FINANCING A JUST TRANSITION FOR SOUTH AFRICA

Presidential Climate Commission

21 October 2021

SOUTH AFRICAN ECONOMIC RECONSTRUCTION AND RECOVERY
BUILDING A NEW ECONOMY

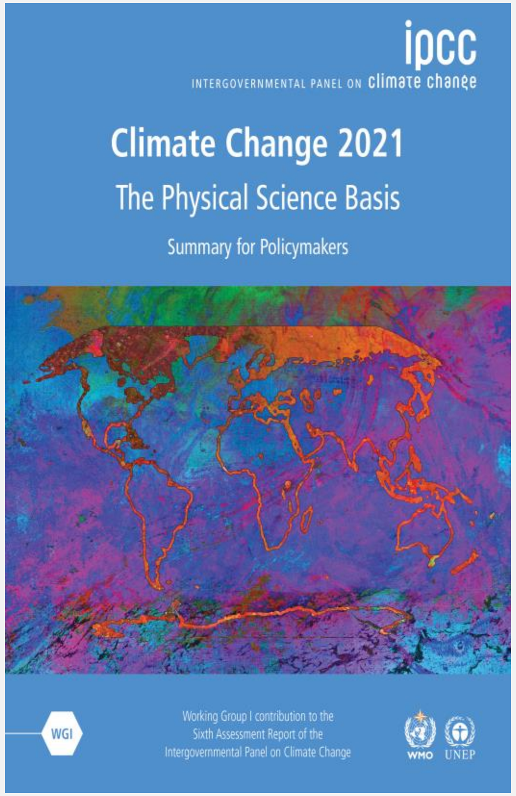
THE PRESIDENCY
REPUBLIC OF SOUTH AFRICA

2030 NDP

SUMMARY

- South Africa is **committed to contributing its fair share** towards a low-carbon economy and climate resilient society by mid-century.
- The **consequences of climate change will be catastrophic** for the world, and for South Africa in particular, without ambitious action to reduce emissions.
- South Africa has set an **ambitious Nationally Determined Contribution** which is compatible with Paris Agreement targets. We will require substantial support from developed countries to achieve this.
- Developed countries have a moral and legal obligation to **support the transition of developing countries and meet their commitments** at COP 21.
- South Africa has the **potential to accelerate decarbonisation** and phase out its reliance on coal, but at a significant cost – including to coal-dependent communities. The **pace of decommissioning will depend upon** financial and other support from developed countries.
- Detailed plans are in place to **enable a just transition** in South Africa **with concessional finance** to support repowering and repurposing of coal plant, investment in new energy sources and transmission infrastructure, industrialisation and reskilling and training for affected workers and communities.
- The proposed Just Transition Financing Facility **represents a win-win** for South Africa and its international partners, enabling ambitious climate action while meeting developed country commitments to finance the transition.

The science is clear: globally, economies need to reduce emissions to net-zero by 2050 and implement roughly 50% reductions by 2030 to avoid the worst effects of climate change



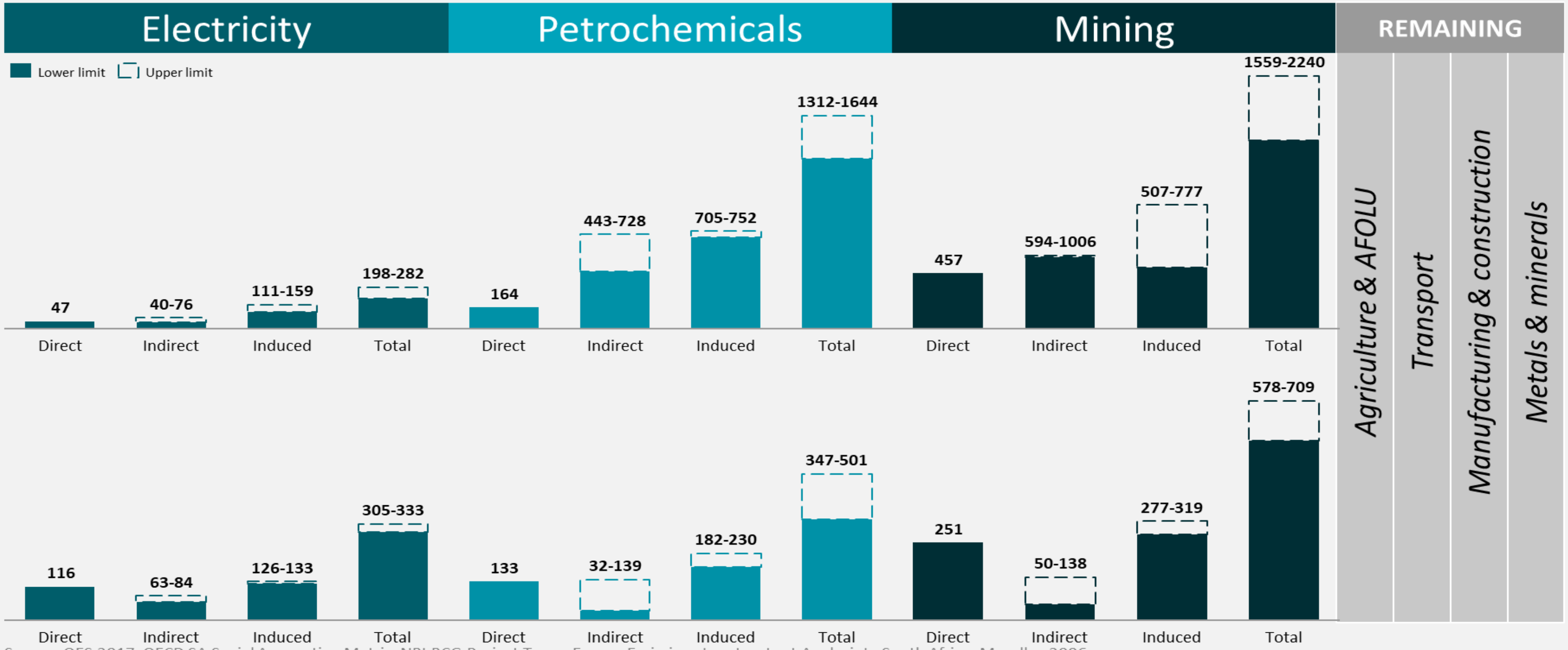
South Africa is committed to addressing the threat of climate change through ambitious global action, in the context of domestic circumstances and capabilities.

- South Africa is warming at twice the global rate, with the risk of more frequent heat waves, heavy rainfall, fires and droughts which will affect ecosystems and livelihoods.
- At the same time, South Africa faces urgent developmental challenges in terms of poverty, unemployment and inequality.
- Millions of South Africans are employed in energy-intensive industries, including the mining sector. A just transition must protect the poor and vulnerable from the transitional costs associated with mitigation, such as increased costs of energy, food and transport, job losses in carbon-intensive industries, and the demand for different skills.

Commitment from South Africa's National Development Plan 2030:
"A global failure to mitigate the most dangerous levels of climate change will have a disproportionate effect on the African continent and potentially devastating long-term consequences. This knowledge underpins South Africa's commitment to mitigating its own carbon emissions."

2030 NDP

Climate and transition risk affects a significant number of jobs in key sectors of the South African economy



Source: QES 2017; OECD SA Social Accounting Matrix, NBI-BCG Project Team; Energy Emissions Input-output Analysis In South Africa, Moodley 2006

Detailed research work has been completed in the **electricity, petrochemicals and mining sectors** by local research, academic, government and business associations. In addition, SA has adopted a hydrogen strategy and will develop a master plan for the sector. The transition will need to be carefully managed, with **significant investment required** to prevent negative economic consequences.

A *JUST TRANSITION* for South Africa is therefore non-negotiable

As outlined in the National Development Plan, the **Just Transition** refers to a transition towards **a low carbon economy and a climate resilient society** in a manner that **does not impede socio-economic development**, is **socially just** and results in an **increase in sustainable jobs.** The JT is not a sudden shift in economic activity but occurs in a **phased manner over time.**

South Africa is committed to a just transition to a low-carbon economy and climate resilient society, in line with the commitment to achieve net-zero by 2050:

- ***Procedurally***, by ensuring that the most climate-vulnerable groups participate in decision making
- ***Substantively***, through climate-compatible social and economic development that addresses the needs of workers and communities

'Ambition' in the context of a just transition involves:

- Pursue of ***development goals*** (poverty eradication, economic transformation, job creation) which promote re-industrialisation and localisation of production in the process of cutting emissions and building resilience
- Expand ***employment*** and build skills base
- Manage adjustment process and ***minimise negative social impact***
- To ensure that the just transition ***creates more jobs***, we need to mobilise significant ***funding*** to invest in new energy sources, develop future sectors and support communities that are affected

South Africa needs a package of transition financing to enable a just transition

The FIRST Phase of a Just Transition

Alignment of a Just Transition imperative and value proposition is important for all affected sectors of our economy, however the first phase of our Just Transition will focus on the electricity, automotive and green hydrogen sector

Firstly, the electricity sector (and those industries such as coal mining which depend on it), will be the first phase of our transition, as this sector is the quickest and cheapest to decarbonise, and will enable decarbonisation across the economy

Estimated cost is R400bn over the next 10 years

Secondly, our Just Transition must support Electric Vehicle (EV) manufacture in South Africa as a critical transition pathway for the automotive industry to embark on, given the devastating job losses that could be experienced in the automotive sector, from the export market's expected move away from internal combustion engines (ICE) vehicles

Initial estimated cost is $850m but depending on scenario is $119bn - $145bn over the next 15 to 25 years

Thirdly, there is also a significant opportunity to develop green Hydrogen projects, for local consumption and export. The scale up of local green hydrogen consumption in the mobility, industry and building sector within structures such as Hydrogen Valleys would contribute to the reduction in greenhouse gas emissions coupled with job growth, increased revenue in the PGM mining sector and overall GDP growth in South Africa.

Initial estimated cost is R15obn

Financing package should support all three areas in our first phase

Considering our economy sector by sector, we see that our vulnerability is huge – the automotive industry is a stark example

KPIs	2019	WORST CASE | 2040	BEST CASE | 2040
Automotive export revenue	R201,7 billion	R40,3 billion	R403,4 billion
Vehicle export volume	387,092 units	77,418 units	896,000 units
Vehicle export revenue	R148,0 billion	R29,6 billion	R296 billion
Automotive component export revenue	R53,7 billion	R10,7 billion	R107,4 billion
GDP automotive contribution	6,4%	3,2%	10,4%
GDP contribution manufacturing	4,0%	0,8%	8%
Total employment	110,250 employees	53,802 employees	220,500 employees
Employment vehicle manufacturing	30,250 employees	14,762 employees	60,500 employees
Employment component manufacturing	80,000 employees	39,040 employees	160,000 employees

Source: **naamsa** Autolytics/Lightstone Auto

- SA has a **world-class automotive manufacturing base** with strong government support and ongoing re-investment by global Original Equipment Manufacturers (OEMs).
- The **shift** from internal combustion engine (ICE) vehicles **to New Energy Vehicles (NEVs) is a disruptive trend** for the automotive industry globally, and South Africa will also be **impacted directly** by this evolution.
- In 2019 the majority of ICE vehicles and related automotive components **exports were to the EU.**
  - Vehicles: 197,355 vehicle exports to the EU out of a total of 271,288 = **72,8%;**
  - Automotive components: R26,3 billion exports to the EU out of a total of R54,5 billion = **48,2%;**
  - Total automotive exports to the EU amounted to R105,0 billion out of a total export value of R175,7 billion = **59,8%.**
- **Implication for SA exports = forecast that 40% of new vehicles sales in Europe would be electric vehicles by 2030,** and for that number to increase to 80% by 2040.

- **Failure to transform** to advance electric vehicle evolution will potentially lead to a **loss of up to 80%** of exports to the EU.
- **Reduction in GDP contribution** with significant risk to the balance of trade.
- **Significant job losses** across the entire value chain.

Vision and Hi-Level Outcomes for a Hydrogen Economy

Hydrogen Society Roadmap

Vision

An inclusive, sustainable and competitive hydrogen economy by 2050 with the goal of achieving a **Just and inclusive net zero carbon economic growth for societal wellbeing by 2050**.

Purpose

To align stakeholders on a common vision on hydrogen related technologies in order to create an environment where investment decisions can be made to unlock the social economic benefits for the country

Stakeholder Consultations

The development of a hydrogen society roadmap is a collaborative, multi-stakeholder endeavour with the objective of coalescing all efforts towards unlocking the full potential of the country's hydrogen socio economic value.

Hi-Level Outcomes

Decarbonisation of transport sectors: heavy duty trucks, shipping, aviation and rail
Lead Department: DoT
Supported by: DFFE, DMRE,DPE

Decarbonisation of energy intensive industry: iron & steel, chemicals, mining, refineries, cement
Lead Department: DTIC
Supported by: DFFE

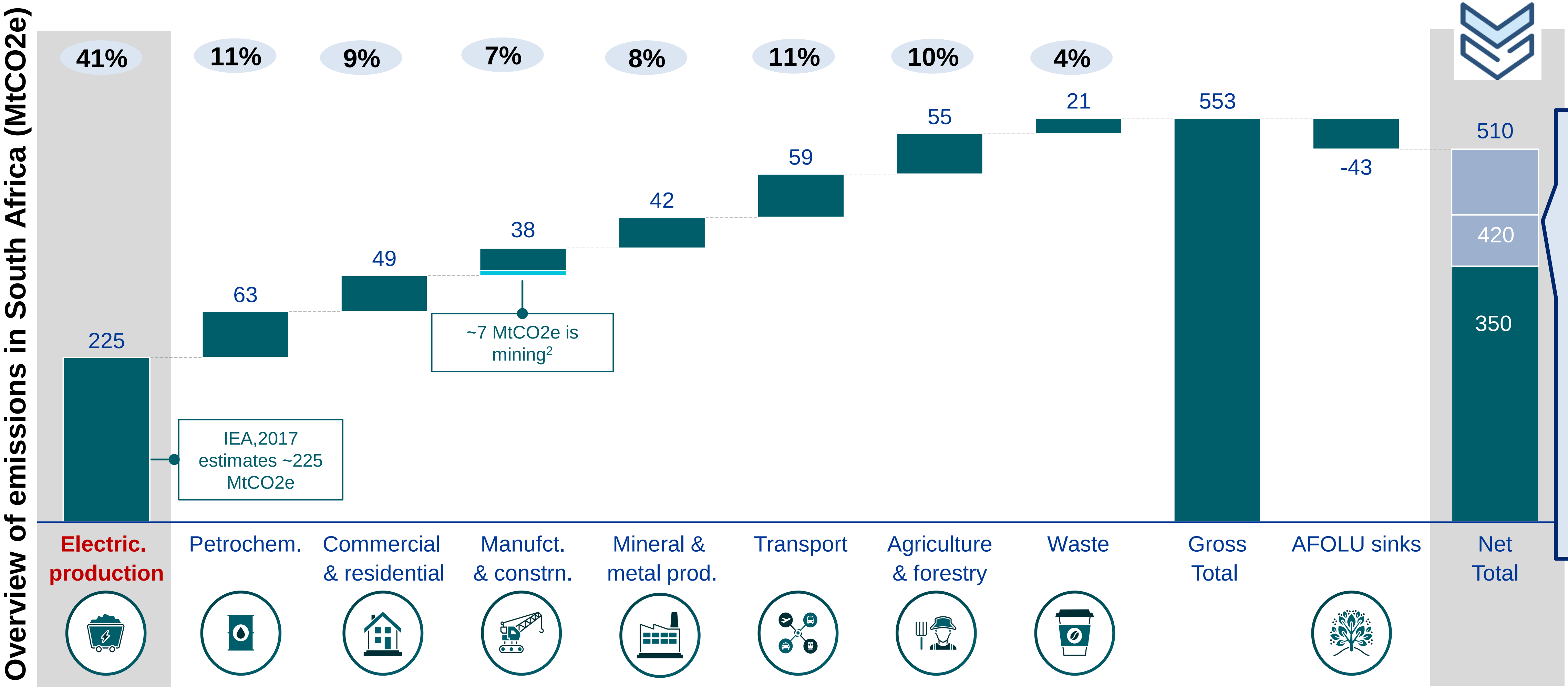
Creation of an export market for green hydrogen and green ammonia
Lead Department: DTIC
Supported by: DIRCO, NT

Green and enhanced power sector and buildings
Lead Department: DMRE
Supported by: DPWI

Creation of a manufacturing sector for hydrogen products and components
Lead Department: DSI
Supported by: DTIC, DMRE, DSBD

The energy transition is the necessary first step in the broader just transition

All sectors – agriculture, tourism, biodiversity economy, mining, energy, transport, manufacturing – are extremely vulnerable and crucial to a just transition. While there is an **economy-wide perspective on the just transition**, electricity will be the initial focus as the sector is the quickest and cheapest to decarbonise and will enable decarbonisation across the economy. Electricity is **a cross-cutting input** for all vulnerable sectors of the economy and the goods they produce.



Eskom can significantly reduce emissions and become **the first phase of our transition as a country.**

South Africa needs a package of transition financing to enable a just transition

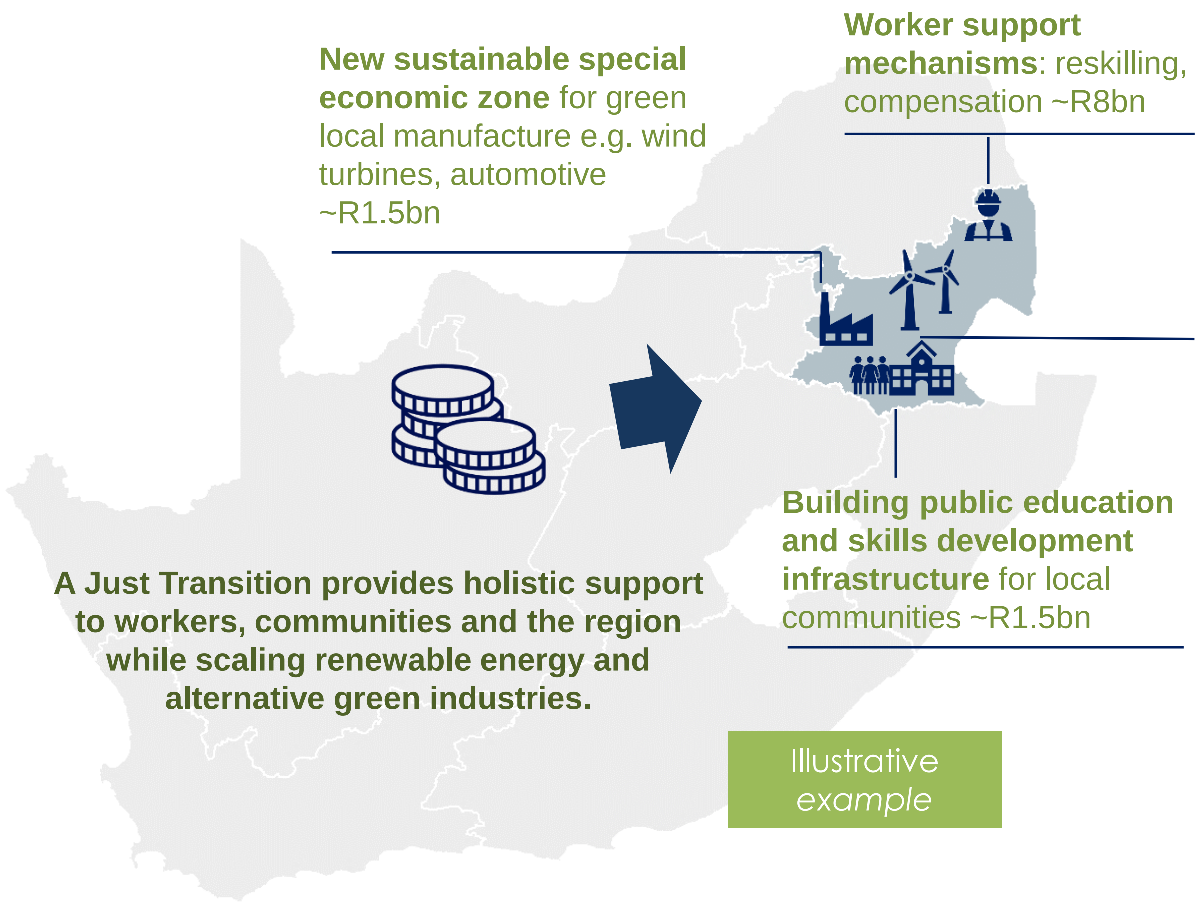
Transition finance has several advantages:

Accelerated transition of South Africa’s key emitting sectors, in particular energy

Robust green economic recovery for South Africa following significant COVID-linked GDP contraction

GHG mitigation which is globally & regionally significant – tackling climate & health risks

Just transition for communities, including jobs for youth and reskilling



South Africa’s message: “*We are prepared to make a substantial carbon reduction, but this must be financed by developed countries on concessional terms, in order to ensure a JUST transition.*”

Just Transition Financing Facility designed to attract concessional financing for just transition projects in South Africa

Just Transition Financing Facility

A **multi-tranche, multi-year facility**, funded by a **multi-lender** syndicate to enable and accelerate the Just Transition for all sectors impacted, with a focus on electricity, automotive and green hydrogen in the first phase

Key parties to facility

South African government: Commits to an NDC target of 350-420 Mt by 2030, industrial and energy policy

Eskom for example Commits to decarbonisation, no new coal or RTS, social investment, clean build

Foreign Government & Lender Group*: Commits to providing concessional financing

Safeguards within facility

Staggered disbursement: The Facility will be available to Eskom in three equal tranches each spread over a fifteen year period from 2022 to 2039.

Use it or lose it: Specified period for use of funds. Provision made to ensure that Eskom doesn't sterilise funding that could have been used elsewhere

Performance basis: approvals for funding in terms of the Facility shall be granted by the Lender Group on a project basis, according to project stage gates, and meeting criteria as agreed

Lender Group opt in or opt out: The Lender Group shall ensure that adequate internal coordination provisions are in place to ensure that no project is declined for the reason of difference in entity policies regarding technology options

RSA Government approval processes: all reasonable endeavours will be made to enable and facilitate the project implementation by responding to requests for approval in a reasonable time and enabling regulatory processes to be completed expeditiously and fairly in an equitable manner

**Including, but not limited to, the UK, US, Germany, France, AfD, kFW, CIF and the World Bank*

The proposed Facility is part of a broader strategy to achieve sustainability at Eskom…

Pursue financial and operational sustainability

Fix the current business

- Drive turnaround plan focusing on the five pillars
  - Improve income statement
  - Improve balance sheet
  - Operations recovery
  - Legal separation
  - People and culture
- Address financial sustainability challenges and associated government guarantees
- Pursue an unbundled and cost-reflective tariff structure
- Address municipality debt

Facilitate a competitive future energy industry

Prepare for competition

- Deliver independent Transmission System Operator
- Implement the roadmap for new Gx capacity in line with IRP 2019
- Enabling and transitioning towards renewable energy
- Implement profitable business models for Gx, Tx, Dx
- Facilitate enabling policy and regulatory framework for turnaround and transition
- Establish smart and flexible tariffing models

Modernise our power system

Leverage technology

- Roll out technological solutions to address business challenges – e.g. development of smart grids and broad utilisation of smart meters
- Deliver on the transmission grid expansion
- Increase in regional grids and distributed generation
- Roll out new technology options to support future business

Strive for net zero emissions by 2050 with an increase in sustainable jobs

Transition responsibly

- Repurposing and repowering coal power stations as they reach the end of their useful life
- Drive key enablers to expedite future utility scale procurement programmes
- Deliver on the social and skills plans and promote local industrialisation and job creation
- Focus on improvements to further improve environmental performance

…and to address debt through a cost reflective tariff, debt restructuring, and cost cutting

Three important elements need to be addressed for financial sustainability

x Internal

x External collaboration

Revenue Security

Adoption of a structured cost reflective tariff with price path certainty by NERSA
Improved revenue collection from municipalities

1

Equity support until financially viable

Cost containment

Implementation of the turnaround plan with focus on containing costs and creating transparency

3

Debt Restructuring

Reduction of debt stock via (R150 –R200bn) debt to equity conversion
Dealing with escalating munic debt

2

Financial sustainability is an important enabler to the legal separation of Eskom

Areas that require greater focus

1. More predictable price path and level to provide revenue certainty to investors and potential equity partners – DMRE, NERSA
2. Greater support and collaboration specifically with NT to align on a sustainable solution to Eskom debt stock and escalating arear debt
   - Supporting the active partnering concept
   - Restructuring Eskom's capital structure of reduces cost of debt to RSA and potentially returns R120 bn to Government to address more pressing social needs
3. The Green Financing pot is finite and the window of opportunity will close – other developing countries are bullish about their needs

What will the Just Transition Facility buy us?

GENERATION

Project	MW	Rm	Timing
Komati PV	100	951	12-18 months
Komati Gas	1000	15 300	24-48 months
Sere PV	600	8 993	18-48 months
Kleinzee	300	5 976	12-24 months
Aberdeen	200	3 984	24-26 months
Majuba PV	65	975	12-24 months
Tutuka PV	65,9	989	12-18 months
Arnot PV	17	86	12-18 months
Duvha PV	23,5	353	12-18 months
Lethabo PV	75	1 125	12-18 months
Olyvenhoutsdrift PV	550	11 250	12-18 months
Other wind	100	1 992	TBD
Microgrid	1400	60 200	6-12 months
Richards Bay gas	3000	70 000	24-60 months
Komati Battery storage	244 MWh	1 587	12-18 months
Total PV, wind, gas	**7496,4 MW**	**182 174**	
Total BESS	**244 MWh**	**1 587**	
TOTAL JET		**183 761**	

TRANSMISSION

- Deliver at least **8000 km of transmission grid (R120bn)** expansion to connect new capacity in line with IRP and accelerated shutdown
- Construct **12 substations across four provinces** (Northern Cape, Western Cape, Eastern Cape and Free State)
- Install **110 transformers** to deliver network strengthening requirements up to 2030

DISTRIBUTION

- **Strengthening of critical corridors** on the Distribution grid to enable connections of IPP's, Distributed Energy Resources (DER) **(R30bn)**
- Rollout of **micro grid solutions to electrify 13% of the population (R15bn)** to deliver against government's electrification programme
- Enable **bidirectional energy management and flexibility**, facilitate an inverted energy economy

A **Just Transition Fund** to accelerate economic diversification in Mpumalanga, fund the reskilling of workers displaced from the coal value chain and support green industrialization projects

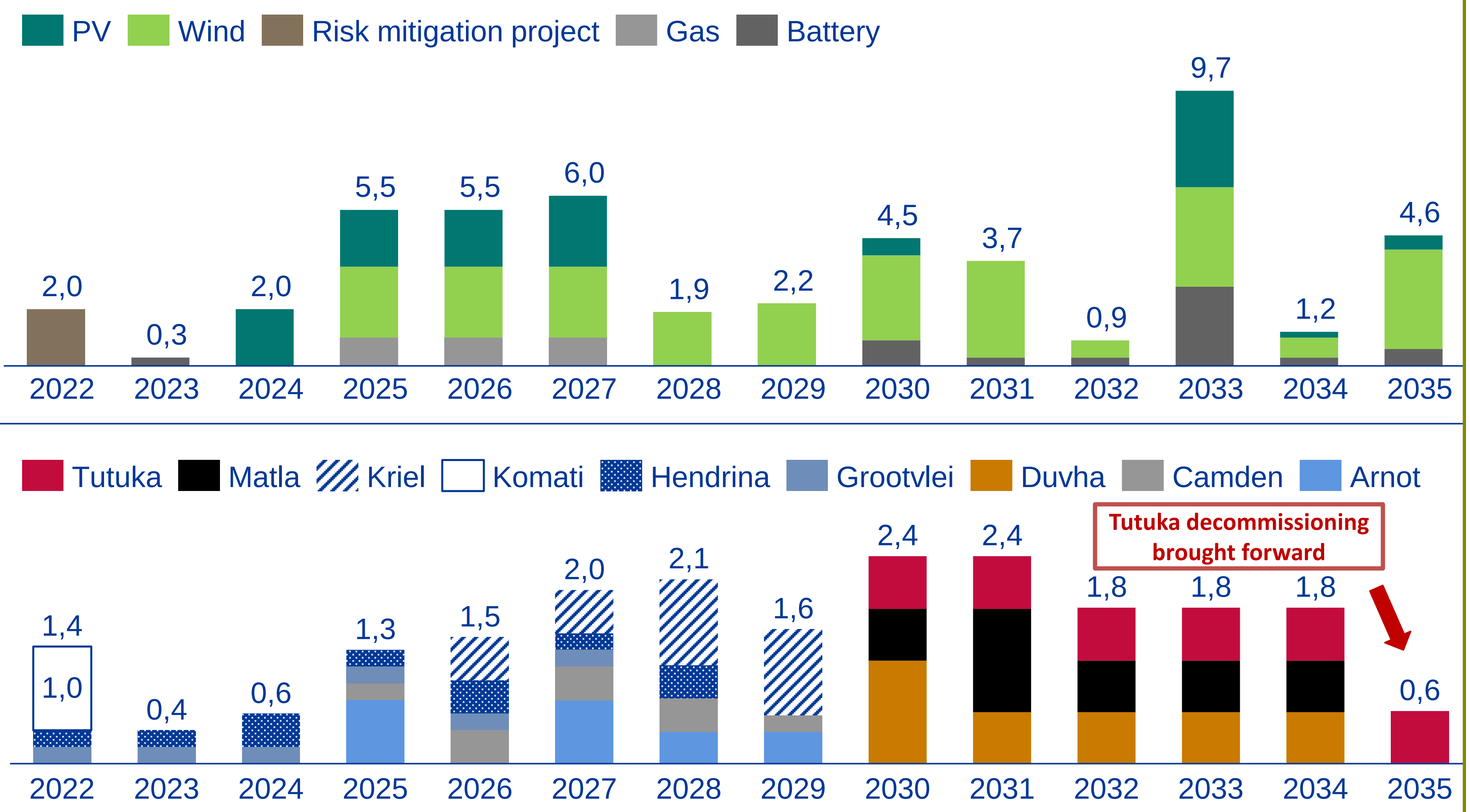
These investments are **unavoidable** – they need to be made over the coming decade. In this context, concessional finance should be compared to fiscal spending or finance on commercial terms.

The Just Transition Facility will enable an accelerated rollout of renewable energy and other energy sources, alongside decommissioning of coal plant in terms of the IRP 2019 (which we have already committed to)

Analysis of additional capacity and shut down of coal plant 2022-2035 (GW)

New clean Generation 50 GW to be built

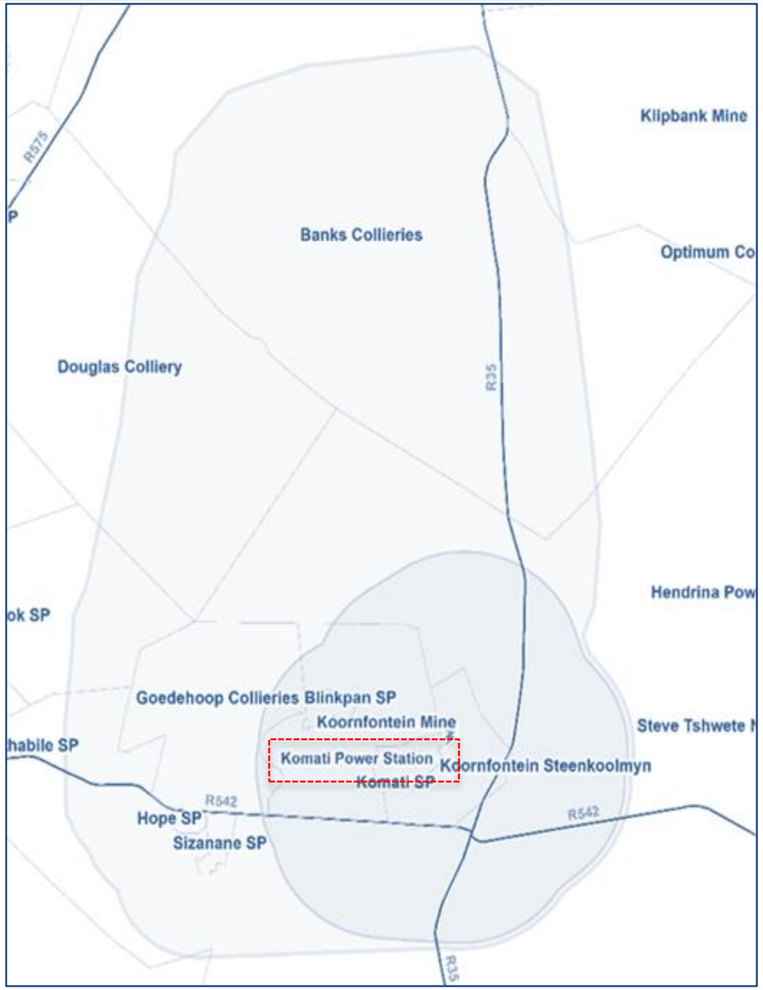
Eskom Coal capacity to be shut down in line with the IRP19 (2030)



- In line with the **IRP 2019, which runs to 2030**, 22 GW to be shutdown between 2022-2035. **Only the shutdown of Tutuka Power Station is accelerated** due to its high costs coupled with **poor performance** (EAF 33%)
- **Coal will continue** to a part of the mix to 2050
- New build capacity important **to meet system adequacy requirements**
- Lifting of the **RE restrictions in the IRP required** to provide certainty to the market

Study results for Komati: What is the status of Komati primary study area?

Komati Power station – immediately affected communities and study area



Area profile

- **Population:** Under 4 200 people (1 904 HHs
- Since 2011, Sizanane closed and population in Banks reduced;
- Below average **education** – majority no schooling or some schooling
- Dominance of low **skill levels**
- Largest **employers** – mining, utility and agriculture

Key weaknesses

- Dilapidated built environment
- Below average access to basic services (esp. water)
- Health-related problems: chronic illness, malnutrition, HIV and Aids, TB
- Social ills: drug and alcohol abuse, and prostitution
- Unemployment, frustration among the youth

Key strengths

- Endowed with mineral resources: coal and silver ore
- Moderate and high potential arable land
- Transport linkages to Emalahleni and Middleburg, as well as Nelspruit and Johannesburg
- Large tracks of land owned by mining houses
- Moderate solar resource potential

The studies show that:

- **No loss** of **direct jobs**
- Loss of **~20 000 indirect jobs** in **Mpumalanga**
- Loss of additional **~5 000 indirect jobs** in **rest of South Africa**
- **>net gain in** jobs from investing in a JET pathway (repowering, repurposing, gas, renewables)

- **Impact on Steve Tshwete Local Municipality**:
  - Production in the economy will shrink by **~2.3% compared to 2020** – similar effect as what was experienced between 2017 and 2020
  - Electricity sector's output will be reduced by a quarter, compared to 2020
- **Impact on Mpumalanga**:
  - Output in the economy will be reduced by ~0.7%
  - Electricity sector's production will shrink by ~5%
- **Impact on SA**:
  - The economy will lose ~0.1%

Various key stakeholders have been engaged as part of the the socio-economic assessments of coal-plant shutdown conducted to date

Stakeholder group	Description
Community interviews	• **14 meetings** held attended by 110 community representatives
Business and social facilities	• **73 local businesses, 24 education facilities , 3 SAPS, 5 clinics** • **and 52 business** along the supply chain
CSOs, NGOs, and local government	• **Prominent local stakeholders** including Ward Committee members representing various organisations including (but not limited to) Goedehoop Village, Mahlathini Village, Blinkpan Settlement, Komati/Koornfontein Village, Sizanane Village, etc.
Employee households' survey	• **240 households** were surveyed in Pullenshope, Komati and Grootvlei settlements
Organised labour	• **Information sharing sessions** with Generation Group Forum and Business Unit Forums to address issues related to employees and affected sites • **Individual engagements with NUM and NUMSA on social impact studies** • **Presentation of social impact study** results to the Strategic Forum, • **Strategic engagement** on the overall Eskom transition plan with **NUM, NUMSA and Solidarity leadership**

– Concern about an increase in social ills and a decrease in local economic growth.
– While, positive about the opportunities from repowering and repurposing.
– The ask is that there is ample warning of the timing of plant shutdown and engagement in plans to repower and repurpose, with opportunities flowing to the local community
– Strong support for Eskom participation in RE

Komati will therefore serve as the flagship site to demonstrate the JET commitment, with the other stations being fast followers for repurposing

With Komati's last coal-fired unit set to be shut down in 2022, the **Komati repowering and repurposing programme offers many opportunities**

- Offers the unique opportunity to pilot the repowering of a station on existing Eskom land.
- Eskom has begun installation of an **Agrivoltaics plant** and a **Microgrid assembly plant**.
- Eskom is completing the engineering studies to confirm the capacities of PV and Battery that **will be installed in the next 12-28 months**

Agrivoltaics

Containerised microgrid

The COP 26 President, together with the UK COP 26 team will be visiting the Komati Power Station in October 2021. An ideal opportunity to demonstrate commitment, and engage the lender group on their commitment to the financing facility.

Principles to guide our international partnerships

South Africa

- South Africa can only **accelerate its decarbonisation trajectory** (and commit to no new coal) with substantial financial support from developed countries and international financial institutions, on concessional terms
- The first phase of our just transition will focus on **electricity, automotive and green hydrogen**
- This would fund the **decommissioning, repowering and/or repurposing** of existing coal power stations as well as investment in transmission and distribution infrastructure to enable deployment of renewable energy sources
- Funding would also support climate justice through **reskilling and creation of opportunities for affected workers** and communities

International partners

- In line with COP 21 commitments, provide **concessional funding** to support mitigation efforts through a multi-donor single country trust fund
- Through this funding, devel**op a global best-practice coal transition** programme that supports a just transition for affected communities
- Ensure that terms of lending **accommodate and enable** the substantial investment required and reflect the historical obligations of developed countries – e.g. lenders must bear foreign exchange risk
- Do not impose **additional conditions** on funding that would constrain development of local productive capacity

Principles for Financing a Just Transition

- Understand the enormity of the just transition challenges which South Africa faces on the pathway to net zero, in the context of South Africa’s national circumstances.
- We need to correctly assess the scale and nature of support which is available from the relevant countries, DFI, NDB and other Multilateral institutions, what form this could take, and what conditions would be attached.
- To negotiate a process which will result in the conclusion of a financing facility for a Just Transition with:
    - The size/envelope of the financing facility and the specific levels of commitment to be provided
    - Principles underlying the partnership, in particular as they relate to minimising the impact on sovereign and Eskom debt and supporting locally-driven solutions
    - Process to agree on governance, oversight and location of the Facility
    - Process to agree on the specific form of finance to be provided through the Facility
    - Agreement that support for social and economic development as part of the just transition is embedded in the Facility
    - Timeframes for establishing and operationalising the Facility, including milestones for Eskom decarbonisation, in return for risk mitigation instruments
    - Agreement on communications, outreach and launch of the Facility by South Africa and partners