



Wednesday, 4 November 2020



#SAIIAFutures #SADCeVolution
#EVs

Futures of SADC e-Mobility:

Systemic Innovation and Just, Green Recovery Pathways in the Mining-Energy-Transport Nexus

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E-Mobility is changing how we

- **interact with vehicles**
- **use energy**
- **extract resources**

SADC e-Mobility Scenarios: Pathways beyond the ICE Age

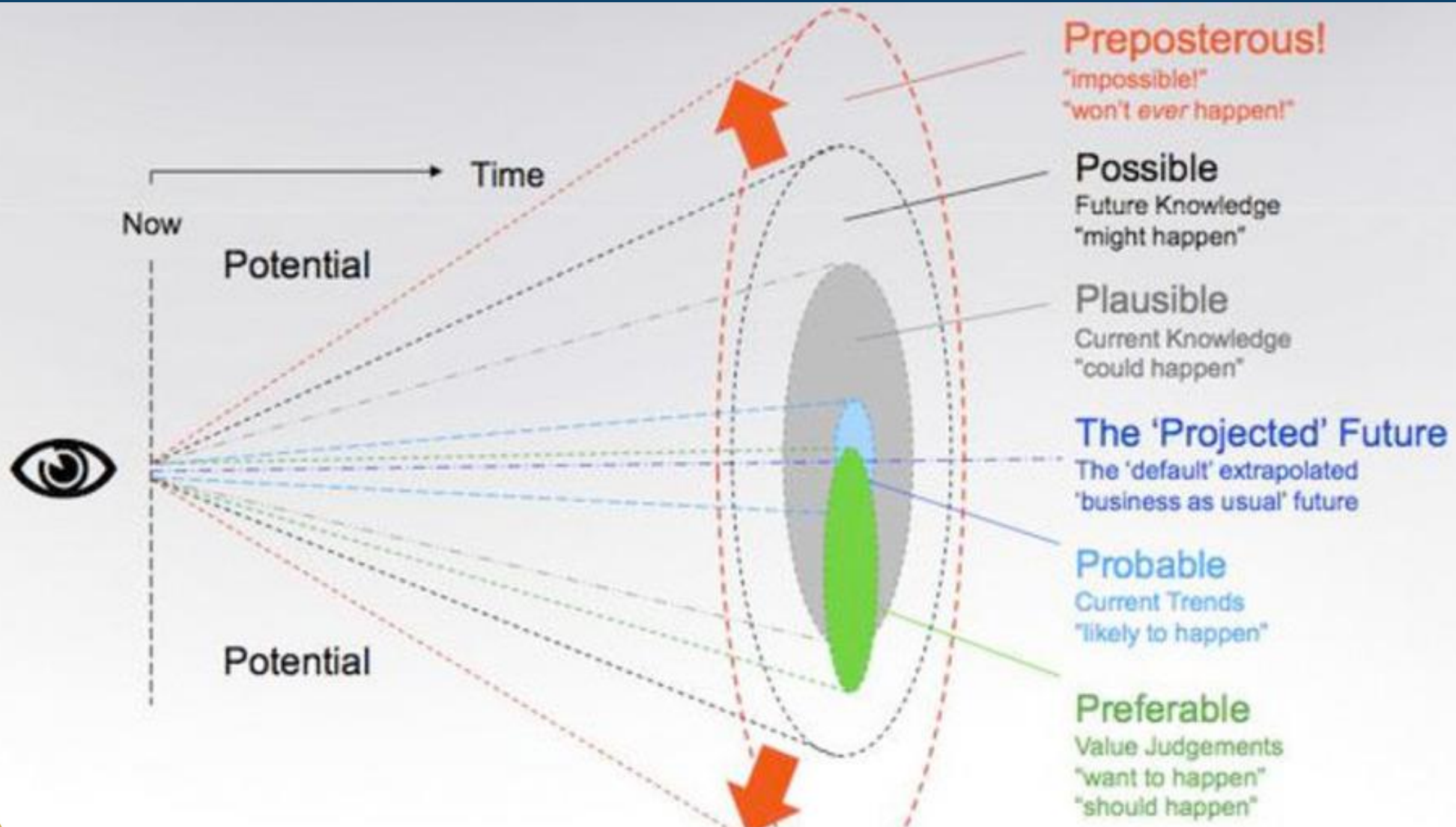
Key Findings and Recommendations

Dr Deon Cloete, Neuma Grobbelaar, Talitha Bertelsmann-Scott



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Futures Literacy & Foresight: Using the Future



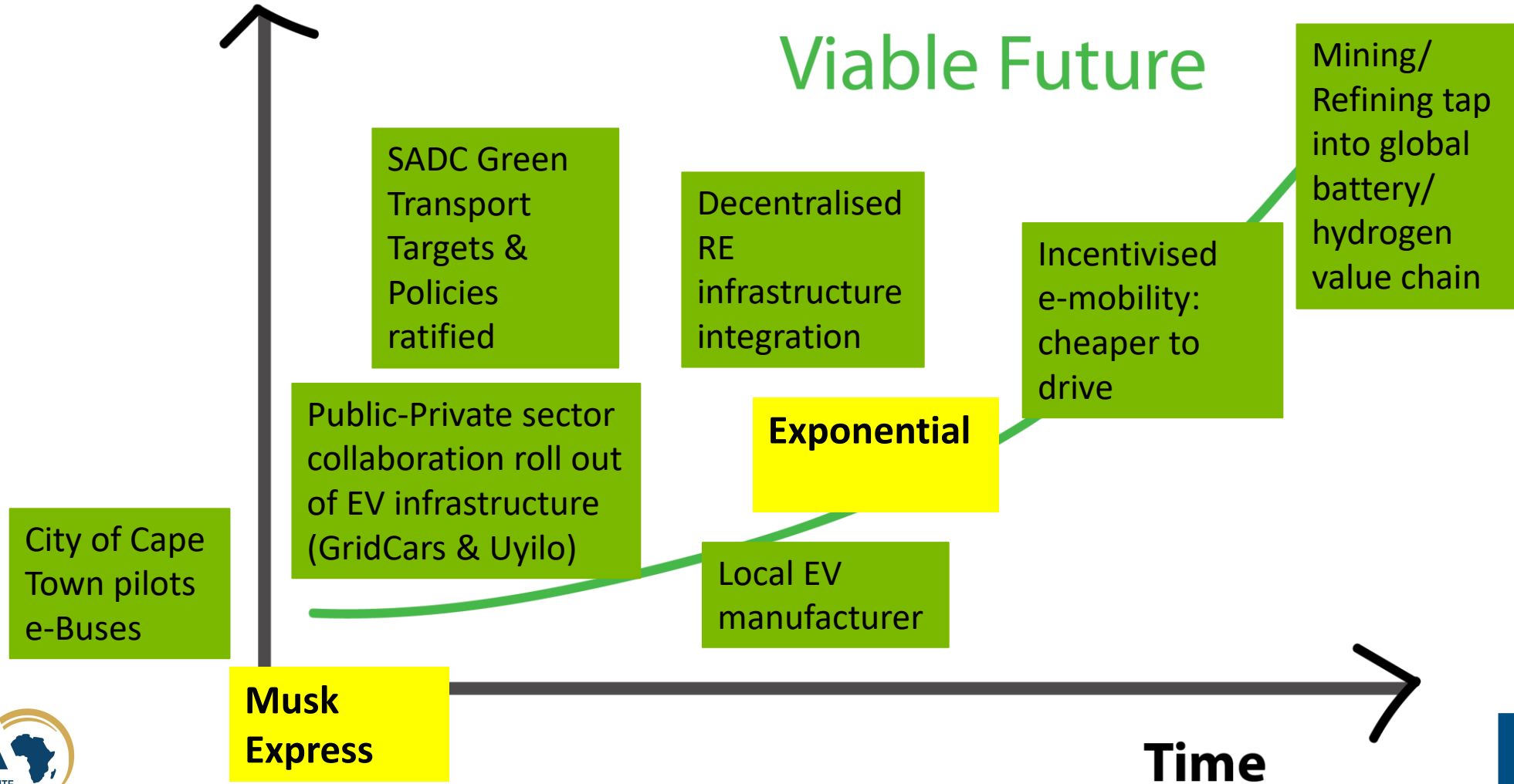
Prevalence
(Dominant
Approach/Mindset)

Horizon 3: Preferable Future

'Happy Days'

Vision of a
Viable Future

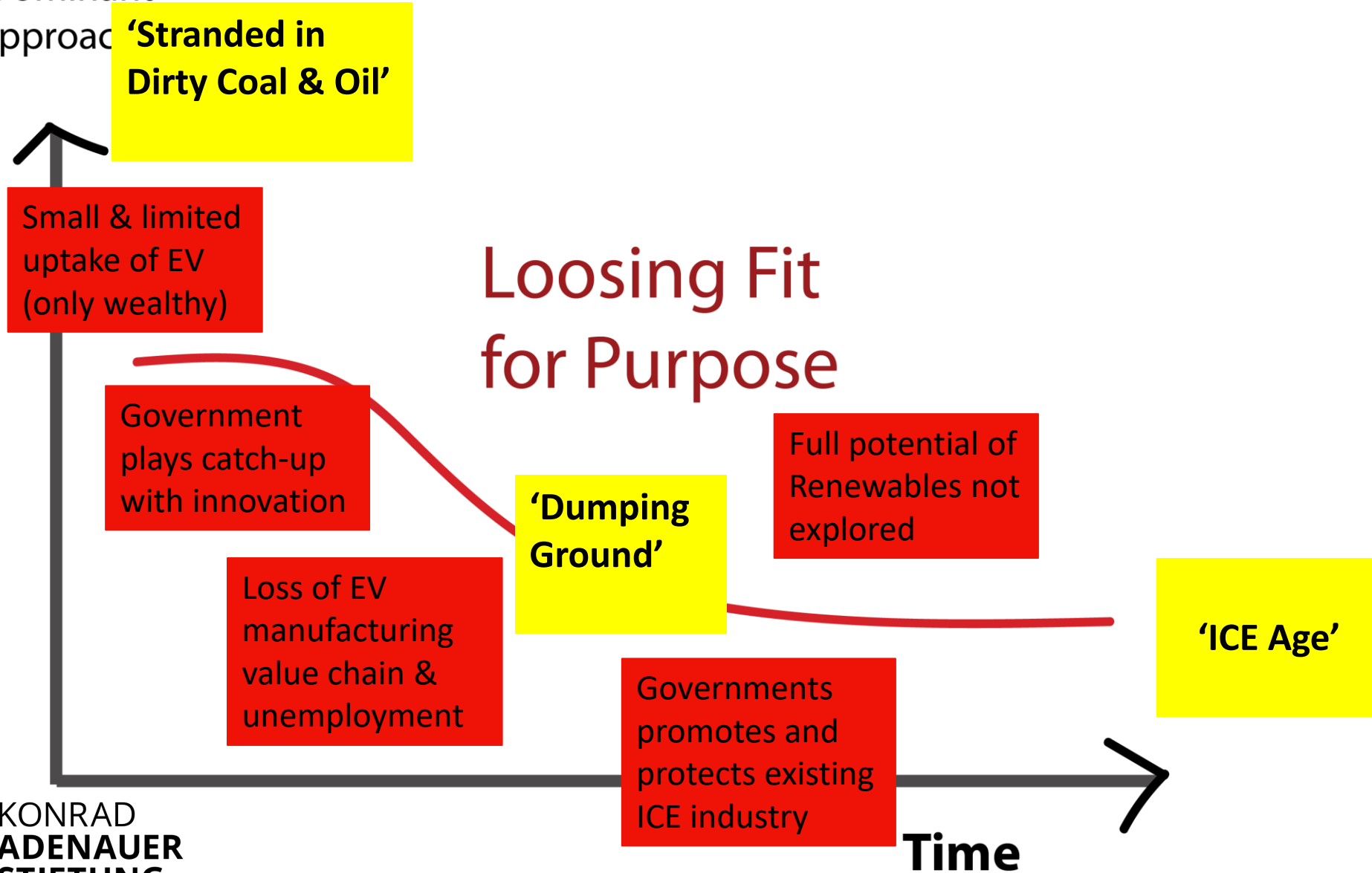
Systemic
Equity,
Multimodal
Mobility



Prevalence

(Dominant Approach)

Horizon 1: Business As Usual



'Stranded in Dirty Coal & Oil'

Small & limited uptake of EV (only wealthy)

Government plays catch-up with innovation

Loss of EV manufacturing value chain & unemployment

'Dumping Ground'

Governments promotes and protects existing ICE industry

Full potential of Renewables not explored

'ICE Age'

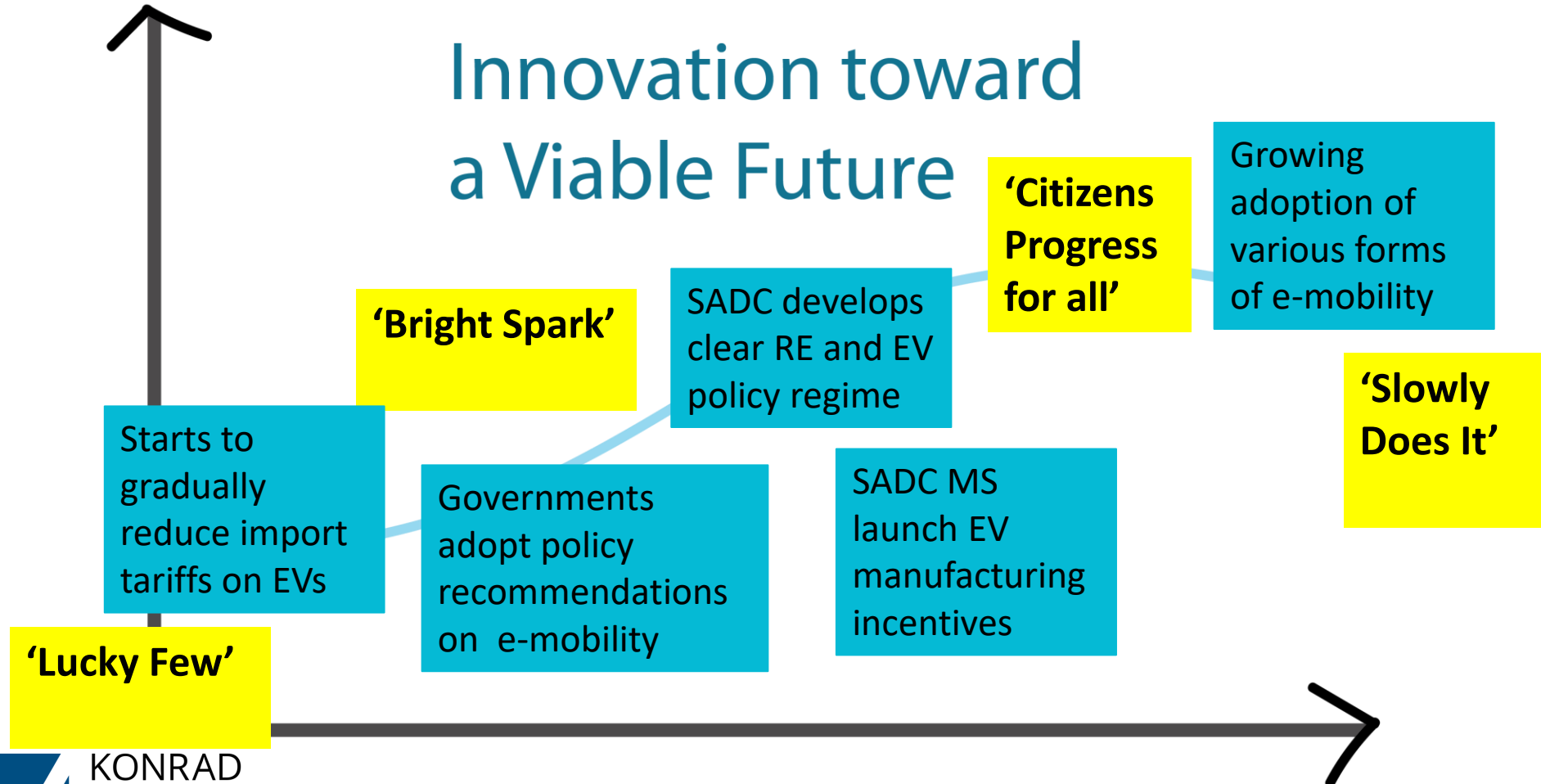
Loosing Fit for Purpose

Time

Prevalence
(Dominant
Approach/Mindset)

Horizon 2: Systems Innovations

Innovation toward
a Viable Future



Time

SADC Automobile Futures: Towards Just e-Mobility Transitions

Key Findings and Recommendations

Dr Deon Cloete

Lead SAIIA Futures Programme

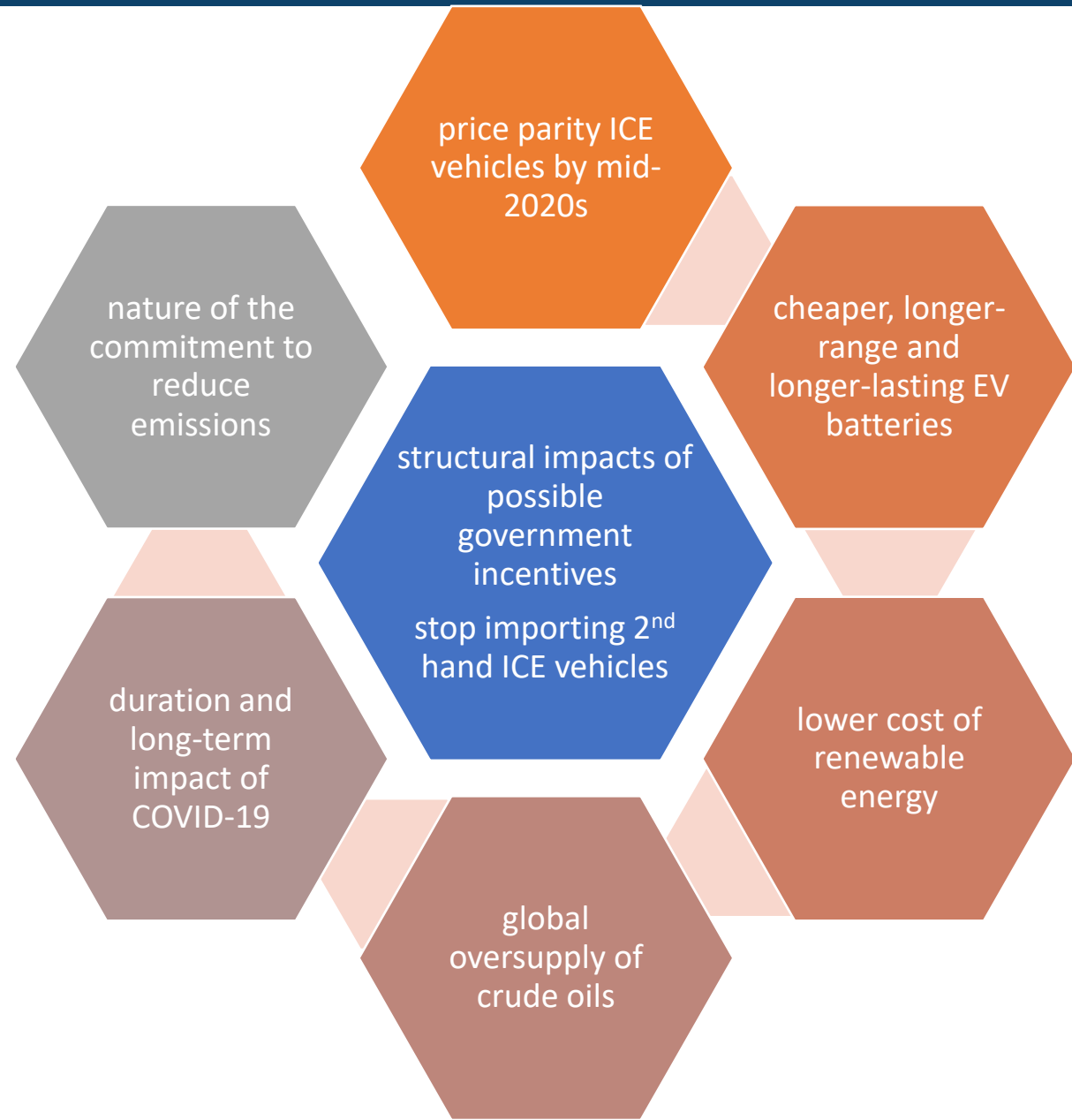
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SADC e-Mobility futures



- ability to respond rapidly to an increase in electricity demand
- demand for vehicles is high owing to long distances in many rural areas

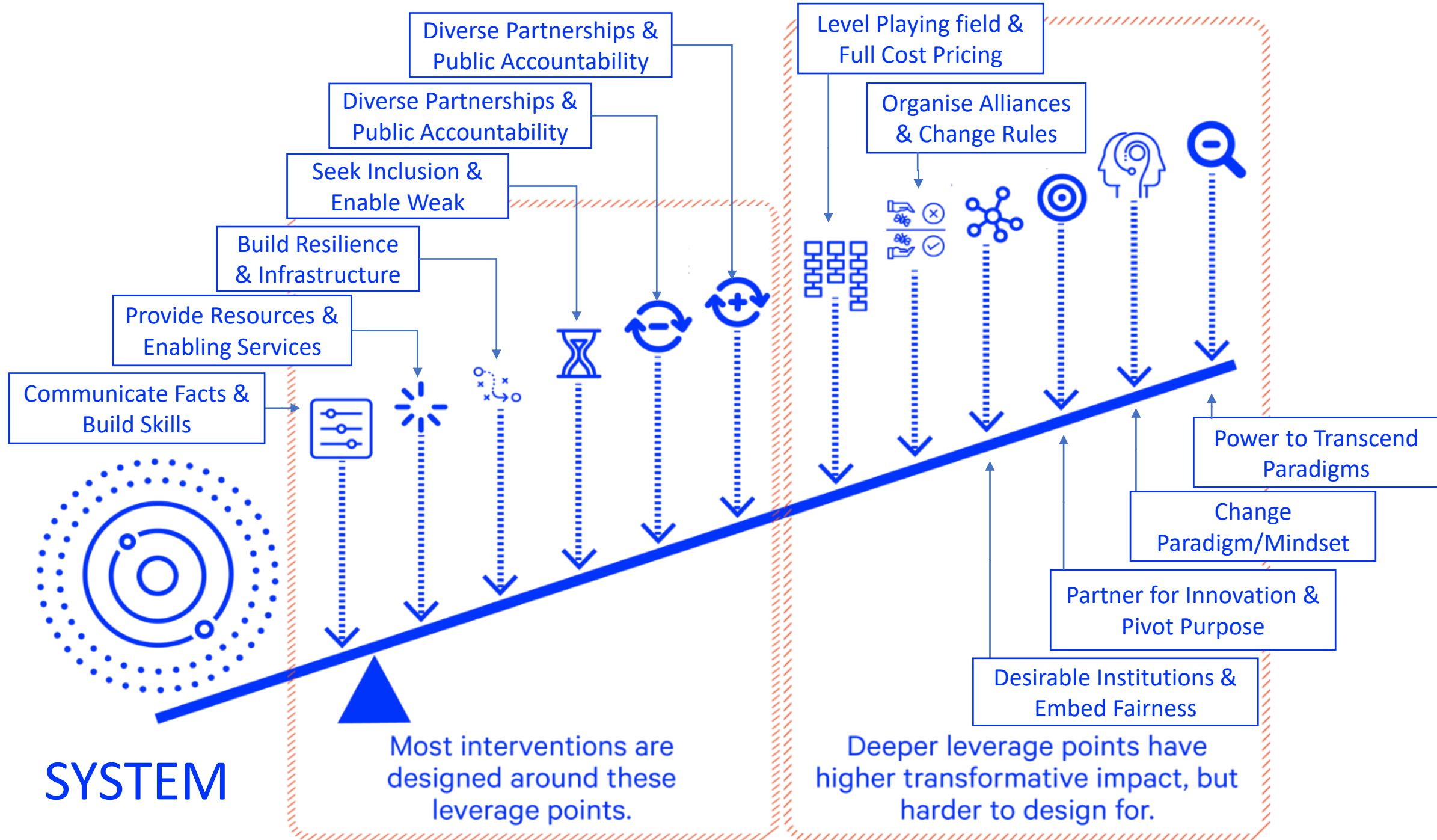
SADC Futures of e-Mobility: EVs as Enablers of a New Energy Paradigm

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SYSTEM

Most interventions are designed around these leverage points.

Deeper leverage points have higher transformative impact, but harder to design for.

Diverse Partnerships & Public Accountability

Diverse Partnerships & Public Accountability

Seek Inclusion & Enable Weak

Build Resilience & Infrastructure

Provide Resources & Enabling Services

Communicate Facts & Build Skills

Level Playing field & Full Cost Pricing

Organise Alliances & Change Rules

Desirable Institutions & Embed Fairness

Partner for Innovation & Pivot Purpose

Change Paradigm/Mindset

Power to Transcend Paradigms

Five Systemic Innovations toward a New Energy Paradigm

- 1** Automakers Become Energy Companies, Utilities Adopts E-mobility Battery Leasing Models
- 2** Utilities become the partner of less powerful actors through EV enabled demand-side response (DSR) services
- 3** From centralised electricity consumers to prosumers, peer-to-peer traders, micro-generators, and dynamic localised distributed energy resources (DERs) networks
- 4** From analogue carbon-based energy to digitalised low carbon distributed electricity systems
- 5** Electrical and Technical Jobs Replace Many ICE Auto Industry Jobs



From climate emergency to SADC Green New Deal as a prominent feature of Post-COVID-19 green recovery

Electric micromobility as catalyst for regional systemic equity



The private sector should leverage the SADC RISDP 2020–30 to support and collaborate with the Green Economy Coalition and the African Forum on Green Economy



SADC members should endorse the creation of a SADC e-Mobility Alliance hosted by the SADC Business Council and supported by the World Economic Forum's Global New Mobility Coalition



SADC MS should develop multimodal MaaS policies & pilot projects that enable homegrown on-demand ride-hailing, innovative car subscription services, and free-floating micromobility offerings



- Electric micromobility as catalyst for regional systemic equity
- Mobility for Africa Initiative shows that microgrids & LSEVs can counter the elite EV ownership conundrum in Southern Africa

Towards a just regional e-evolution

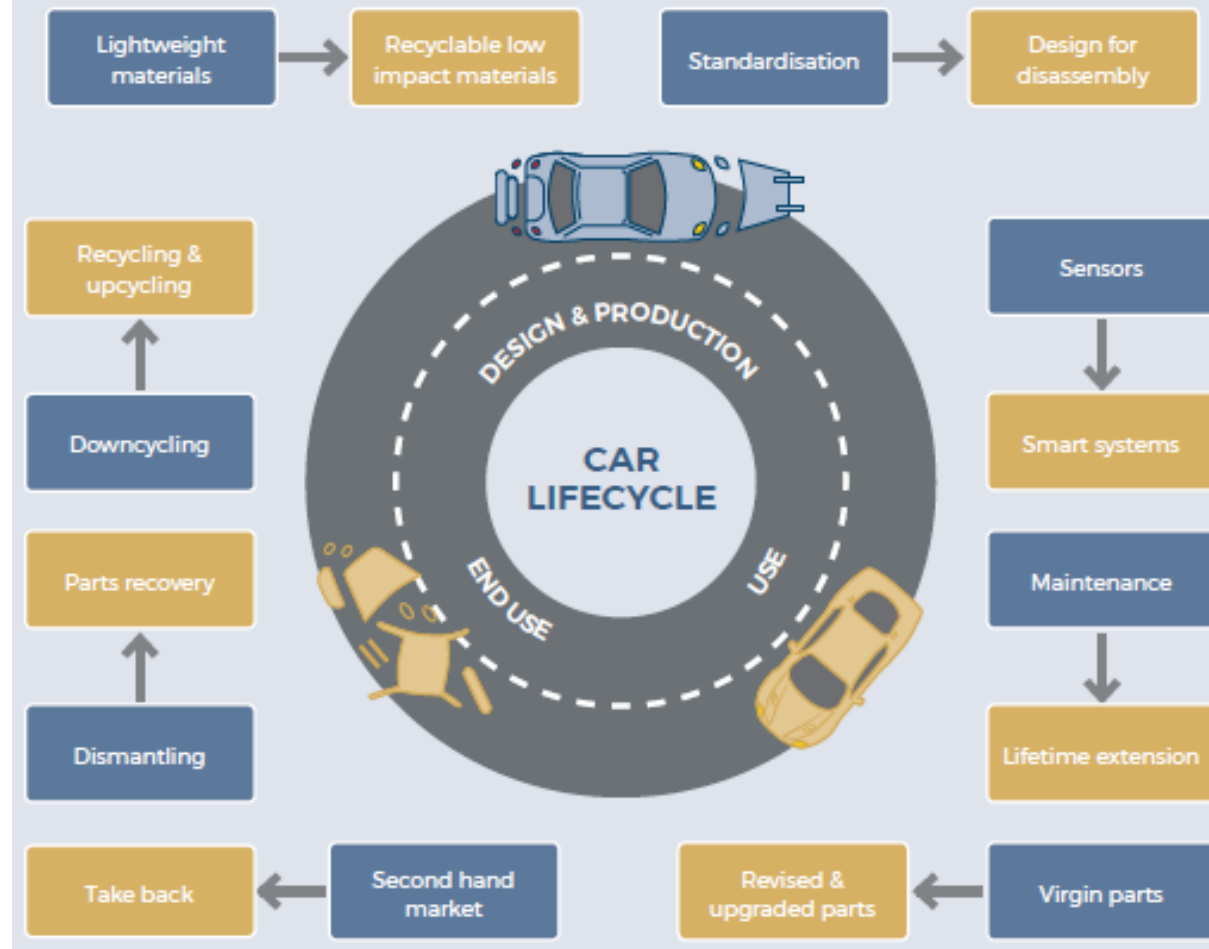


SADC MS should propose that 2nd hand imports of ICE vehicles face higher import duties and taxes, with much lower duties and tax breaks for EV imports and regional e-mobility trade



SADC member states, in collaboration with the SADC Business Council and UNIDO, should develop regional circular economy automotive policies

Figure 1 The circular automobile lifecycle



SADC Futures of Mining: Implications of Large-Scale EV Adoption

Key Findings and Recommendations

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SADC Futures of EV-related minerals and metals

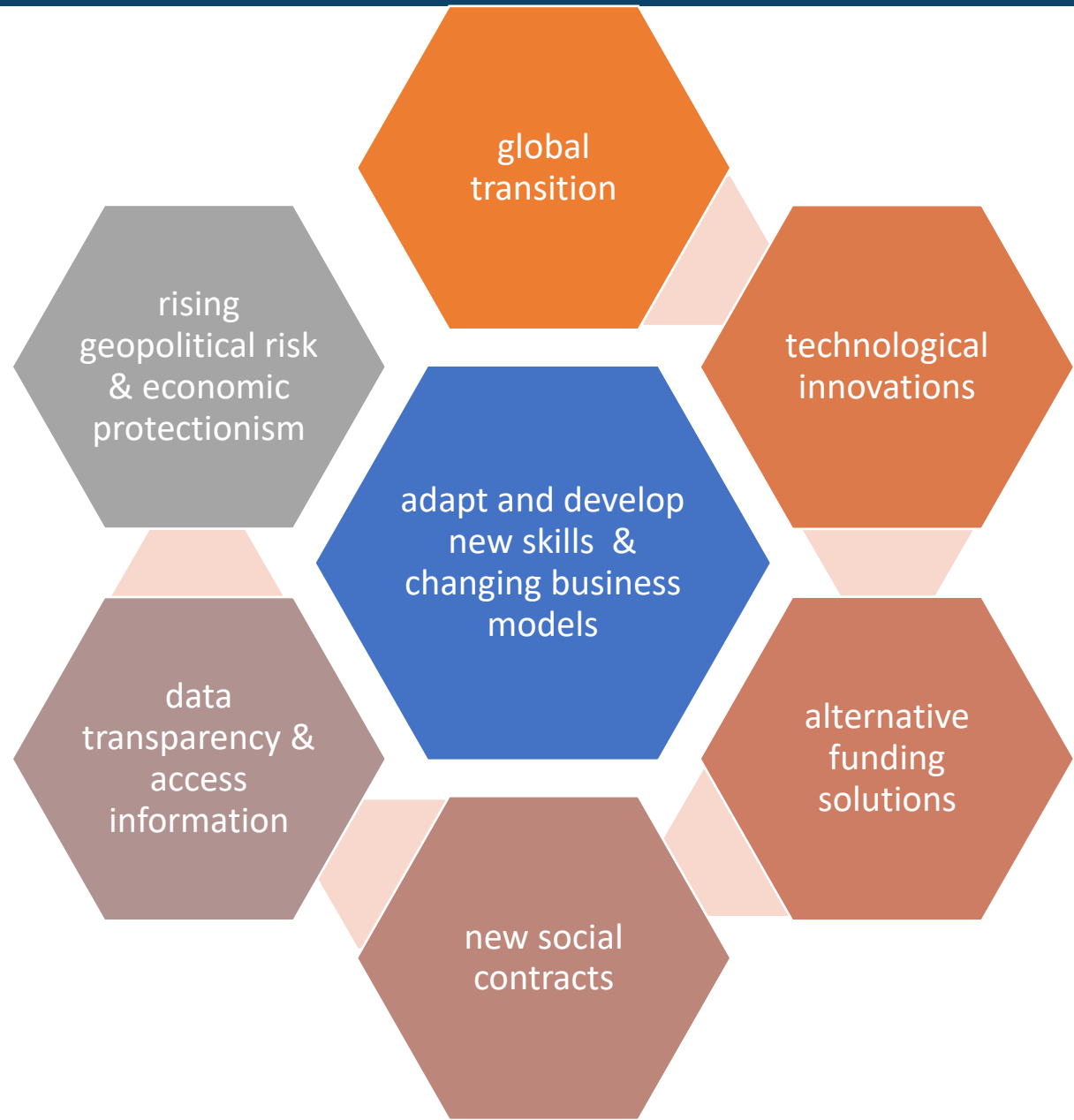
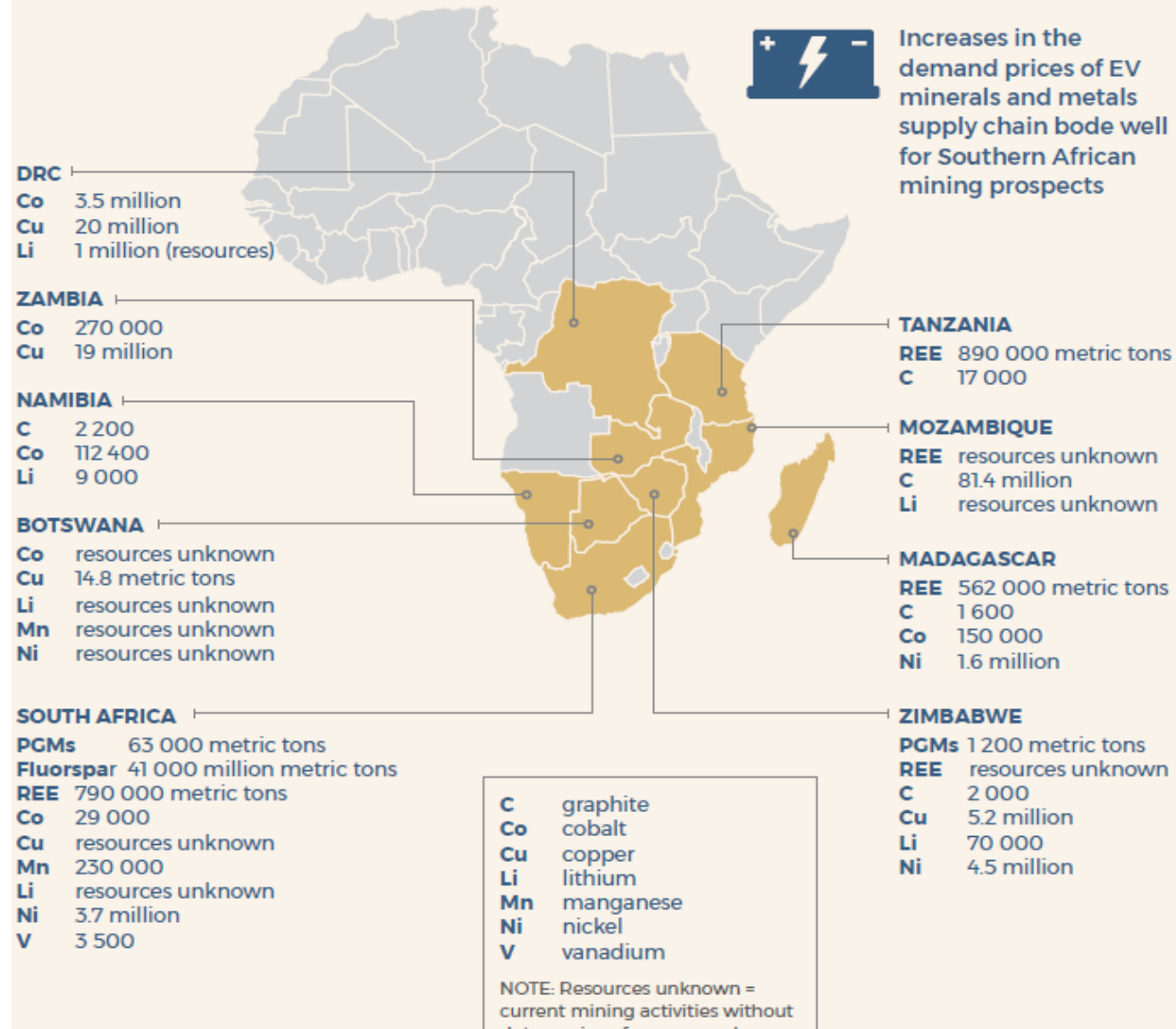


Figure 1 EVMM supply chain reserves in Southern Africa (metric tons)



Building a resilient regional EVMM value chain



To benefit the EVMM industry, SADC member states should broaden their definition of 'local' in local content mining to be equivalent to – and inclusive of – regional collaboration

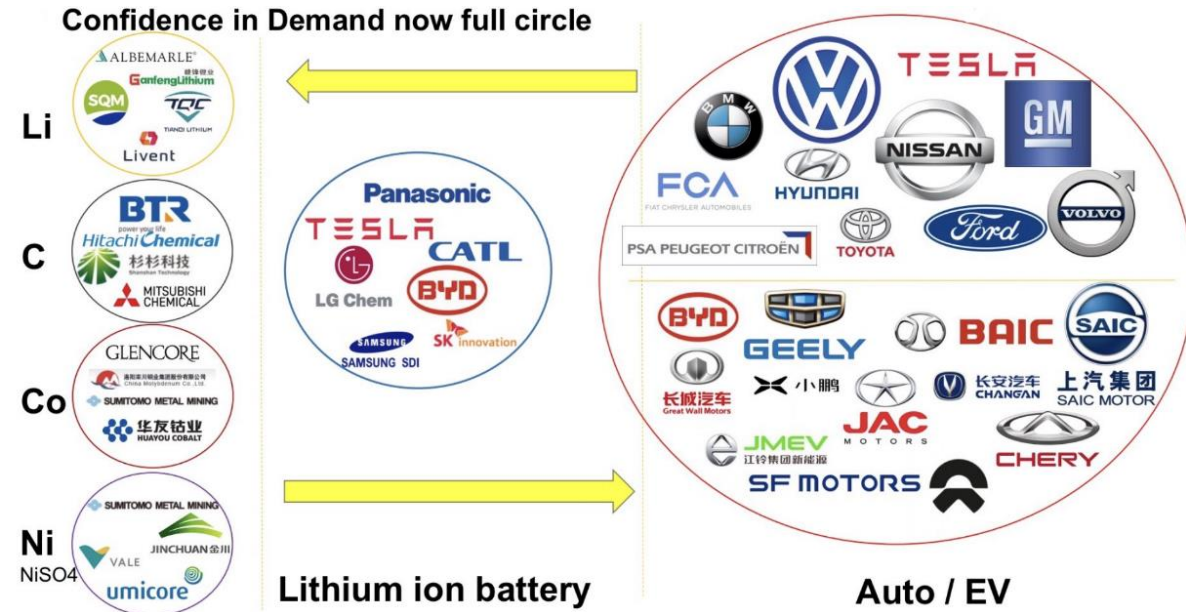


The SADC Business Council, with backing from the SADC Secretariat and member states, should develop a public–private EVMM working group with a programme and activities that support the SADC IDT and Infrastructure and Services directorates



- It is thus recommended that the Mandela Mining Precinct explore establishing an EVMM coalition that can support the SADC Business Council EVMM working group, while also working with a broader set of knowledge partners from across the region

The global EV battery industry supply chain



Source: Benchmark Mineral Intelligence

Ensuring regional EVMM integration and collaboration



SADC states should enhance community ownership and livelihood dividends, and formalise ASM by diversifying their mineral supply chains to incorporate both ethical, formalised ASM and large-scale enterprises.



EVMM industry should increase local content procurement and support the socio-economic development of marginalised mining communities, especially in rural areas.





SADC member states should join 'ethical mineral' schemes like the World Economic Forum's Global Battery Alliance, and establish homegrown collaborations through a 'SADC EVMM Alliance'




The greatest barriers to implementation are the coordination of different intra- and inter-governmental departments and winning industry-wide support.

Towards a just mining transition and low-carbon regional futures

 To enhance low-carbon resource security, an EVMM alliance – in coordination with regional supply chain stakeholders – should stipulate a more extended producer responsibility for products that use low-carbon resources.

 SADC governments should broaden the definition of ‘waste’ in waste policies beyond the narrow focus on primary production waste to include a circular economy approach guided by the Extractive Industries Transparency Initiative

 SADC governments should institute legislation for more efficient treatment and measurement of mineral and metals waste, which would also benefit mining companies as it means efficient energy use.



Source: Mining News, TOMRA Sorting Mining



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Thank you!