn, educational institutions require further support in facilitating the entry of graduates into the labour market.
	Activate skills	Consolidate and expand internship programmes/ opportunities in the renewable energy and storage sector by participating in Yes4Youth, with the aim of reaching xx% participation by 2030	Entering the labour market is generally conditioned on experience. Existing on-the-job training opportunities are largely unstructured. A clear pipeline for graduates to enter the labour market is necessary. Yes4Youth provides a trusted and beneficial platform to that effect.
	Foster technology commercialisation	Establish a match-making platform between innovators and possible users to accelerate the adoption of new renewable and energy and storage technologies, along with an innovative funding model for de-risking costs of running trials	Commercialisation of innovations is a key challenge, particularly due to the lack of a track record. A dedicated platform (inspired by the Trial Reservoir developed in the water and sanitation sector) focused on matching renewable energy and storage innovators with technology users is needed to support technology adoption. The platform also provides an innovative model to de-risk the funding of trial costs.



# Appendix 4: Horizons One and Two of IRP 2023

Five different scenarios of energy supply were projected in Horizon One based on the state of steadiness of various energy projects in the pipeline. These five scenarios have also been reported to be in line with the country's NDC targets up until 2025. The scenarios considered are as follows:

- The Risk Mitigation Independent Power Producer Procurement Programme (RMIPPPP, REIPPPP 5 and business projects currently under construction.
- Second, all project initiatives with a commercial operation date (COD) and a specified location.
- All project initiatives including those with no grid capacity reservation, COD and specified location.
- Additionally, two scenarios have been modelled -- one comprising the reference case and current gas programme, and another based on improved plant performance according to the generation recovery plan.

	EAf	Initiatives 2030 (MW)	New Gas (MW)	Comments
<b>1</b> Firm Initiatives	49% - 51%	Business RMIPPPP 150 REIPPPP 5 Wind 784	2842 0	<ul style="list-style-type: none"> <li>Priority Projects as ranked by business and have grid capacity reserved as at June 2023</li> <li>Government projects in the RMIPPPP + REIPPPP programme under construction</li> </ul>
<b>2</b> Reference	49% - 51%	Business RMIPPPP 626 REIPPPP 5 PV 975 REIPPPP 5 Wind 1 608 REIPPPP 6 PV 1 140 Bess BW 1-3+Eskom 2 080	5304 0	<ul style="list-style-type: none"> <li>Business initiatives with COD and location</li> <li>Government projects in the pipeline</li> </ul>
<b>3</b> Firm Initiatives & All Initiatives	49% - 51%	Business RMIPPPP 626 REIPPPP 5 PV 975 REIPPPP 5 Wind 1 608 REIPPPP 6 PV 1 140 REIPPPP 7 PV 2 000 REIPPPP 7 Wind 3 000	10 436 0	<ul style="list-style-type: none"> <li>All initiatives including all those with no grid capacity reservation, COD and/or location</li> <li>Includes REIPPPP 7 due for RFP</li> </ul>
<b>4</b> Firm Initiatives & Gas	49% - 51%	Same as 'Constrained New Build Development Case	6 220	<ul style="list-style-type: none"> <li>Gas includes DMRE Gas, Eskom Richards Bay Gas and RMIPPPP dispatchable Gas</li> </ul>
<b>5</b> Firm Initiatives & Recovery	66% - 69%	Same as 'Constrained New Build Development Case	0	<ul style="list-style-type: none"> <li>Eskom's EAF improvement as per its Generation Recovery plan</li> </ul>

A similar process has been applied for Horizon 2, however, in this second time period, the plan introduces "clean coal technologies".

Pathway	Policy Guiding Principles	Energy Pathways	Comments
<b>1</b>	Establishing a reference for benchmarking	Reference Case	<ul style="list-style-type: none"> <li>Priority Projects as ranked by business and have grid capacity reserved as at June 2023</li> </ul>
<b>2</b>	Power System Transition	Renewable Energy	<ul style="list-style-type: none"> <li>Optimize only green energy technologies and storage as candidate options; Wind (on-shore &amp; off-shore); Solar PV; Hydro, Storage (BESS, CAES, WPS); and Bioenergy</li> </ul>
<b>3</b>		Renewable Energy & Nuclear	<ul style="list-style-type: none"> <li>Optimize non-CO<sub>2</sub> emitting technologies as candidate options; Wind (on-shore &amp; off-shore); Solar PV; Hydro, Storage (BESS, CAES, WPS); Bioenergy and Nuclear (PWR &amp; SMR)</li> </ul>
<b>4</b>	Shut down of existing coal-fired station post 2030	Delayed Shutdown	<ul style="list-style-type: none"> <li>Delayed shutdown of coal-fired stations earmarked to shutdown post 2035 by 10 years</li> </ul>
<b>5</b>	Clean Coal	Renewable Energy & Coal	<ul style="list-style-type: none"> <li>Assess impact of new cleaner coal technologies</li> </ul>





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Project lead on this document was Ms Isabel Nel. Isabel joined M&G in the Investment Team as an ESG Analyst in January 2024, deepening M&G SA's climate data expertise within the investment team and the group. For more information please reach out via your client services team, or to [isabel.nel@mandg.co.za](mailto:isabel.nel@mandg.co.za). Please note this is a rapidly evolving landscape and the regulatory environment and government policy is likely to shift continuously in this space.

