



Building an **inclusive energy sector for a sustainable tomorrow** Webinar

Opportunities and challenges in the energy transition process



Presented by Dr Stanley Semelane

25 August 2022



Presentation outline

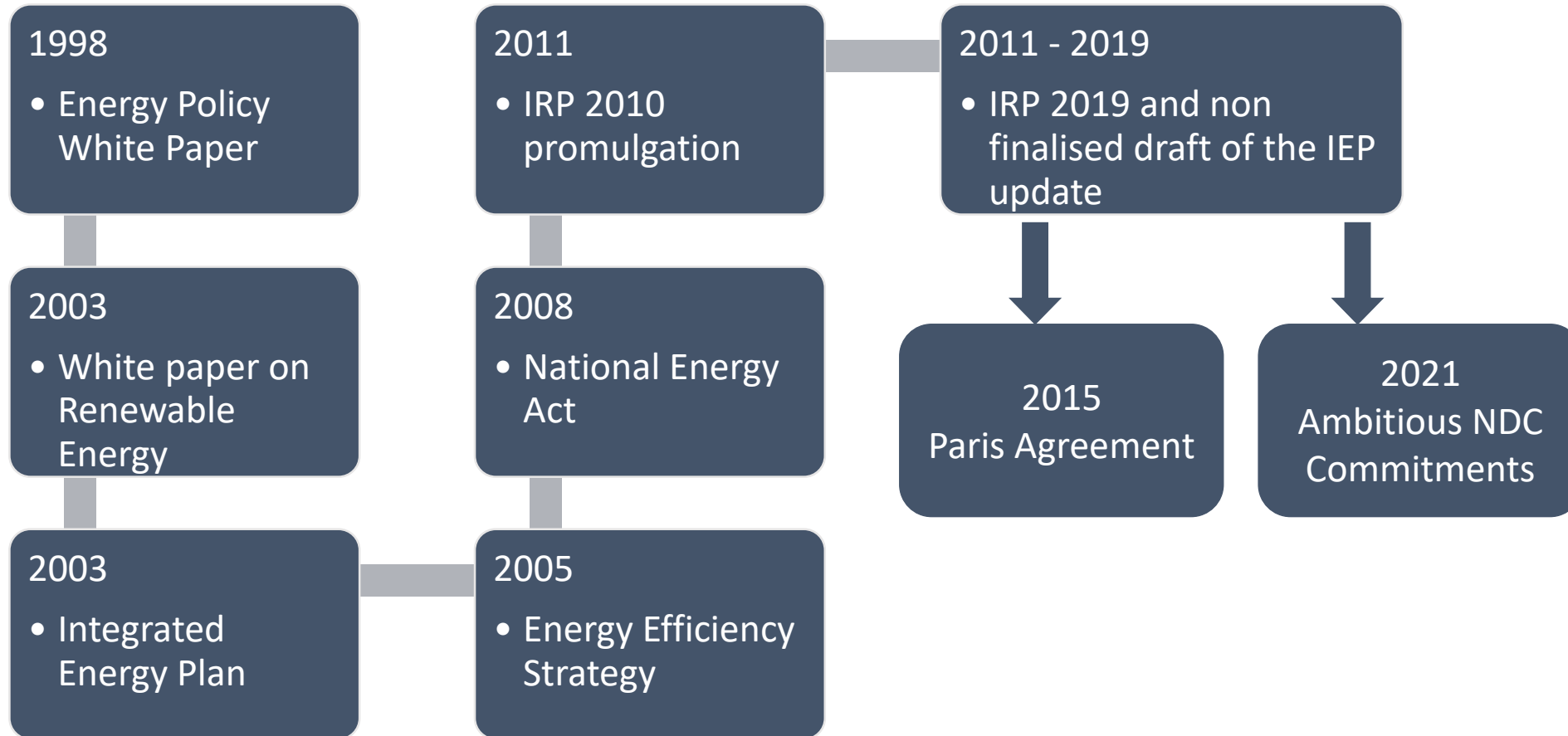
- Driving factors
- Founding SA energy policies
- How South Africa responds to the energy crisis
- Policies needed to secure South Africans in the transition process
South African power system size vs. other Developing Countries in 2022 – A Policy Perspective for local content through a continental approach
- Energy transition localisation opportunities
- Energy transition politics

Driving factors for energy transition policy requirements

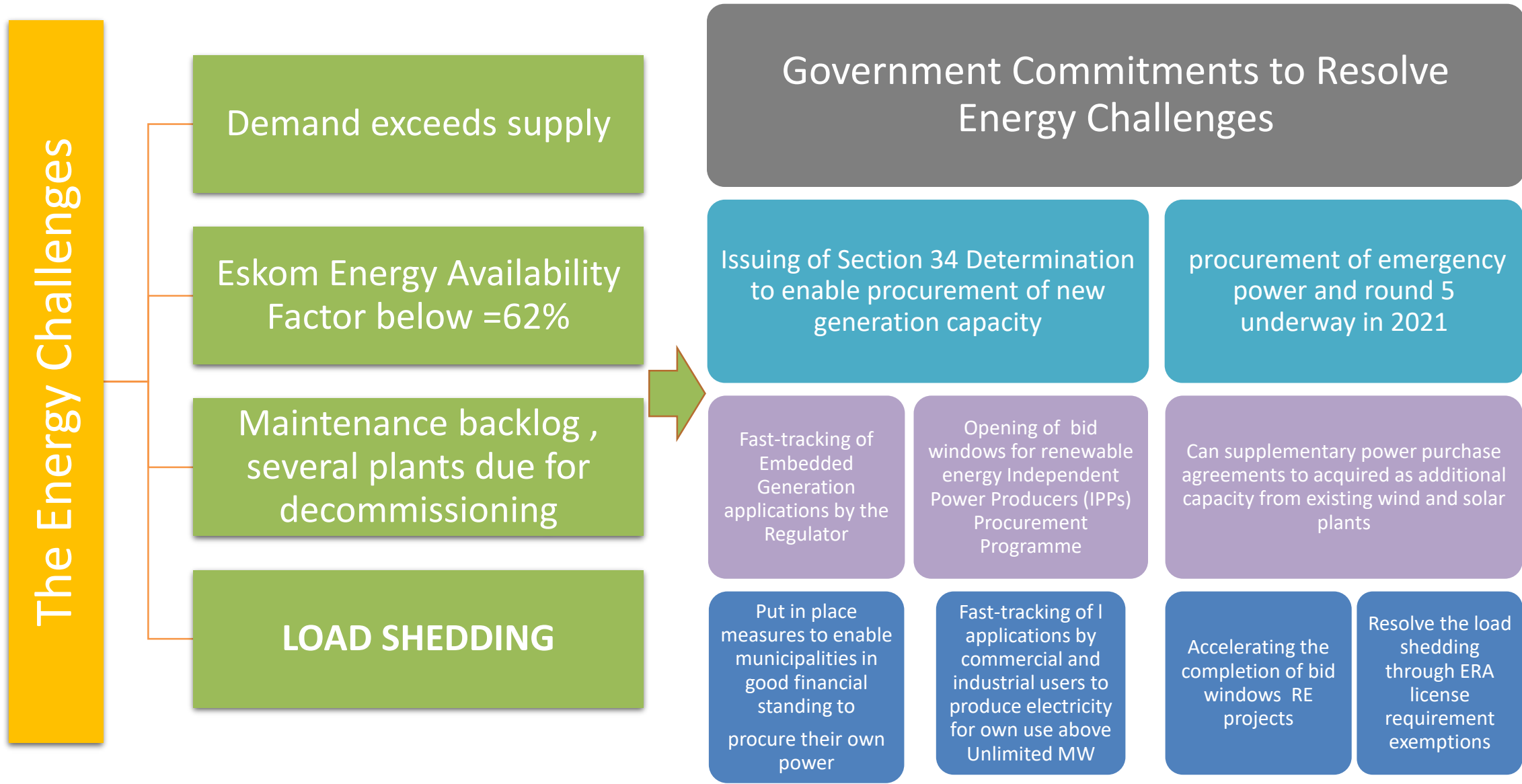
- Aging coal fleet
- The need to reduce the climate change risk
- Cheap renewable energy resources
- 2021 NDCs ambitious commitments made during COP26



Foundational policy landscape informing energy sector transition

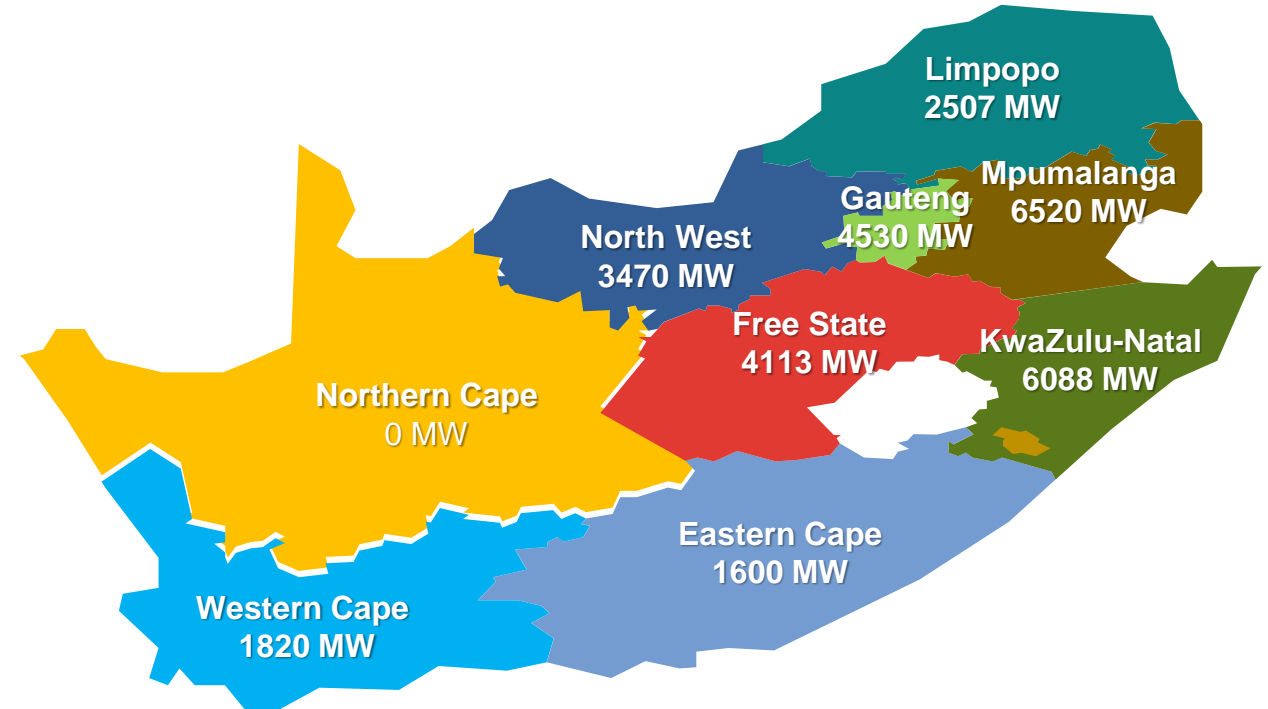
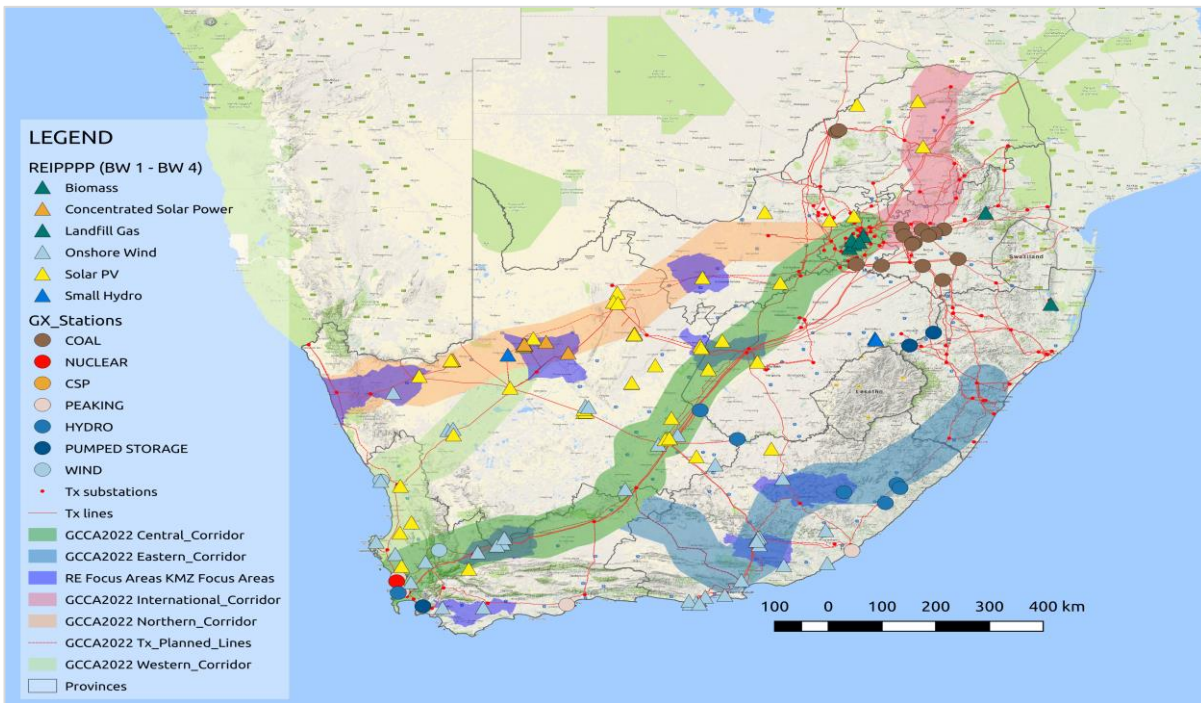


How South Africa responds to the energy crisis



The transition is inevitable

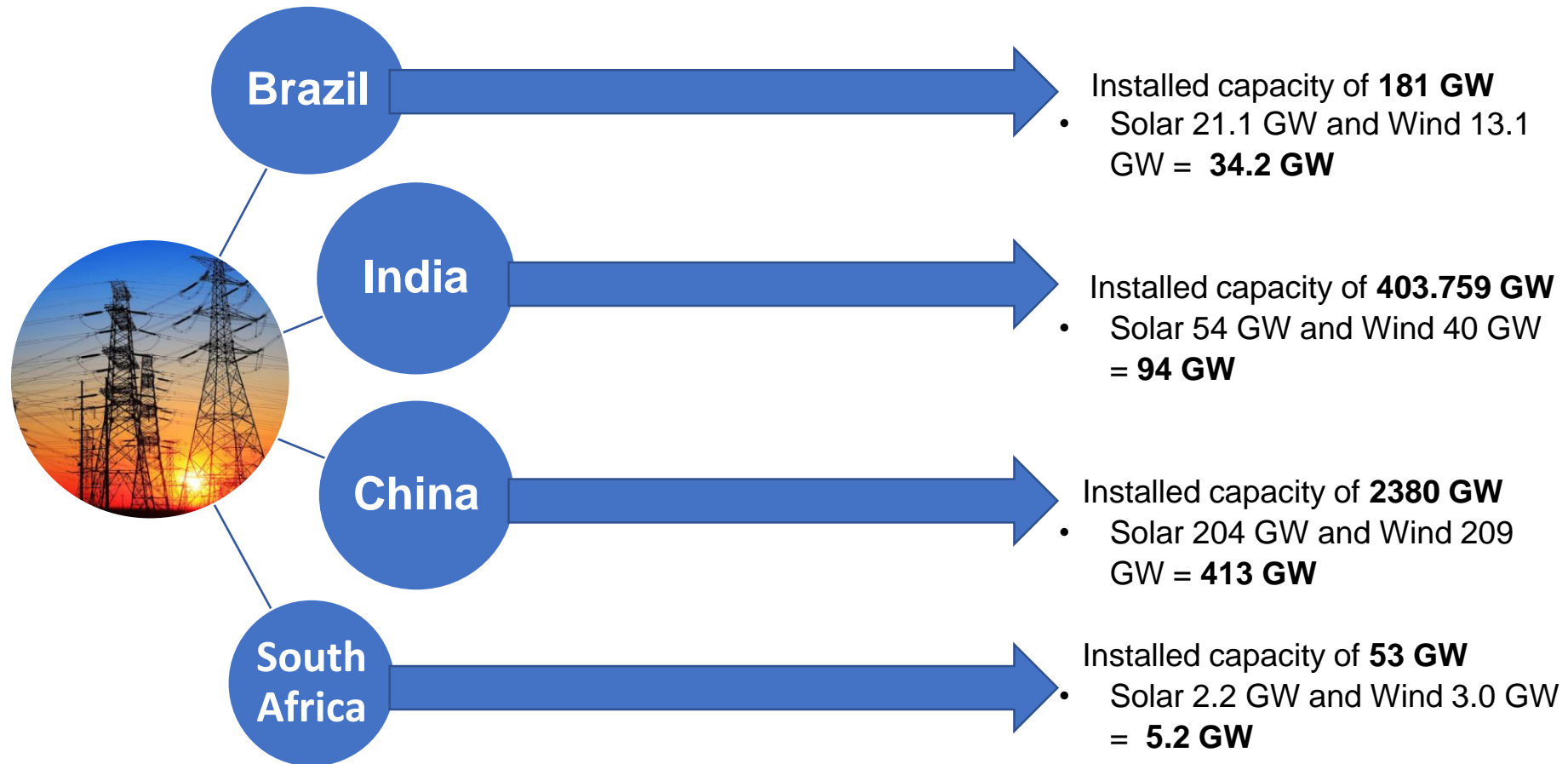
Policies needed to secure South Africans in the transition process



- Climate change risk management (Environmental and Social Justice needs)
- 2021 NDCs Commitments implementation with a key focus on adaptation and economic diversification options
- Local manufacturing opportunities and new industry creation (Cheap RE electricity cannot be an opportunity cost for advancing local content)
- Managing competition implications among Independent Power Producers which drives an unjust energy transition)
- Developing funding structures for a Just Transition (SP Funds)
- Load-shedding pressure should not exacerbate unjust transition (Amendments on ERA)
- Energy enabling infrastructure planning and implementation

South African power system size vs. other Developing Countries in 2022

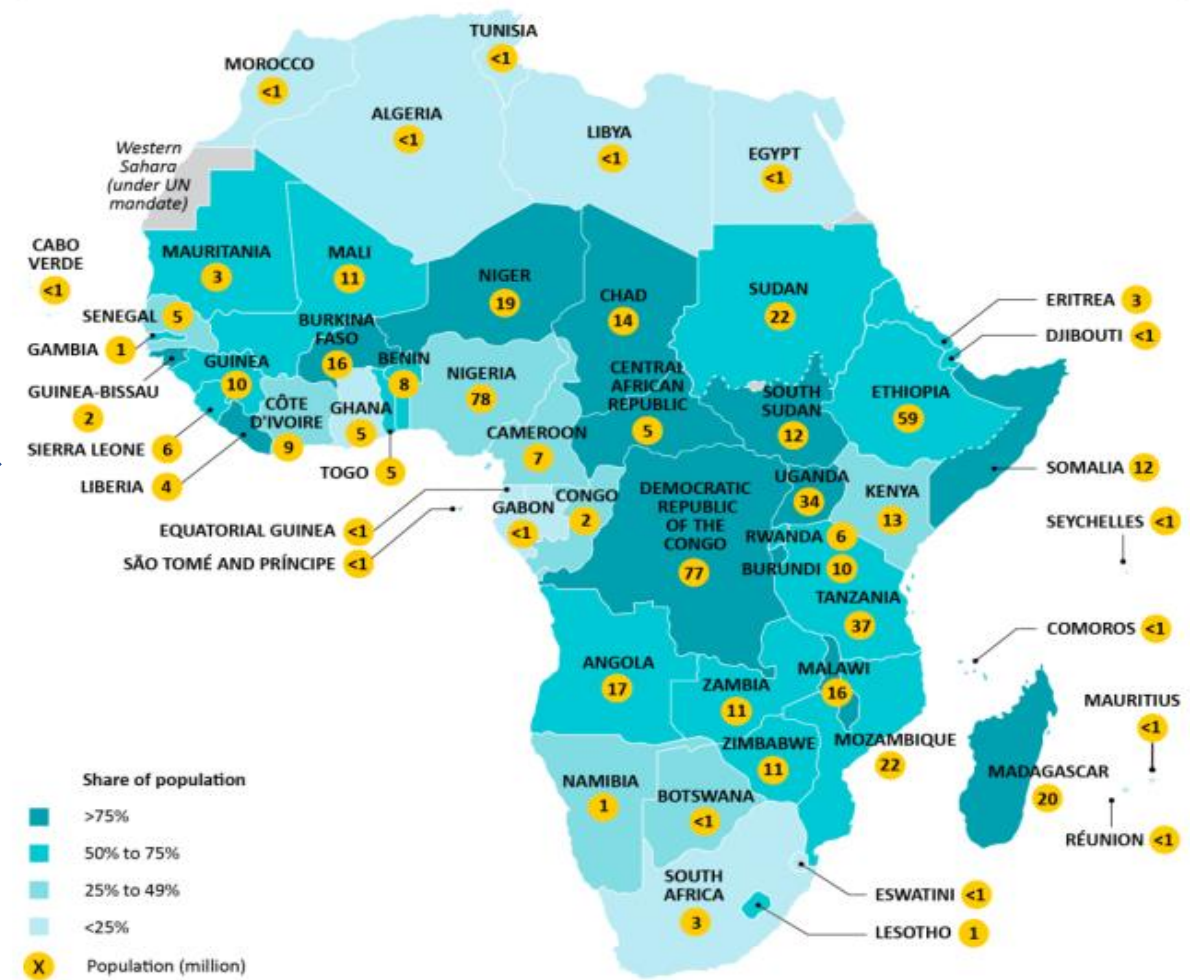
A Policy Perspective for local content through a continental approach



South African power system size vs. other Developing Countries in 2022 Cont.

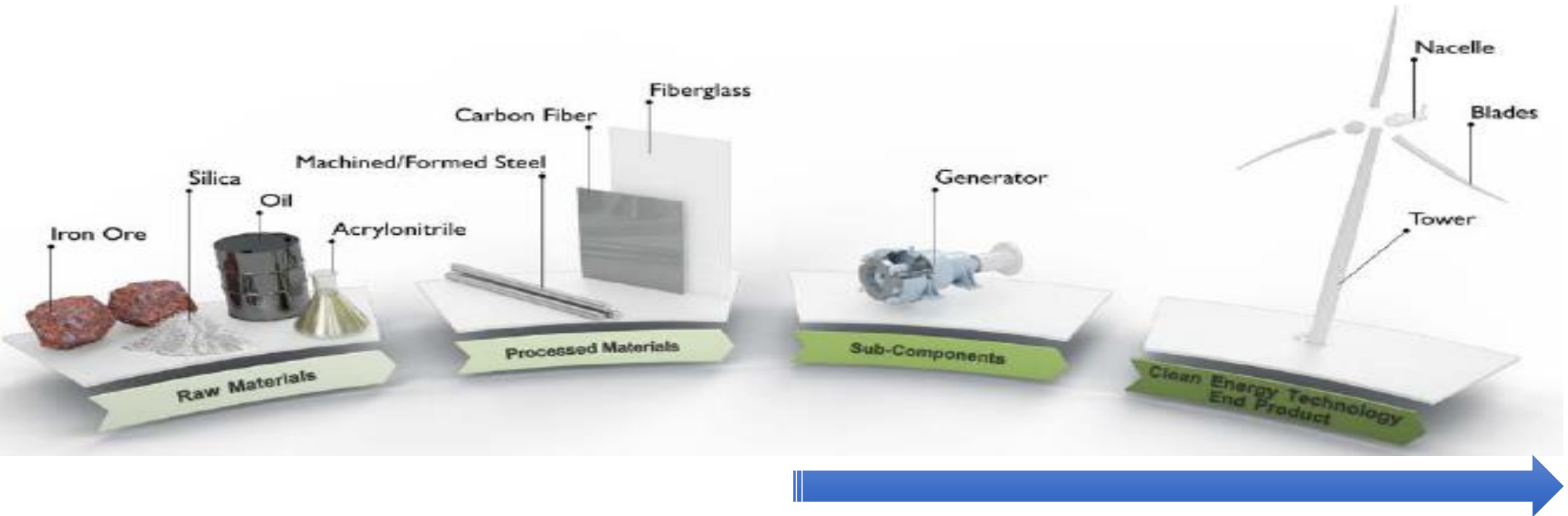
A Policy Perspective for local content through a continental approach

South African local content policy could leverage the 55% lack of energy access in the African Market since the SA power system is relatively small

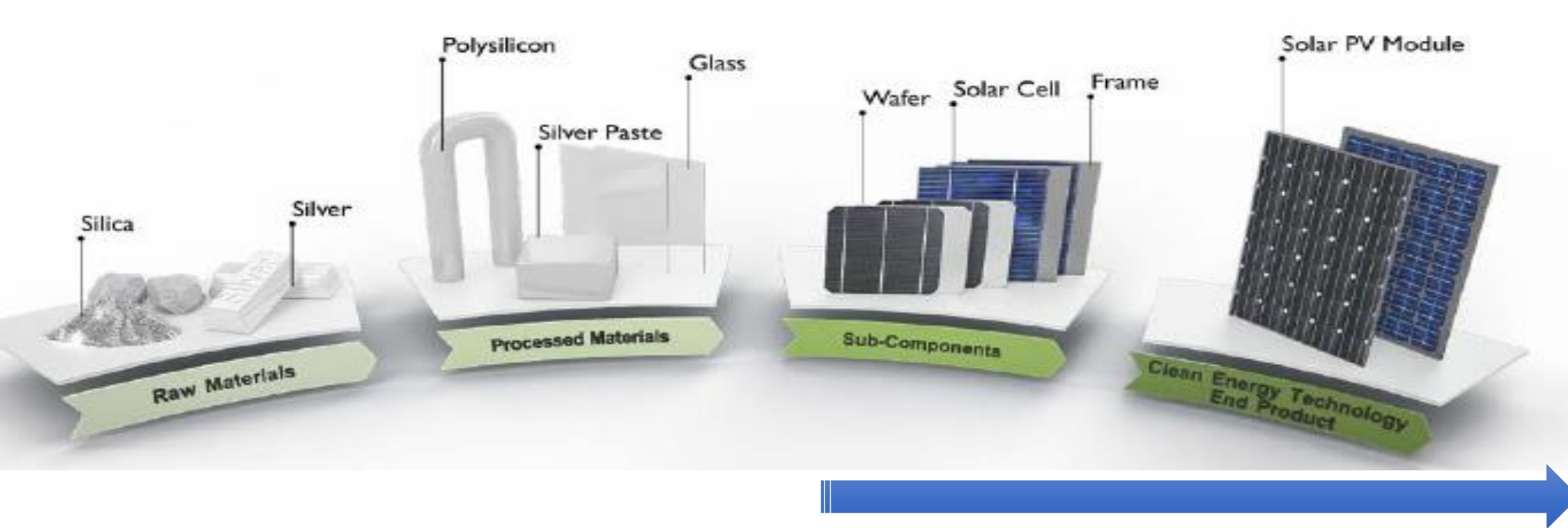


In sub-Saharan Africa 55% of people lack access to electricity; in thirteen countries, more than three-quarters of the population do not have access to electricity

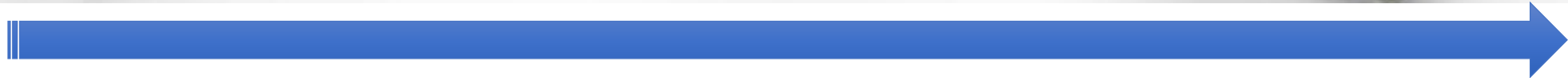
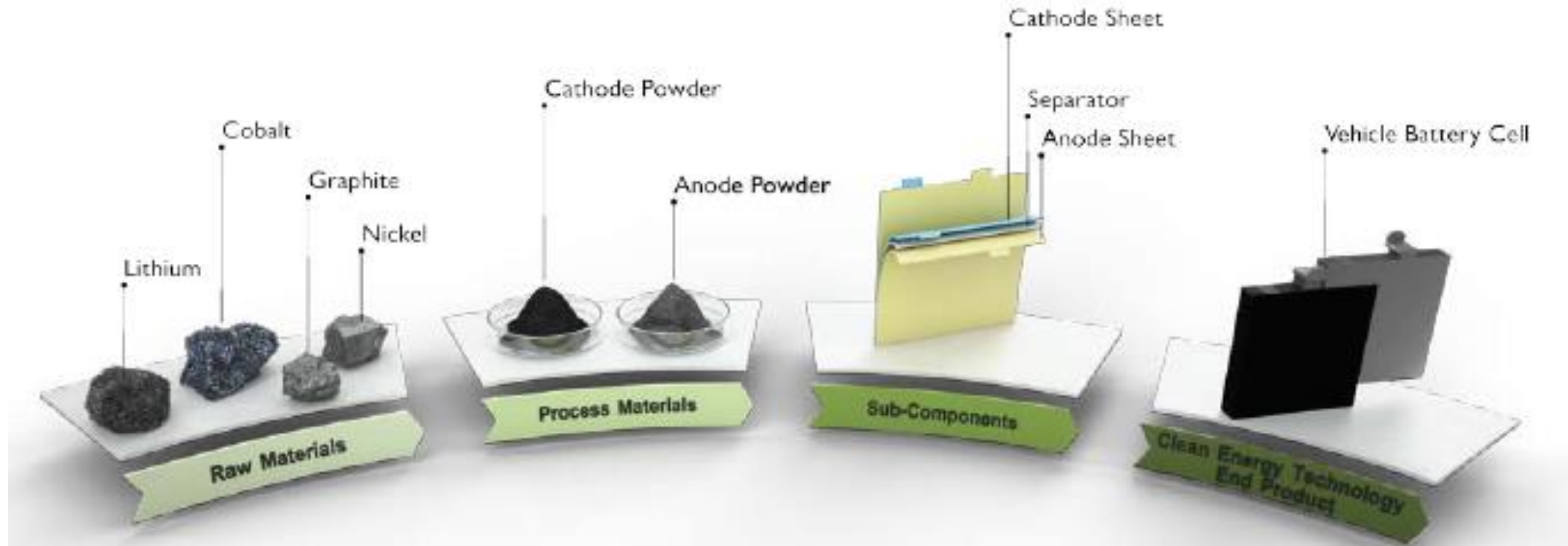
Energy transition localisation opportunities – Wind power



Energy transition localisation opportunities – Solar PV



Energy transition localisation opportunities – Battery Storage



Energy Transition Politics

Jobs & Skills

Cost of Technologies

Variable resource vs baseload

Vested Interests

Ownership - Privatisation

Lobby Groups

Choice of Technologies Coal vs RE vs Nuclear

Trade Unions

Energy Politics

Bottlenecks in the South African energy transition

Over 90% of renewable energy jobs are temporal – Value chain different from coal

Localisation of energy technologies also means that the cost of electricity would increase;

The South African electricity sector is not big enough to justify economies of scale (i.e., approximately about 53 GW)

Climate science models show that there need to reduce carbon emissions is more urgent as the global air temperatures may rise by more than 1.5°C in 20 years.

Limited policy and funding to support South African economic diversification options and opportunities in new industries



Thank you for your attention

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