



WWF South Africa

Living Planet Unit

Climate Change Programme

IRP2 input, 7 June 2010

**50% renewable energy for a just transition
to sustainable electricity supply
through low-carbon re-industrialisation**





WWF-SA on IRP2 process

- Welcome government commitment (as per gazette in IRP1) to ensuring full stakeholder consultation in development of IRP2;
- Welcome dedicated attention to the Review of the REWP and setting appropriate targets to stimulate development of local RET industries;
- Welcome the initiation of IEP and quantification of externalised costs
- Recognise the need to quickly move beyond constraints of IRP1
- Concerned that implementation is not giving meaningful effect to policy and process commitments and is well behind the process timeline;
- Disappointed that the documentation provided to date, as well as the way in which documents have been released, does more to obfuscate the process and issues, than to enable informed engagement
[in transparent and accountable integrated resource planning]
- Committed to promoting broad-based public benefits through a just transition to sustainable energy services, to be given most immediate effect through an inclusive and risk-averse resource plan for electricity supply
- Determined that stakeholders will have an opportunity to engage with a full set of proposed parameters and assumptions, as part of the process of finalising modelling inputs





Framing: People-centred development

Cabinet response to the climate challenge (July'08):

- “...policy for the transition to a climate resilient and low-carbon economy and society...”
- “...informed by what is required by science, namely to **limit global temperature increase to 2°C** above pre-industrial levels.”
- “...structurally transform the economy ...
...to a climate-friendly path as part of a ***pro-growth, pro-development and pro-jobs strategy.***”





Global Carbon Budget

Results from a long-term GHG emissions budget approach
by WWF/ECOFYS, 2009

To stabilise global emissions at 400 ppm CO₂e
for roughly 33% probability of overshooting 2 degrees

- Total global emissions budget 1990 – 2100: **1 800 Gt CO₂e**
(assumes land use change and forestry becomes net sink)
- Actual emissions 1990 – 2008: 40% of total budget
- Global carbon budget 2009 – 2050: ~ **950 Gt CO₂e**

South African share of global budget? 10 – 18 Gt 2010 - 2050

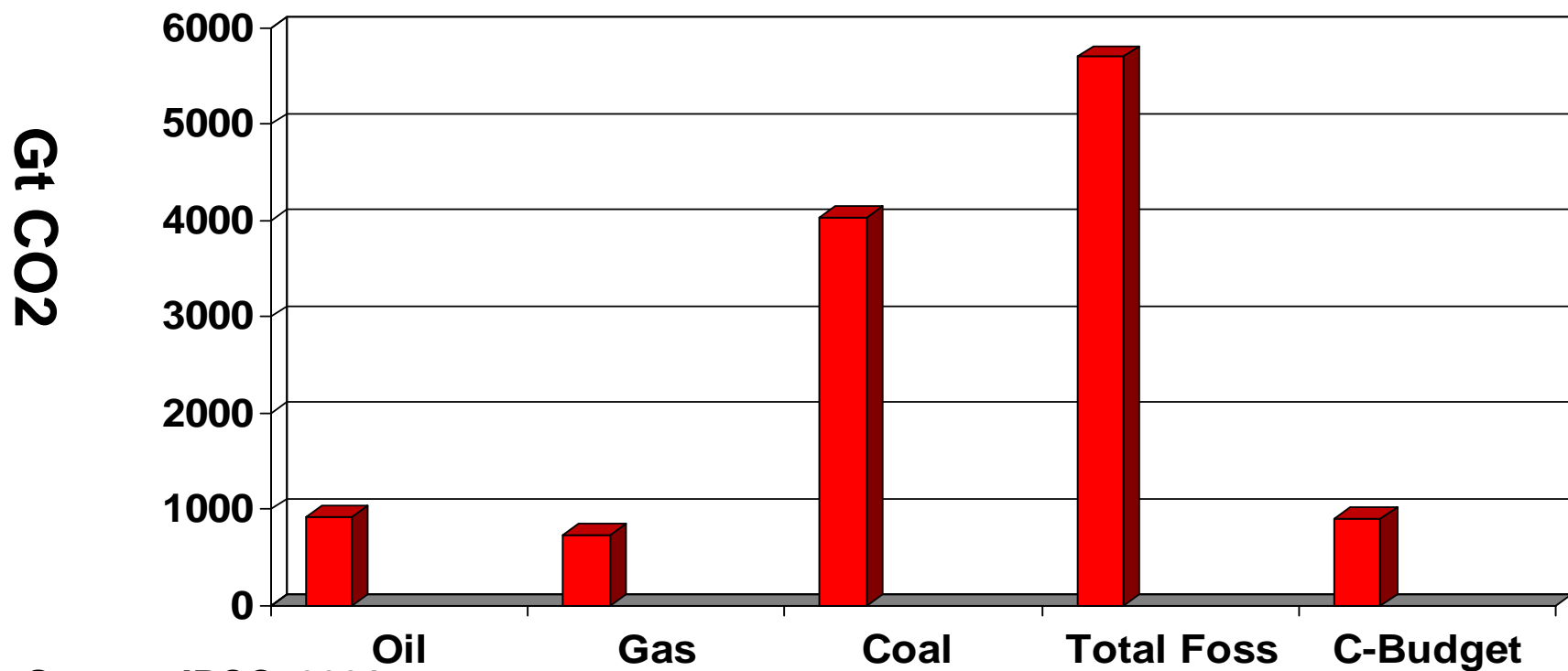
How to prioritise utilisation of SA carbon budget?

Invest in infrastructure for renewable energy **or** nuclear power?





Inherent carbon of total fossil fuel *recoverable reserves* (already identified as economically available) is over 5 times the available budget



Source: IPCC, 2001





SNAPP analysis: Ref case & RE scenario

Reference case: new plant coal and nuclear, with marginal RE

2020: Medupi, Kusile, Coal 3;

2030: Supercritical coal: 19 GW & Nuclear (PWR): 16 GW

RE Scenario: Medupi last conventional coal-fired plant, new build optimise wind and solar:

2020: 15% renewable electricity

Wind: 4.3 GW

CSP: 5.9 GW

PV & Biomass: 0.65 GW

2030: >50% renewable electricity

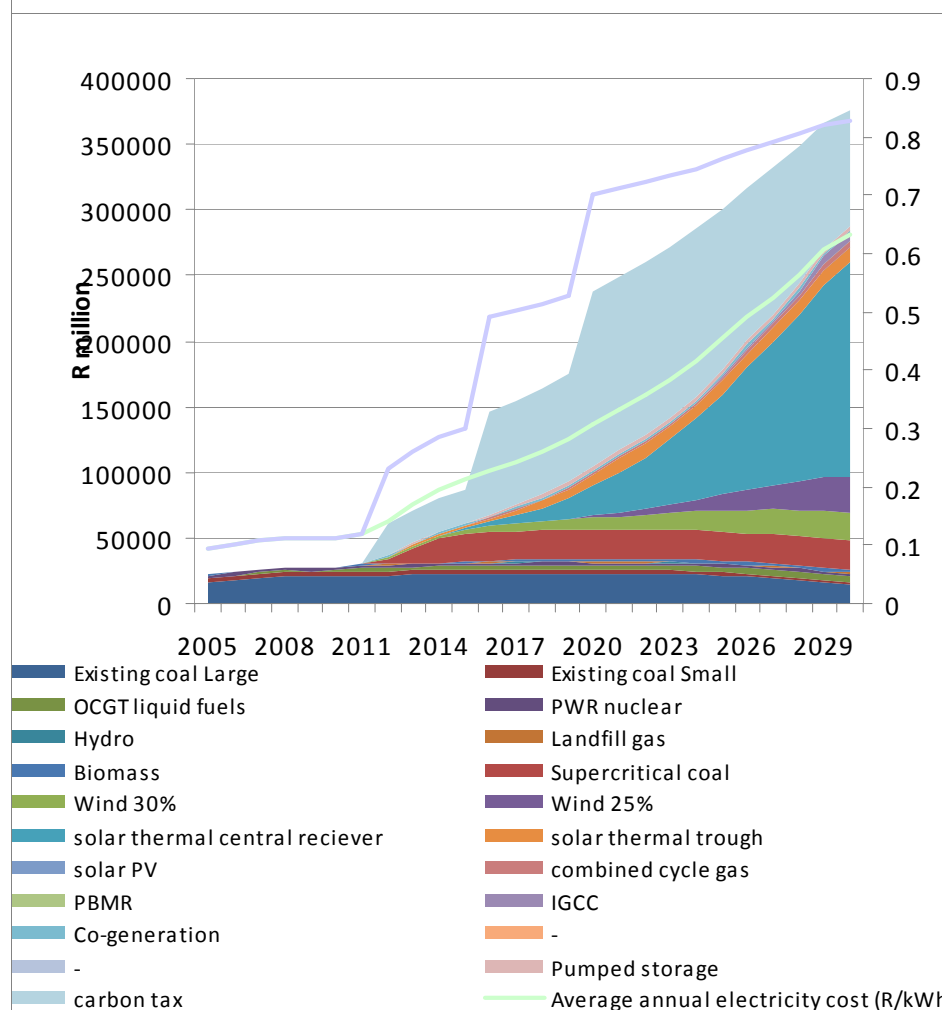
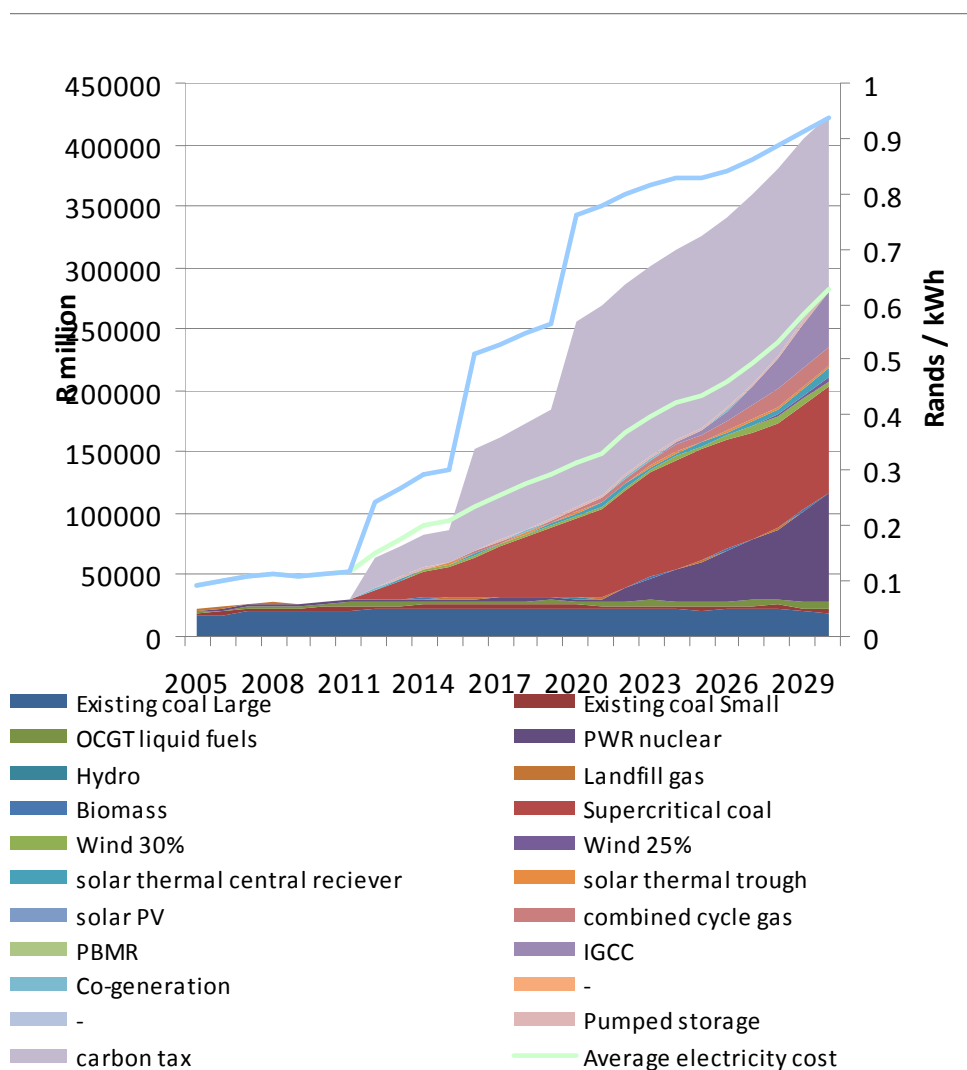




Electricity System Costs and Average Electricity Cost (with Carbon tax)

Reference Scenario

Alternative Scenario





Some core concerns

Documentation more obfuscation of process and issues than informing and enabling meaningful engagement...

Revise process timeline: extend and explicitly align with REWP review and setting of RE targets and establish how will impact upon or constrain the full IEP process (as per Energy Act 2008)

Need to include parameters on:

- ecological footprint beyond GHG emissions, incl. air quality (local and regional)
- socio-economic impacts, incl. job creation

Must clarify how the contribution of IPPs will be accommodated/determined both within IRP2 and the elaboration of plans in coming years

Generation mix as a parameter? – What the process assume / modeling be constrained by?

Is there really a binding policy commitment to new nuclear plant?

is this regardless of costs, or necessitating use of benchmark (hypothetical) costs as substitute for policy (cf. p. 52 appx How can benchmark costs substitute for a policy specification for nuclear build?)

Stakeholders must have an opportunity to engage with a full set of proposed parameters and assumptions - part of process of finalising modelling inputs before any scenarios developed (What is status of illustrative IRP 2010 document?)





“10. DECISION MAKING TREES”

“The key risks and assumptions are highlighted...” *Where?*

“ ...to indicate under what conditions alternative strategies may be required.”

Alternatives to...?

Under what conditions?

“ These alternative strategies with time-lines indicate the key decision points...”

What are the key decisions points? and what decisions are required and/or determined through IRP2 process?

“... where projects have to be approved...”

Which projects are waiting for IRP2 for approval?

“... or alternatives considered when assumptions do not materialise.”

Which assumptions not materialising will prompt or require consideration of alternatives?





Climate Solutions 2

the low-carbon re-industrialisation process to commence immediately, with growth rates of between 24% and 29% every year

Technologies and sustainable energy resources known or available today are sufficient to meet the growing demand for energy, and protect the world from dangerous climatic change.

A comprehensive plan for low-carbon industrial development is the solution. Otherwise, economically disruptive “command-and-control” style government intervention will become necessary.

..the first steps must be by governments currently in power...

“We have no choice but to develop a green economy.”

President Zuma, 18 May 2010

