



SOUTHERN AFRICAN FAITH COMMUNITIES' ENVIRONMENT INSTITUTE

South African Integrated Energy Plan - submission to consultation workshop

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Agenda

- Ethical basis of decision-making
- Context of energy development
- Process of decision-making
- Demand side inputs
- Full Cost Accounting
- Supply Side inputs
- Socio-economic weighting
- Conclusion



**Our only
home -
this
incredible
planet
that
supports
life**

Ethical basis for decision-making

- Valuing future generations
 - Decision-making in times of uncertainty
 - Priority to vulnerable and poor
 - Our opportunities in a global world
 - Good governance
 - Effective
 - Efficient
 - Accountable
 - Values underlying energy solutions
- People of faith need to
 - wear green spectacles!
 - ***Because we are called to act for justice!***

Integrated Energy Plan - context of development

Constitutional context

Legal context

- National Energy Act 2008

Government developmental targets

- Outcome:

24. Environment.-Everyone has the right-
(a) to an environment that *is* not harmful to their health or well-being; and

- (b) to have the environment protected, for the benefit of present and future generations,
- through reasonable legislative and other measures that-
- (i) prevent pollution and ecological degradation;
- (ii) promote conservation; and
- (iii) secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development

33. Just administrative action.-(1) *Everyone has the right to administrative action¹ that is lawful, reasonable and procedurally fair.*

(2) *Everyone whose rights have been adversely affected by administrative action has; the right to be given written reasons*

Integrated Energy Plan - Process

- Process of developing the plan:
- Colloquium until now
 - Asked for input
 - Long silence
- Lessons from the IRP:
 - Transparency
 - Stakeholder engagement
 - Responses to comments
 - Weighting of criteria
- Final decision-making structures
- Degrees of importance?
- Timing of including all other policies that are underway!

Integrated energy planning - demand side

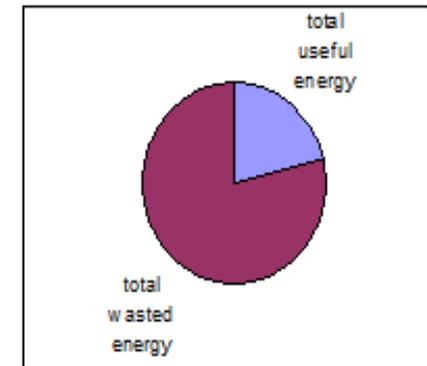
Modelling team appreciated

Run sensitivity or test cases to assess impact change for following:

- Efficiency
- Shifting the load
- Behavioural change
- Fuel switching
- Off grid/ on grid
- Elasticity
- GDP/ energy intensity

Total Efficiency

GENERATION	100kg Coal	kWh	%
useful energy	38	281	38%
wasted energy	64	499	64%
TRANSMISSION			
useful energy	30.6	239	85%
wasted energy	5.4	42	15%
ELECTRIC HOTPLATE			
useful energy	21.4	167	70%
wasted energy	9.2	72	30%
TOTAL			
total useful energy	21.4	167	27%
total wasted energy	78.6	613	73%



=R 50
=R 184
WASTED

Integrated energy planning - Costs

Full cost accounting

Externalities:

- Health
- Natural environment - biodiversity
- Water quantity
- Water quality

- Existing subsidies
- Infrastructure

- Carbon tax:

- **Research:**
 - 68% of electrified rural households still use fuelwood as the **primary** source of energy to meet daily household needs,...

- **Why: - eat or buy electricity**
 - the factors sustaining fuelwood use are primarily socio-economic, one of the most significant being the major cost-saving to the household by using fuelwood rather than electricity. This enables rural households to invest their limited financial resources into other necessities - education, food and clothing - rather than monthly electricity tariffs

- **Security of supply for who**

Integrated Energy plan - Supply side

- Modelling team appreciated
- Energy services approach
- Test Cases:
 - a) Increased amounts of RE - no caps.
 - b) Increased RE and externalities - full cost of emissions plus other externalities
 - c) Use CC emissions updated to latest GHG inventory update, also use separate case for lower boundary of PPD
 - d) Full carbon tax impact - no exemptions
- Aligning with government policies
- Climate change
- Carbon tax
- Electrification
- SWHs
- Base case should then include carbon constraints of NCCRWP
- And 8 million SWHs
- Financial viability:
- Nuclear costs increasing

Socio-economic weighting

- Multi-Criteria Decision Analysis
- Jobs - appropriate level of skills prioritised
- Electrification - off grid technology choices prioritised
- Health impacts - reduction in air and water pollution related ailments
- Social benefits - security and safety
- Impact on climate change adaptation
- How are we going to decide who is more important?
- Poverty or Large industry?
- Who will be in the room?

Integrated energy plan: conclusion

- Planning for who
- Ensure basic needs are prioritised.
- Business as usual is not acceptable
- Cannot rely on the past to plan for the future - impact of climate change
- Need flexible, rapid response
- Ensure energy is a facilitator of development for people
- Importance of proactive IEP team



*let justice
roll down
like waters,
and
righteousness
like an
everlasting
stream.*