



PRESIDENTIAL
CLIMATE COMMISSION
TOWARDS A JUST TRANSITION

Presentation to NEDLAC Trade & Industry Chamber on Just Transition

May 2023

Three inter-related transitions

South Africa 2022

- High vulnerability to climate change
- Low-productivity, carbon-intensive economy
- Weak public sector, poor implementation capacity
- Extreme levels of inequality, unemployment & poverty
- Decreasing per capita income
- Strong social base laid for Just Transition

Decarbonisation

Adaptation & resilience

Just transition

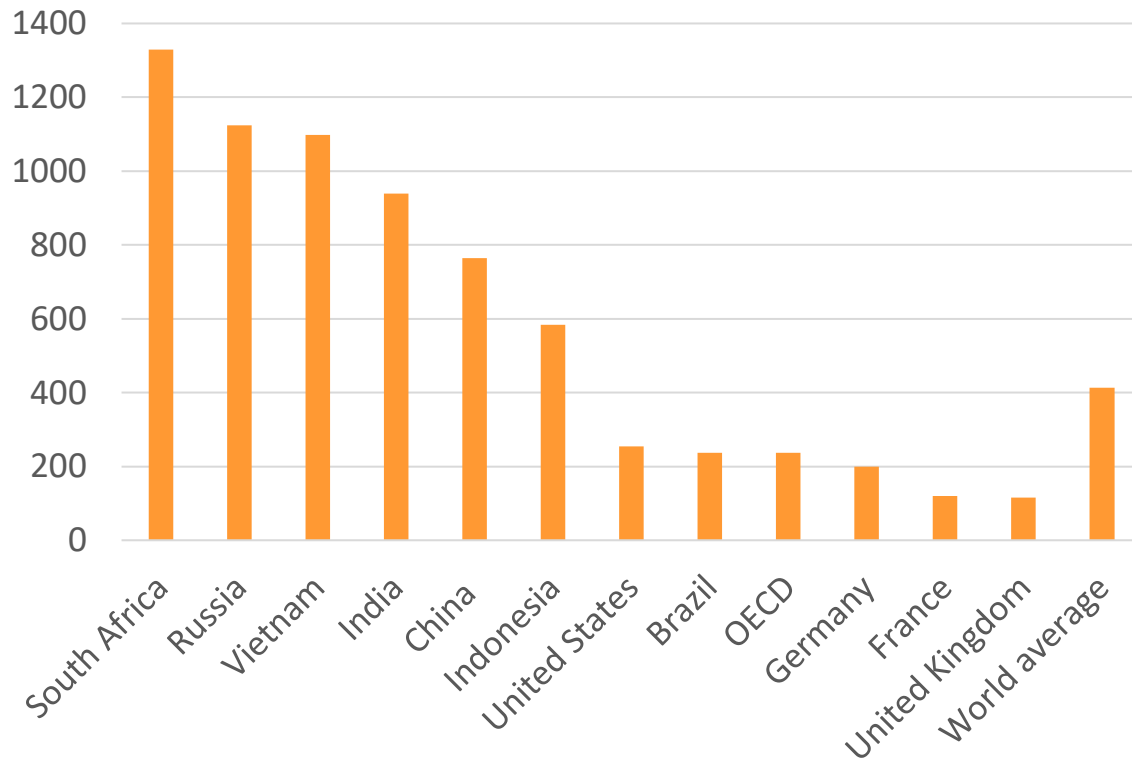
South Africa 2050

- Economy & society resilient to climate risks
- Net-zero carbon economy
- Growing investment to GDP ratio & competitive economy
- Effective & enabling state
- Dramatically reduced levels of inequality, unemployment & poverty
- Social inclusion and just transition

SA faces serious trade & competitiveness risks

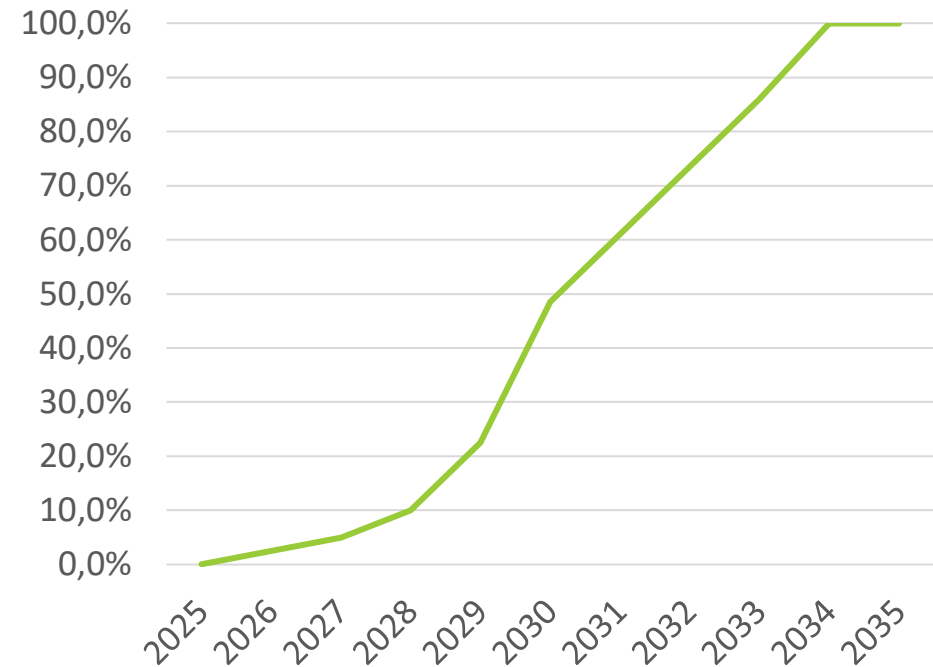
SA could lose ~50% of its export value, more than 1m direct jobs, and ~15% of GDP, as well as lost opportunity to capture new green industries

Carbon intensity (tCO₂/million \$ GDP)



Source: World Bank country data 2022

EU schedule to phase in CBAMs (& phase out free allowances)

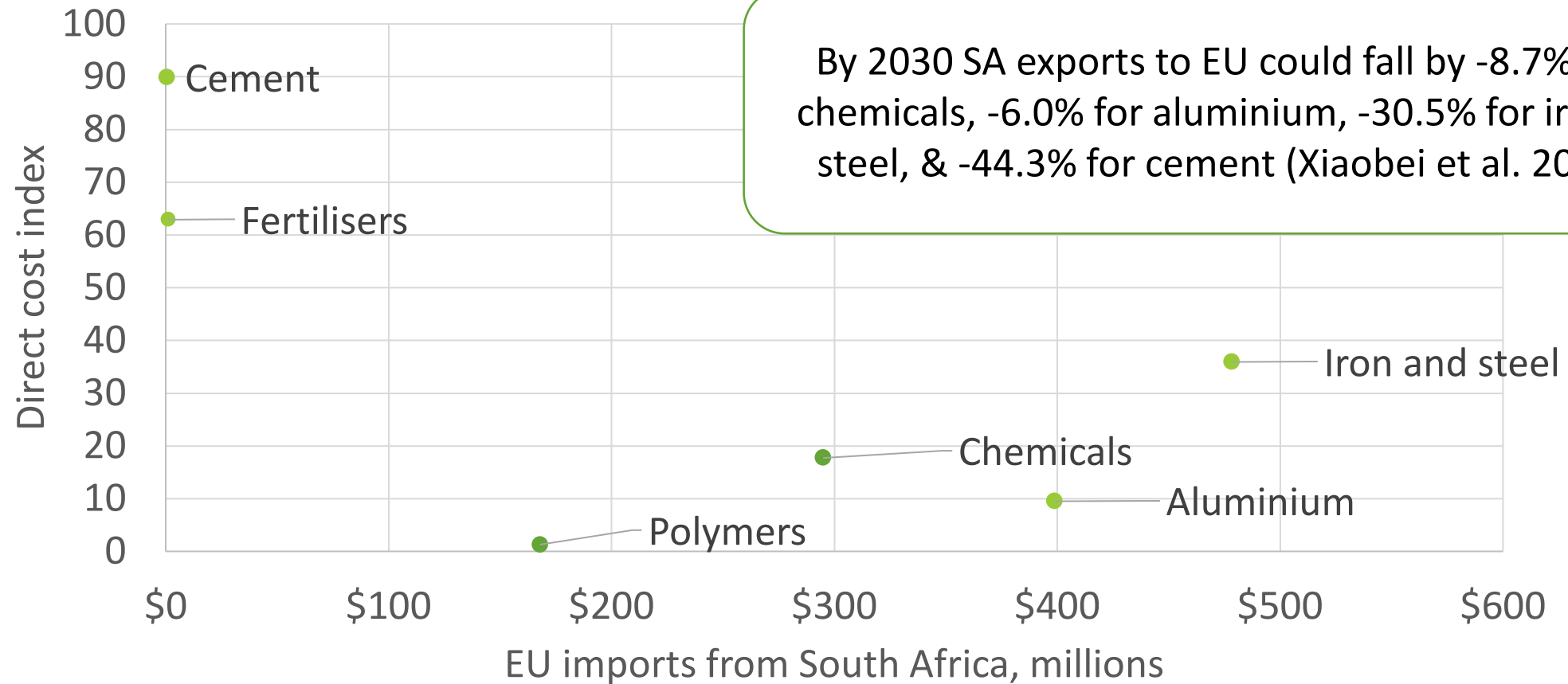


Initially targeting cement, iron and steel, aluminium, fertilisers, electricity and hydrogen, cost based on EU ETS

Source: CSIS 2023

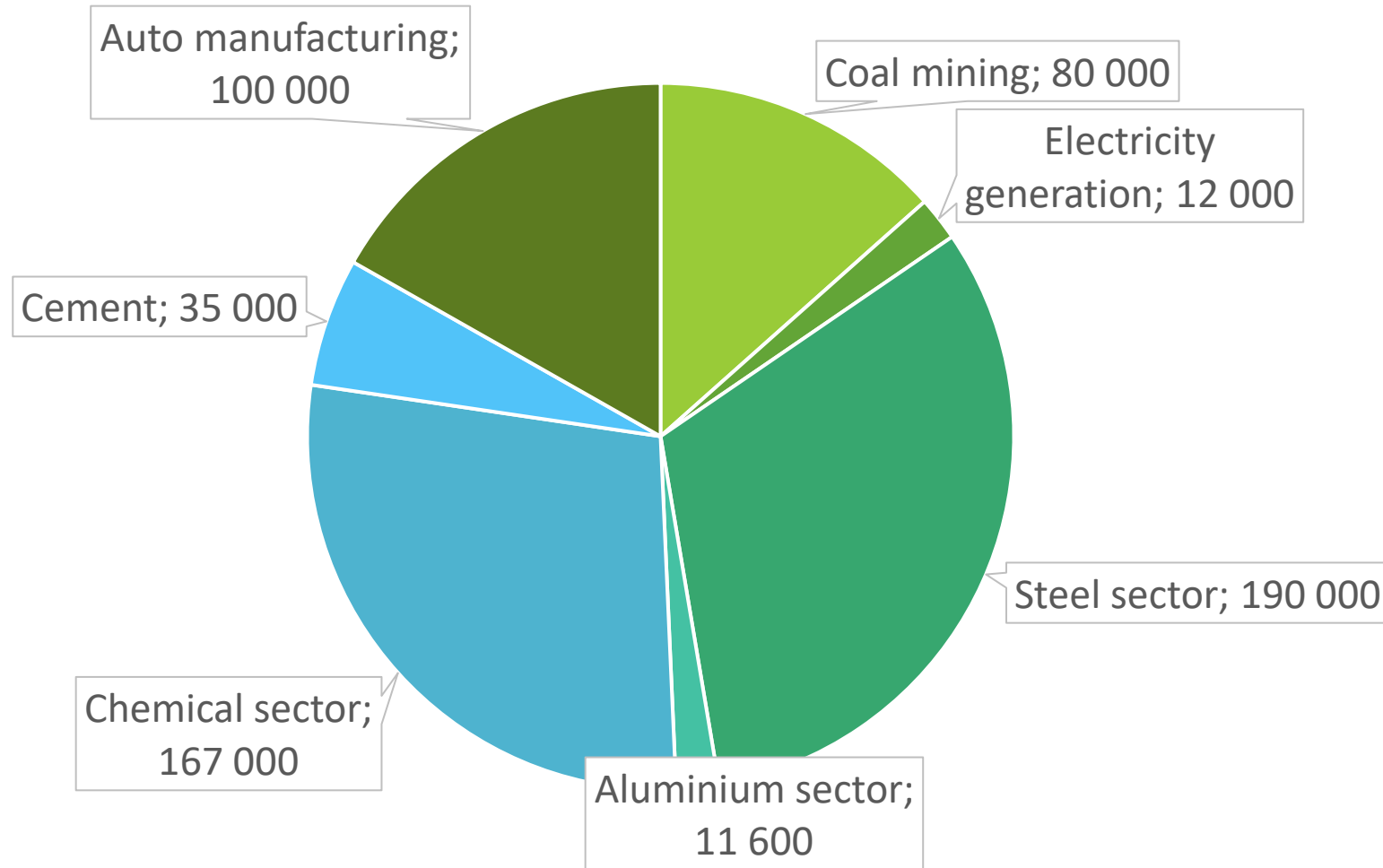


The impacts of the CBAM in South Africa are likely to be most severe in iron & steel sector

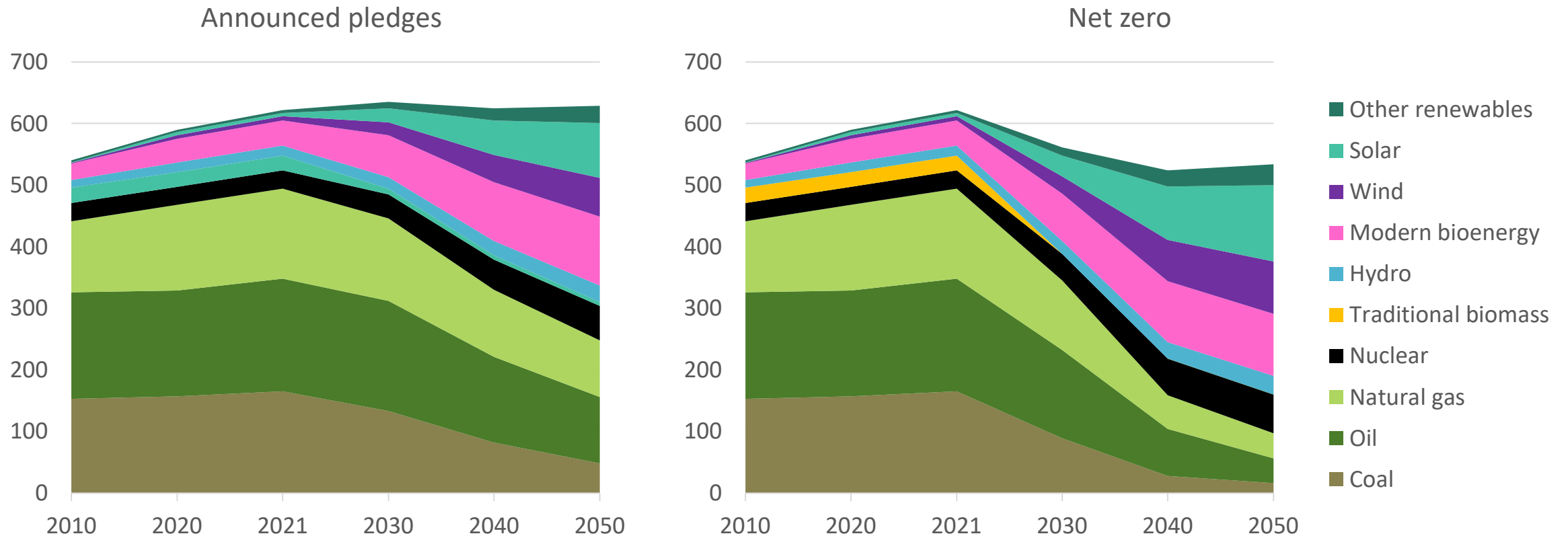


The impacts of the CBAM in South Africa are

Jobs at risk

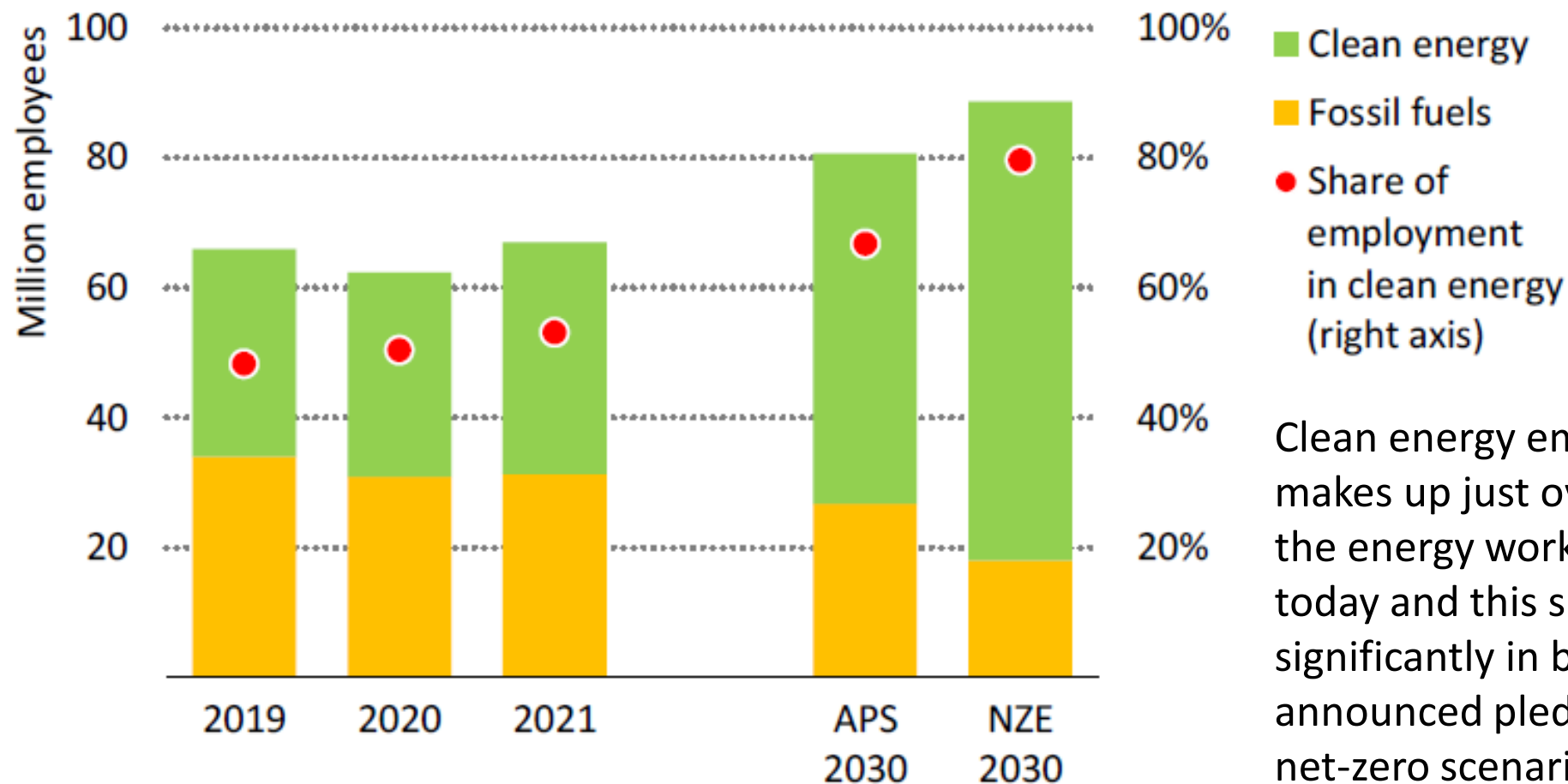


There is a major global energy transition underway driven by carbon constraint & technological innovation



Source: IEA World Energy Outlook 2022

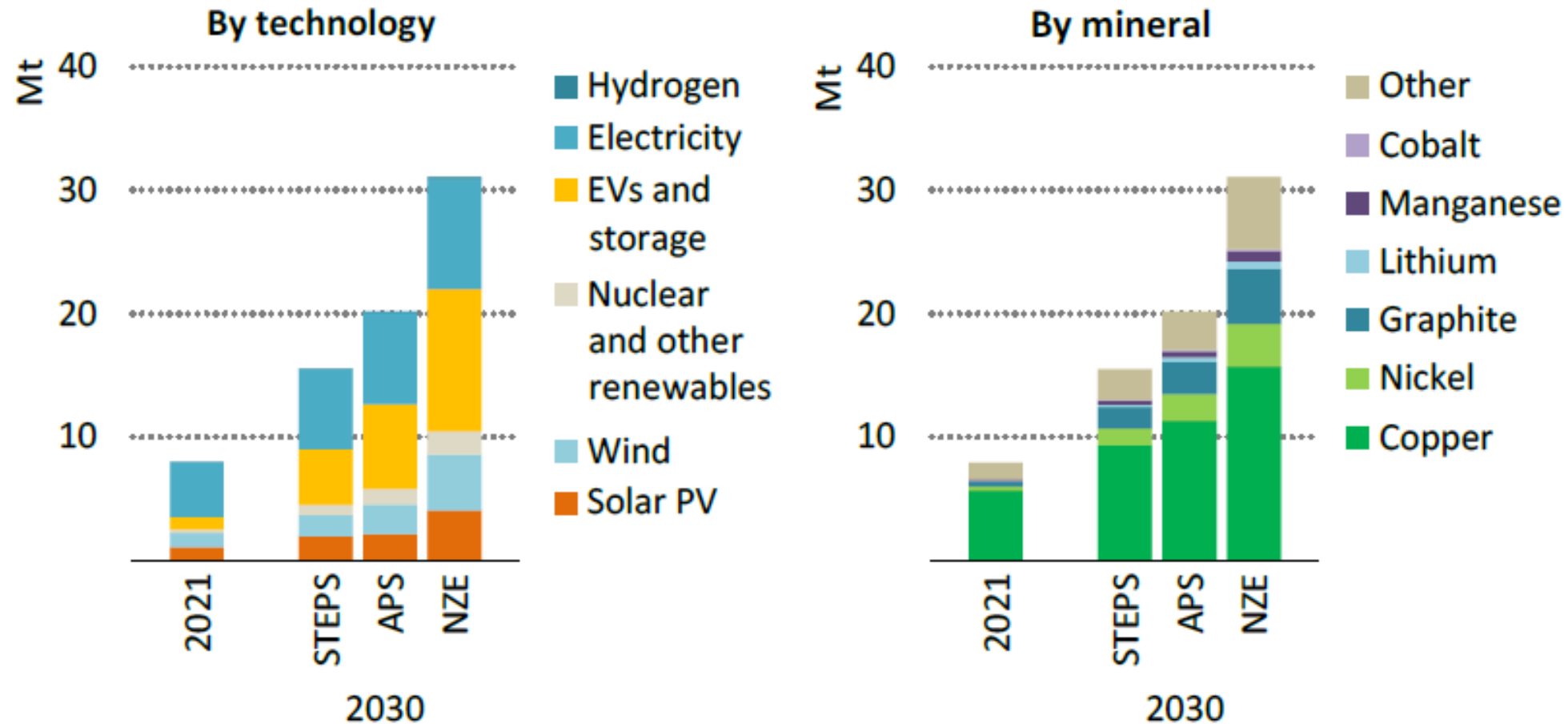
Employment in energy sector (global)



Clean energy employment makes up just over half of the energy workforce today and this share rises significantly in both the announced pledges and net-zero scenario



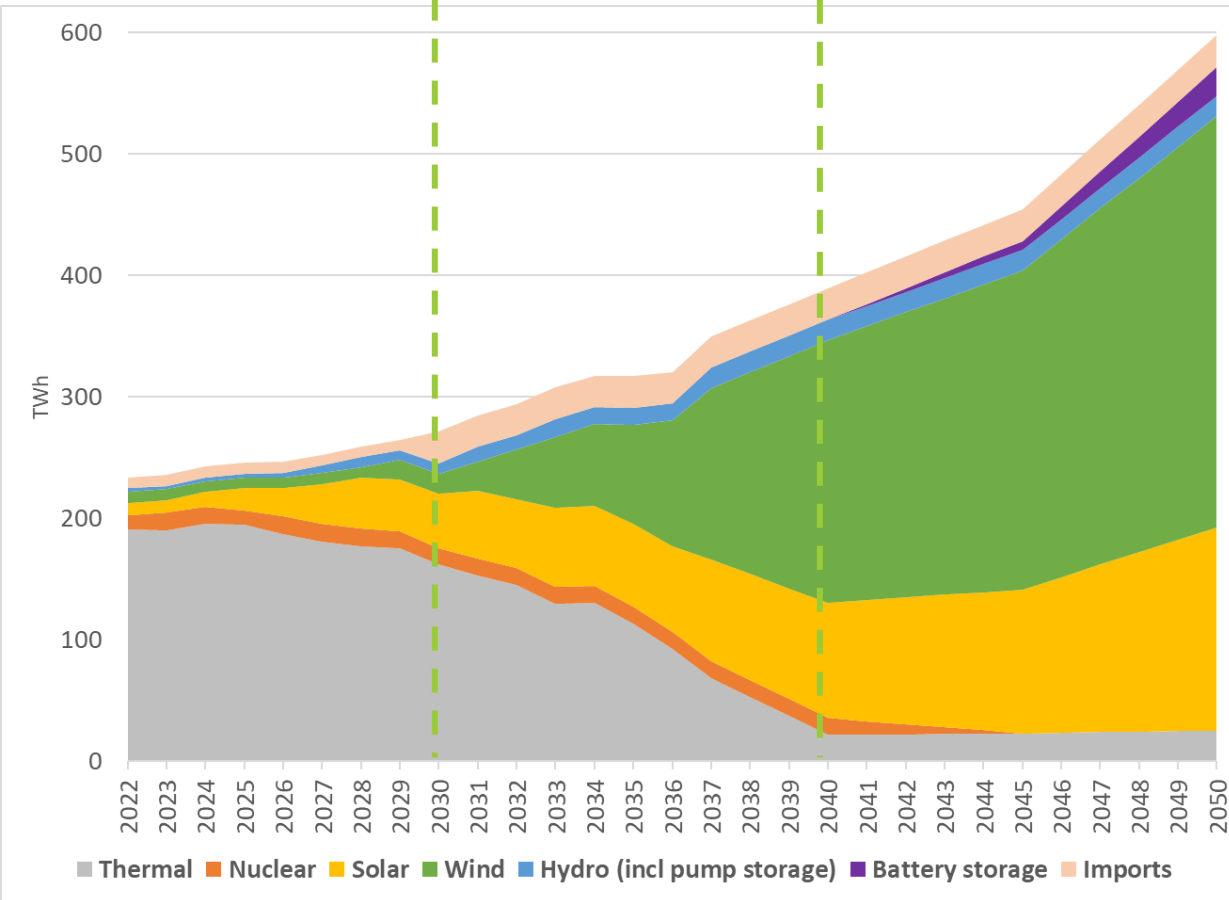
Demand for minerals will increase substantially in energy transition



Massive transformation required in power and transport sectors

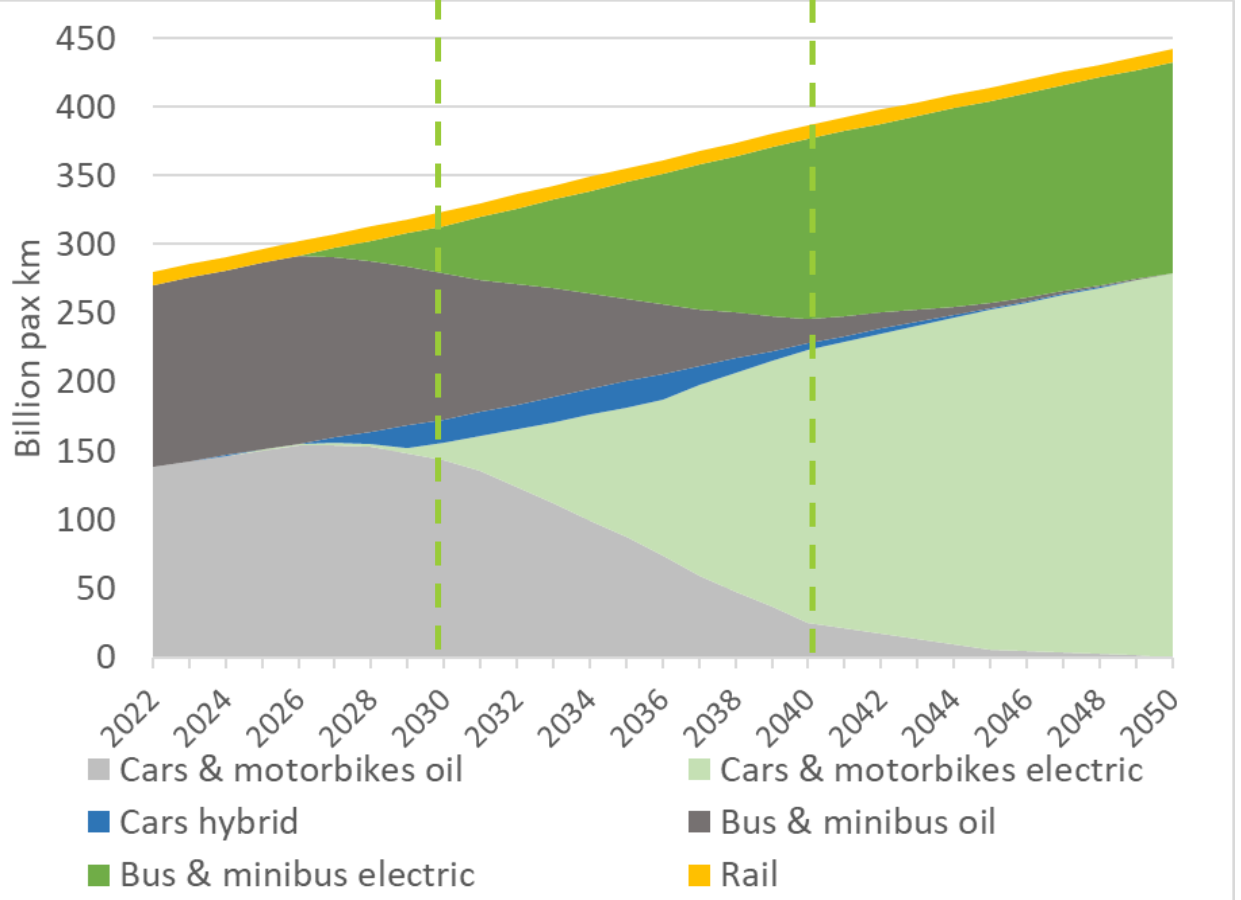
Ramp up in wind and solar required (~100 GW by 2040; ~150 GW by 2050) with grid balanced by hydro, battery storage and some gas / diesel peaking plants. ~7 M BEVs¹ in vehicle parc by 2050; ~1 M by 2030

Power sector generation by technology 2022 - 2050



Source: SATIM

Change in structure of transport sector 2022 - 2050



Source: SATIM

Eskom identified a mix of renewables & limited gas as the optimal power source given LCOE & build time

Technology Preference	Technology	Capital cost LCOE ¹	Build time	Build	Own	Operate	Comment / Eskom position
	 PV	975 \$/kW 4,2 U\$ c/kWh	18-24 months	✓	✓	✓	Identified potential sites to retrofit PV capitalising on existing infrastructure & available resources
	 Wind	1 450 \$/kW 5,4 U\$ c/kWh	24-36 months	✓	✓	✓	Leverage sites for, and get environ. auth. for wind to capitalise on existing infrastructure and available resources
	 Gas	1 250 \$/kW 7,3 U\$ c/kWh	24-60 months	✓	✓	✓	Use imported gas as a means to supplement baseload in short to medium term
	 Nuclear	12 500 \$/KW 19,8 U\$ c/kWh	12-15 years	✗	✗	✓	Support Government plans to roll out new nuclear, however, unable to build due to inadequate balance sheet
	 New coal	6 225 \$/kW 15,9 U\$ c/kWh	10-12 years	✗	✗	✗	Own & operate current coal fleet until shutdown, & repower sites with cleaner options. No new Eskom coal projects

1. Capital cost includes EPC cost, capital cost during constriction, LCOE – levelized cost of energy; Source: Lazard 2020 costs

Energy Action Plan is immediate focus



Improve EAF as much as possible

- Coal contract delivery to spec and remove poor quality coal
- Target crime and corruption
- Maintenance schedules and quality of maintenance teams

Get new generation on the grid as fast as possible

- Focus on least cost technologies which are quickest to implement
- Spatial planning approach to procurement
- Feed-in tariffs and wheeling to unlock household and business investment
- Collocate batteries with generation to maximize grid utilisation

Work with public and private stakeholders to drive energy efficiency

Set up state-owned transmission company and invest in grid expansion

Continue work on a Just Transition

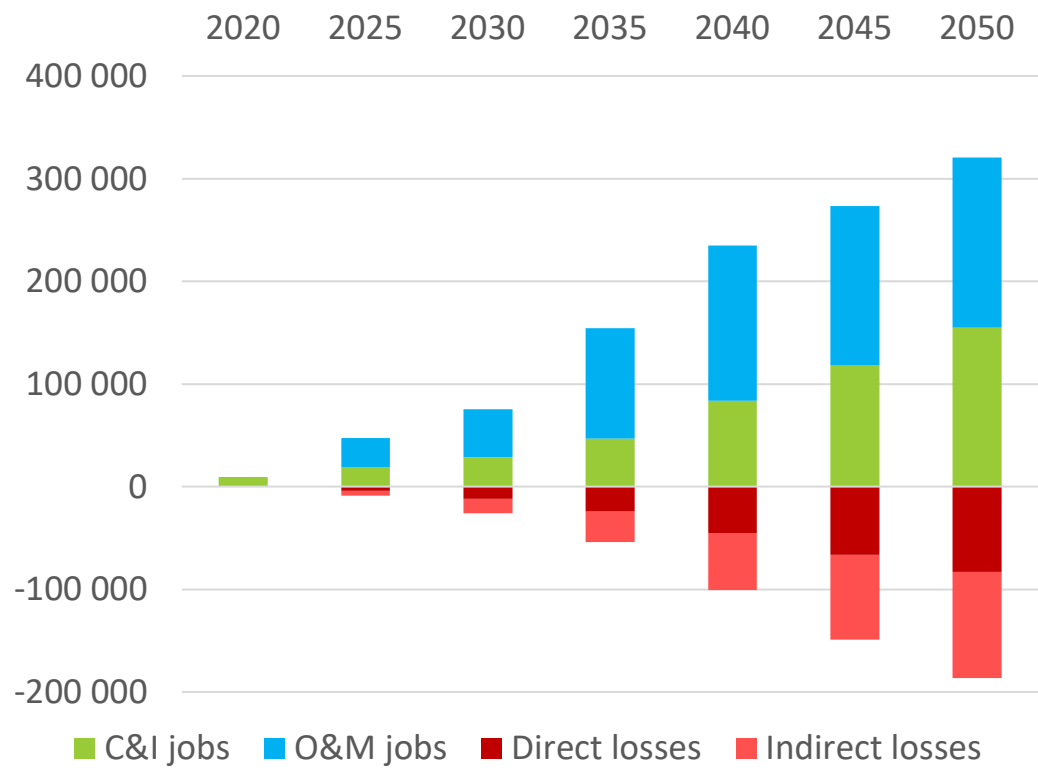
- Investigate electricity pricing and effectiveness of free basic electricity



Mitigation-induced employment shifts

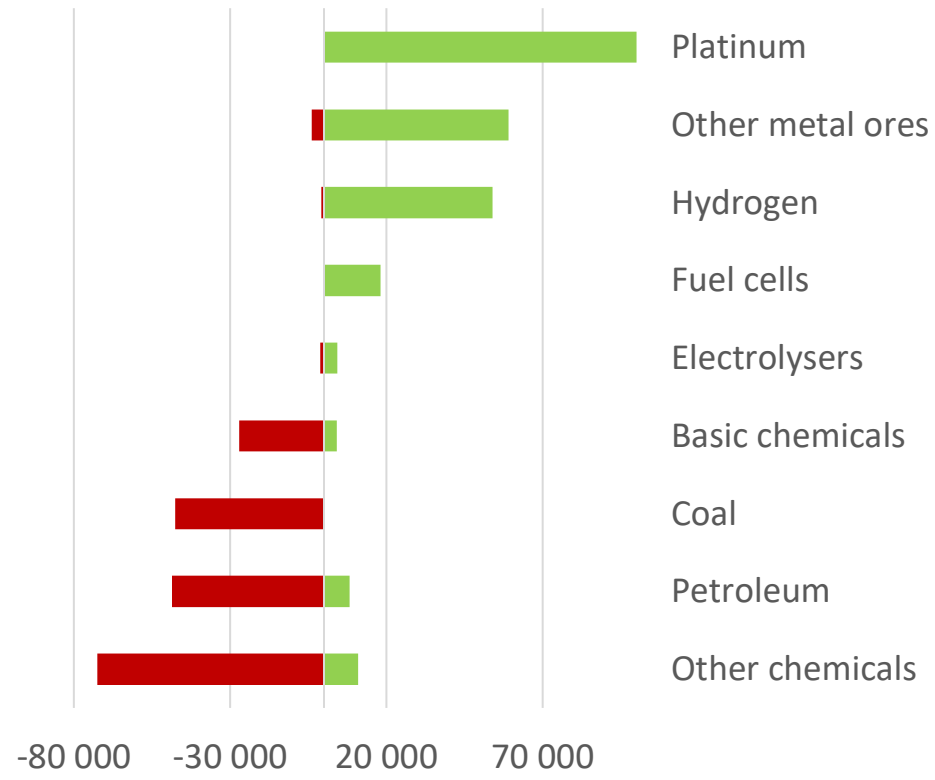
NBI estimates 1.4 mn net jobs created before 2040 vs. 0.6 mn in IRP constrained pathway

Aggregate employment shifts



Source: NBI Just Transition Pathways.

Employment shifts by sector



Source: World Bank Staff SAGE and microsim models.



Policy measures for a just transition

Active labour market

- Skills development, apprenticeships & reskilling for future labour force
- Align basic and higher education with future economy
- Employment incentives, job placement and EPWP

Industrial policy

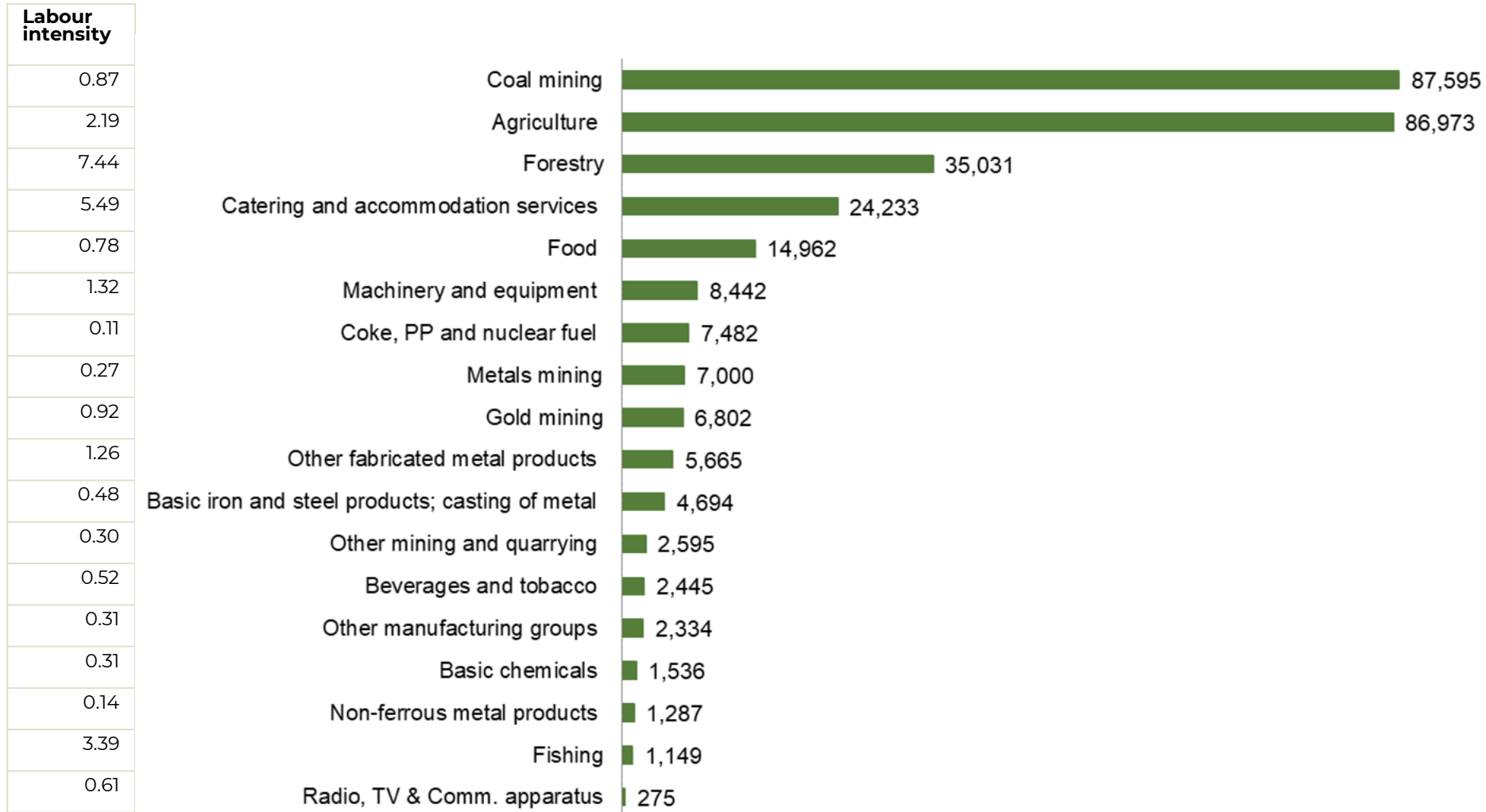
- Build local RE & battery manufacturing industry
- Infrastructure and incentives to support EVs green H2 & minerals
- Use public procurement to accelerate change
- Support small business and localization

Social support

- Access to basic services, health care and sustainable human settlements
- Building community resilience & livelihoods
- Income support for displaced workers and early retirement provisions

Deep dive into employment in Mpumalanga

Absolute employment numbers (total) for the top 15 sub-sectors by economic output in 2021 in Mpumalanga (plus catering and accommodation services, fishing, radio, TV and comms. apparatus).



Mpumalanga's 5 largest sub-sectors by absolute employment (2021):

1. Coal mining
2. Agriculture
3. Forestry
4. Catering & accommodation services
5. Food manufacturing

However, the most labour intensive sectors are:

1. Forestry (7.44)
2. Catering & accommodation services (5.49)
3. Fishing (3.39)

Summary of Mpumalanga sub-sectoral review

Sub-sector (by GVA size, largest to smallest)	Gross Value Add (2021)	Average annual growth rate (2013-2019)	Employment (2021)	Labour intensity (2021)	Top 5 largest by GVA (2021)	Positive average annual growth rate (2013-2019)	Top 5 average annual growth rate (2013-2019)	Top 5 biggest employers (2021)	Top 5 labour intensive (2021)
Coal mining	R100 bn	-0.2%	87,500	0.87	Y	N		Y	
Coke, petroleum products, nuclear fuel	R68 bn	1.3%	7,500	0.11	Y	Y	Y		
Agriculture	R40 bn	4.4%	87,000	2.19	Y	Y	Y	Y	Y
Metals mining	R26 bn	9.3%	7,000	0.27	Y	Y	Y		
Food manufacturing	R20 bn	-0.1%	15,000	0.78	Y	N		Y	
Other manufacturing groups	R7.4 bn	0.8%	2,300	0.31		Y			
Forestry	R4.7 bn	-1.4%	35,000	7.44		N		Y	Y
Other fabricated metal products	R4.5 bn	1%	5,600	1.26		Y			
Catering & accommodation services	R4.4 bn	0.2%	24,000	5.49		Y		Y	Y
Wood and wood products	R2.7 bn	-3.5%	9,400	3.39		N			Y
Radio, TV & communication apparatus	R450 m	3.6%	275	0.61		Y	Y		
Fishing	R339 m	3.2%	1,150	3.39		Y	Y		Y

Proposed long list of sub-sectors for more detailed planning

Sub-sector (by GVA size, largest to smallest)	Top 5 largest by GVA (2021)	Positive average annual growth rate (2013-2019)	Top 5 average annual growth rate (2013-2019)	Top 5 biggest employers (2021)	Top 5 labour intensive (2021)
Coal mining	Y	N		Y	
Coke, petroleum products, nuclear fuel	Y	Y	Y		
Agriculture	Y	Y	Y	Y	Y
Metals mining	Y	Y	Y		
Food manufacturing	Y	N		Y	
Forestry		N		Y	Y
Catering & accommodation services		Y		Y	Y
Wood and wood products (OPTIONAL)		N			Y
Fishing (OPTIONAL)		Y	Y		Y

- 7 sub-sectors are proposed for opportunity identification, based on their economic importance (income + employment)
- 2 further sub-sectors could be considered due to their labour intensity (both), growth rate (fishing) and moderate absolute employment (wood and wood products)
- Collaborative planning process to be undertaken with all Mpumalanga stakeholders

Estimated financing requirements for climate transition

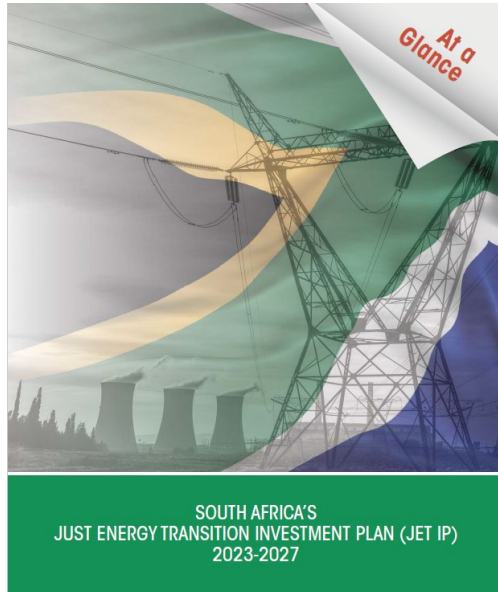
	2030		2050	
	NPV	% GDP pa	NPV	% GDP pa
Decarbonisation	R940	1.6%	R4 169	2.1%
Resilience	R866	1.4%	R2 431	1.3%
Just Transition	R574	1.0%	R1 937	1.0%
Total	R2 380	4.0%	R8 537	4.4%

NB : Net present values are calculated at a discount rate of 6 percent.

Source: WB SA CCDR 2022



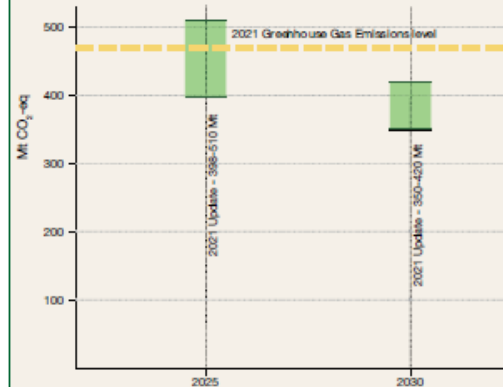
The JET-IP is aligned with the full suite of intentions but needs more detail



Building a pathway towards a low carbon and climate resilient society

To decarbonise the economy to within the target range by 2030

350-420 Mt CO₂ eq



requires initial funding of

~ ZAR 1.5 trillion
over five years 2023-2027

from multiple sources

- Developed countries
- Private sector investors
- Development Finance Institutions
- Government
- Philanthropies
- Multilateral Development Banks

in three priority sectors



Electricity



New Energy Vehicles



Green Hydrogen

and two cross-cutting areas



Skills development



Municipalities

through a Just Energy Transition that



Protects vulnerable workers and communities



Builds energy security



Expands energy access



Promotes industrial development



Drives innovation



Develops sustainable livelihoods



Enables economic diversification



Spurs inclusive economic growth

in alignment with South Africa's



National Development Plan



Just Transition Framework

Concluding remarks



Three interrelated transitions, framed by SA's development context and challenges

- Mitigation and resilience are not just environmental obligations, they are closely linked to social and economic outcomes
- Pace of transition is crucial variable – too fast will shut down industrial sectors, too slow will damage long term economic competitiveness
- We need to proactively manage the social consequences of transition and ensure fair sharing of risks in collaboration with those who are most vulnerable
- While the costs of transition are high, technological change has changed pricing and made a managed transition the least costliest option





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Thank you

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