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
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
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
Electricity policy and institutional context

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

- Procedural justice
- Distributional justice
- Restorative justice

**PCC process for developing framework**

- **July - Aug 2021**
  - Desktop review of existing work
  - Engagement with social partners

- **Sept - Nov 2021**
  - Policy briefs on key topics
  - Stakeholder & community dialogues

- **Nov - Feb 2022**
  - Draft framework discussed with stakeholders
  - Multi-stakeholder conference

**Status quo assessment**

**Policy dialogues**

**JT Framework**

Aim is to solicit stakeholder inputs about just transition, build trust and understanding between parties, and broker a social consensus regarding principal elements of a just transition.
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!