

Short term priorities and Critical international enablers towards Net Zero

Policy Lessons learned from South Africa

6-7th October

DDP Workshop (online)

Question 2

What are the **corresponding actual short-term strategic policy actions**, by actual existing government and others, that will lead to implementation of these techno-economic measures by real-world actors including government, private sector companies, investors?

For a decade

Worsening severe poverty ~50% of population

Worsening severe unemployment ~44%

*An **increasingly severe electricity supply shortage of some 4-8GW**; the 85% coal-based electricity generation system of some 40GW cannot cover costs and is in financial crisis*

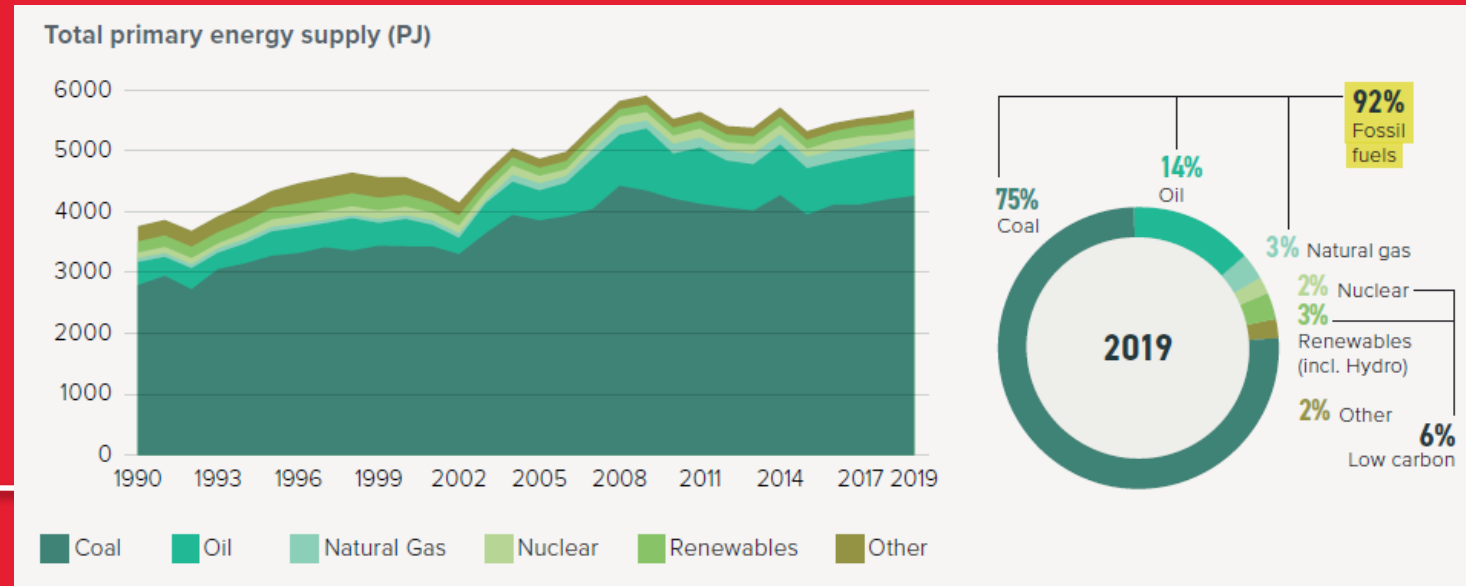
→ Crippling the economy

*Bankruptcy** of national electricity monopoly Eskom cited by a number of organisations (IMF, WB, SA National Treasury) as South Africa's biggest single structural economic risk*

***To remain liquid Eskom requires huge annual bailouts from its sole shareholder, national government*

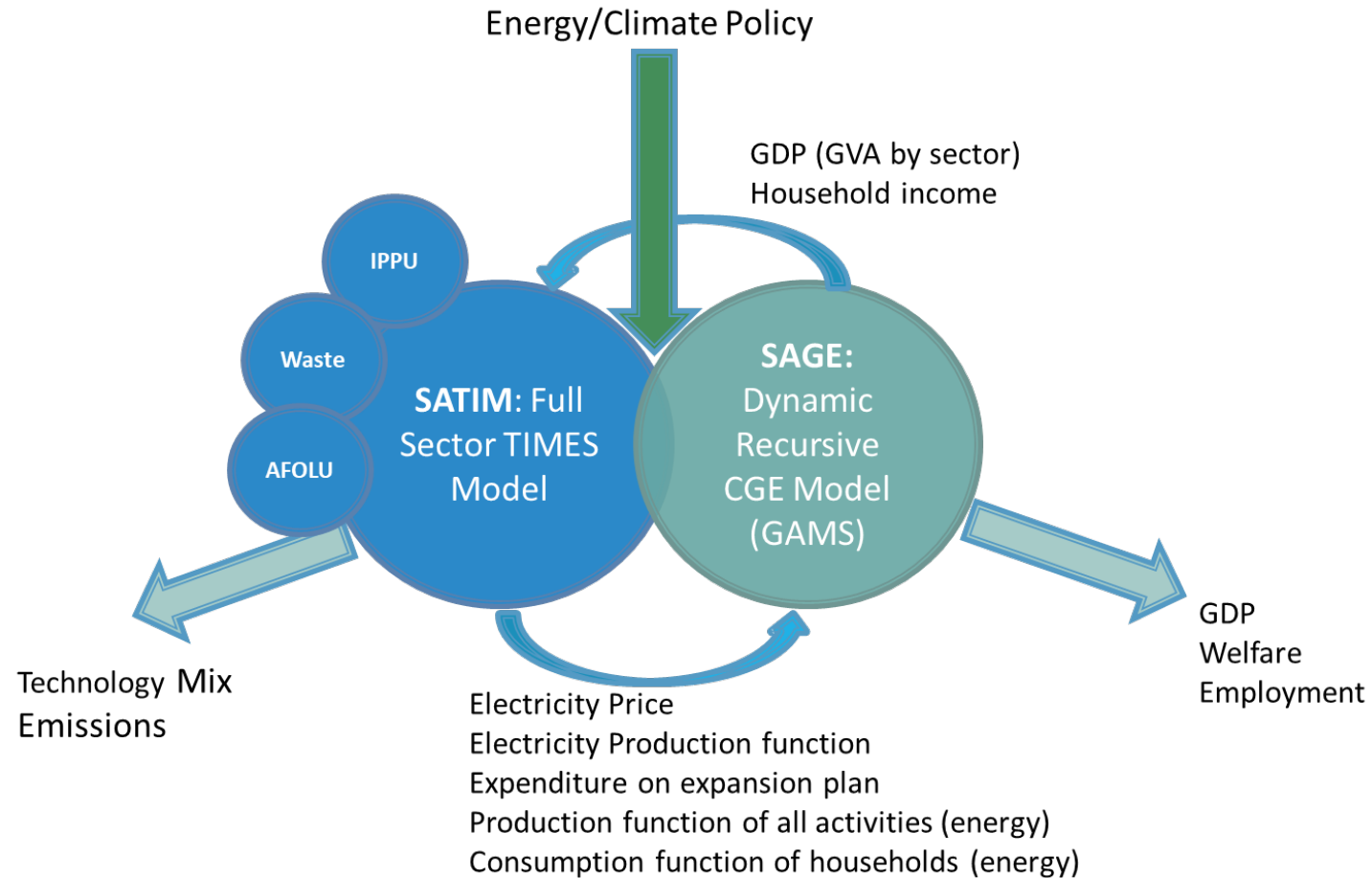
Context

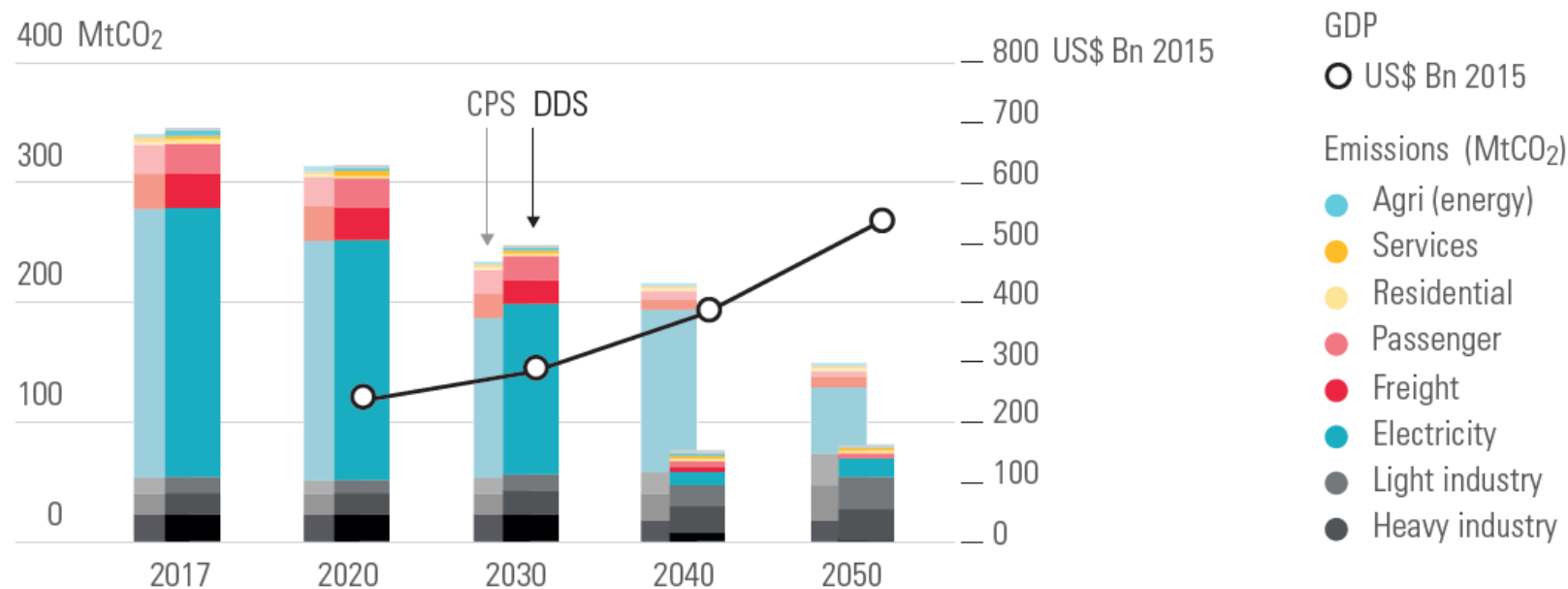
- South Africa is highly coal dependent
- Large scale unemployment (~41% for youth)
- Economic growth has been stagnant for years
- Emissions intensive; mostly in the **power sector**
- RE costs have declined, coal costs have increased
- Abundant solar and wind resources



Climate Transparency 2020

SATIMGE:
energy and
economy model





Current Policy Scenario: emissions decline (IRP build plan includes a lot of RE)

Deep Dive Scenario: similar to 2030

GDP to 2050 not impacting significantly

*South Africa has the legal, regulatory, institutional, technical and financial** capacity to implement renewable energy at the scale required until 2030*

This system has been made to work in the past when political issues are resolved

REI4P Renewable Energy Independent Power Producer Programme 2011-2015 → large amounts of renewable energy added to grid of a virtually zero base in 4 years

Government maintains a tight top-down Command & Control institutional grip on electricity supply

National government controls all additions of generation capacity to the grid via the Department of Mineral Resources and Energy - DMRE

New generation is allowed onto the grid via a two-step process tightly controlled by the Electricity Regulation Act (ERA)

***Although Eskom can't currently finance this it can be financed through a private sector independent power producer programme*

The policy implementation system has been paralysed

*REI4P stopped by a combination of coal interests and state-capture in 2015
Implementation paralysis since then*

NO substantial new generation contracted since 2015

Delays in planning and delays or failure in implementation of official plans

Lots of “action on paper” BUT

No new contracting processes that have actually resulted in new contracts: not in renewable energy, coal or gas despite attempts

Failing risk mitigation independent power producer programme (RMIPPP)

Caught up in fossil vs. renewable energy political economy struggle and (possible) corruption

In addition

Distribution of costs and benefits is a key political problem

Severe social costs a key political problem

Electricity policy and institutional context

What HAS worked so far?

The only two examples of making the system work for substantial renewable energy successes have involved renewable energy implementation (effectively) being taken out of Department of Mineral Resources and Energy

Example 1- REI4P → IPP Office set up outside 'normal DME lines of command'

*Example 2 - A **dedicated new function inside presidency called Operation Vulindlela recently forced the DMRE into major reform.***

Now allowed for up to 100MW of renewable energy to be connected to grid by independent power producers (IPPs) for wheeling to third parties

Operation Vulindlela (OV) has demonstrated a successful institutional solution to the challenges that the DMRE faces while it continues to carry out both minerals promotion and electricity planning and implementation. This double function exposes it to politically and economically powerful incumbent coal and fossil interests, which have been embroiled in state capture, while at the same time the DMRE has to manage the imperatives of a transition that will involve substantial economic losses for these same interests.

STRATEGIC POLICY ACTION ?

...to urgently begin to get 20GW (at least) of renewable energy into the system according to official IRP2029 within the policy implementation context that has been described

Short term strategic policy actions To put into effect the implementation of the IRP** renewable energy generation

***Operation Vulindlela (OV) to urgently take charge of accelerating renewable energy deployment, as per conclusive techno-economic analysis, to address the power-supply shortage and get onto the DDS
Take charge of DMRE and essentially implement the IRP2019 and accelerate it***

Separate out DME from DMRE

Separate out the energy portfolio from minerals in the Department of Mineral Resources and Energy (DMRE) back into a Department of Energy as structured when the REI4P was launched.

*****The IRP is the official generation expansion plan – a new version was promulgated in 2019 and has 20GW of renewable energy in it, but none of this has been contracted despite the crippling 4-8GW electricity shortage***

The IRP and the DDS are very similar from a renewable energy perspective

Short term strategic policy actions

To put into effect the implementation of the IRP renewable energy generation

Extend renewable energy electricity programme to public and community ownership

To address major economic and political constituencies, programmes that involve state and community ownership need to be added to the existing REI4P, which has been limited to large private corporate ownership of generation assets

Extend renewable energy programme to all types and ownership of generation

Utility-scale, medium-scale distributed and embedded small-scale, public and privately-owned are all elements in an optimally functional system: all need implementation as rapidly as possible

One example:

To address issues of the REI4P being biased towards privatisation, a similar programme to the REI4P can be established where state-owned Eskom can run auctions to achieve efficiencies and competitive prices but Eskom takes public ownership on a build, operate, transfer system once operation is proven at contracted levels

Short term strategic policy actions

To put into effect the implementation of the IRP renewable energy generation

Localisation

Secure state-backed, stable demand for renewable energy generation plant investments to create a 'pipeline of utility scale projects' over the medium term and hence stable demand for renewable energy equipment as a basis for industrial policy to establish a large renewable energy equipment manufacturing industry

Formulate matching/supporting integrated industrial policy for renewable energy equipment manufacturing

*This is where most employment potential is
Can re- invigorate declining manufacturing sector*

Electricity Generation planning

Update the IRP2019 removing any technologies that are not part of a least cost solution unless compelling analysis, publically reviewed by a panel of independent analysts, indicates an acceptable rationale for including these technologies

Short term strategic policy actions To put into effect the implementation of the IRP renewable energy generation

Just transition

The transition from coal to renewable energy, if not well managed, will lead to large un-mitigated social costs and extreme unbalanced distribution of costs and benefits

Severe costs and negative disruptions in concentrated groups of coal industry related workers, communities and companies

Huge benefits to renewable energy related industries and services

*The history of South Africa's extractive economy and current socio-economic conditions **make it especially critical to attend to uneven distribution of costs and benefits of the transition and to cover social costs***

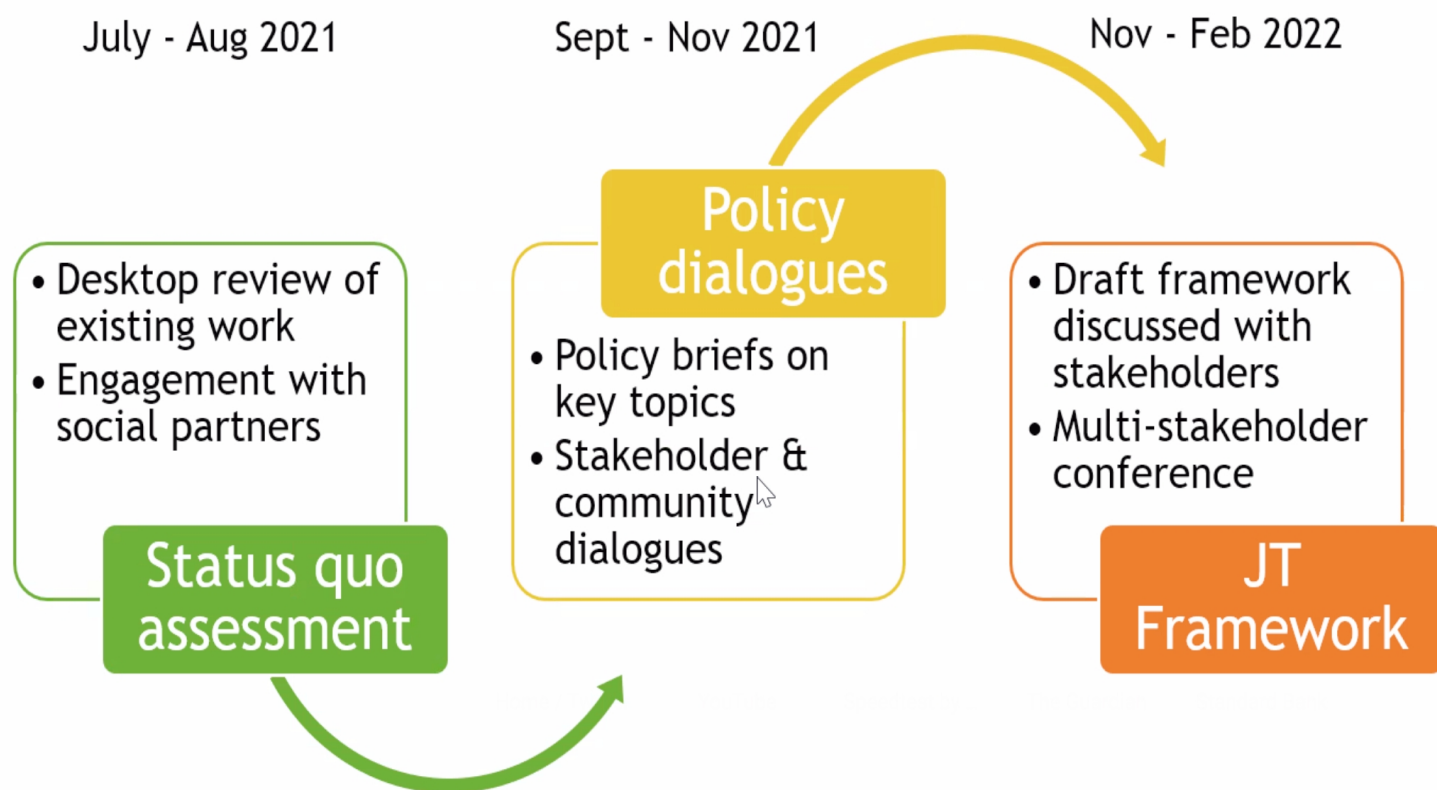
AT LEAST - Need to assess, plan for and cover social costs / transition costs / additional costs from 2030-3040 of R400Bn additional renewable energy investments of DDS above CPS

Short term strategic policy actions To put into effect the implementation of the IRP renewable energy generation

A Just Transition (JT) is being formulated by the Presidential Climate Commission: encompasses:

*Procedural justice
Distributional justice
Restorative justice*

PCC process for developing framework



Short term strategic policy actions To put into effect the implementation of the IRP renewable energy generation

A Just Energy Transition (JET) is being formulated by Eskom

Attempt to solve crippling debt crisis

This is necessary for the electricity transition to succeed

Concessional finance to accelerate coal phase out

A Just Energy Transition Transaction has been promoted by the President and is under development

Keep Eskom finances liquid

Concessional finance

In return for fast coal phase out international financial assistance

Assist with

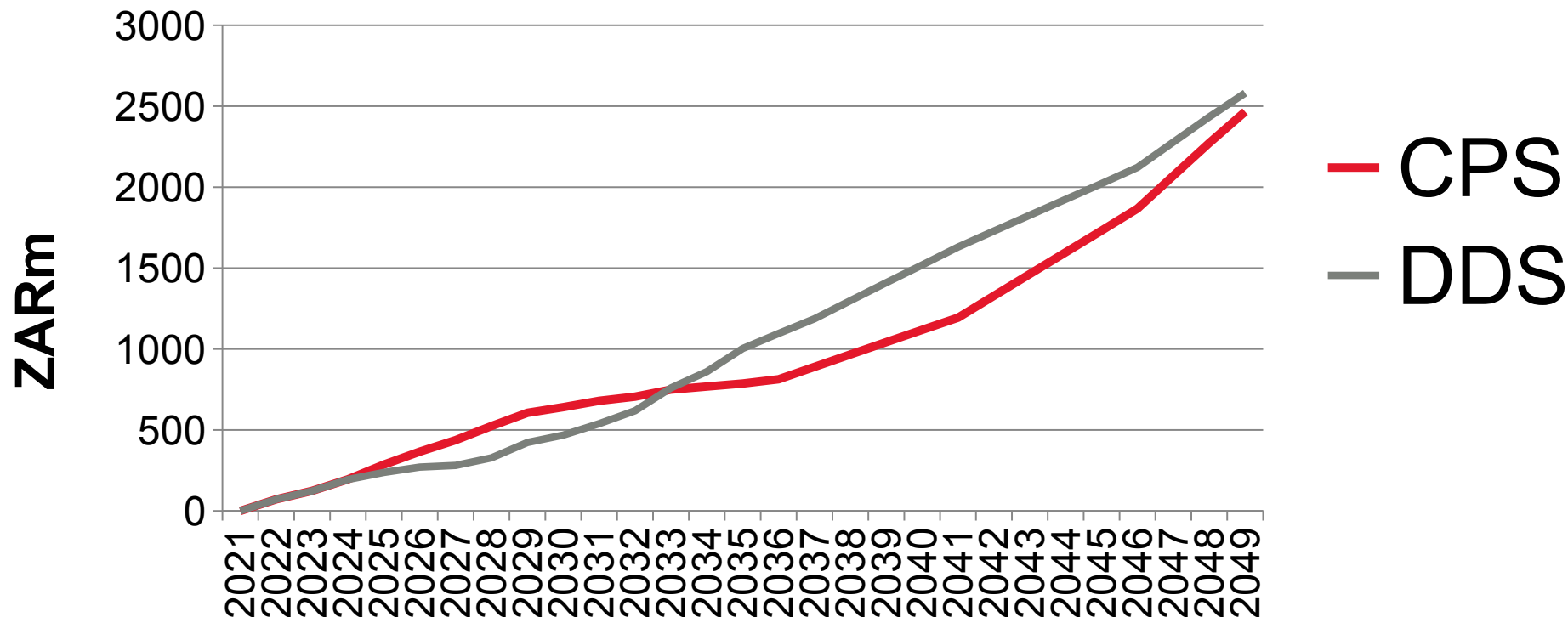
Transition costs

Social costs

Eskom stability, transition

Investments patterns for Paris-compatible pathways

Cumulative electricity capital investment post 2021 in CPS and DDS



2020-2030

DDS requires LESS investment than CPS

However, more might be required depending on coal performance and new coal implementation

2030-2040

DDS requires ZAR4Bn MORE than CPS

Industry

A 'Deep Dive was done for Green Iron production

It is likely to become techno-economically viable by 2030 for export to Europe

Policy recommendation

Engage European Commission to pave the way for fair and open access to EU low carbon commodity, intermediate and retail product markets

Other main heavy industry sectors don't have clear pathways as yet but iron/steel work indicates that where there is a will there might well be a way.

Thank-you!