Draft IRP2010 version 8 2010/10/08

Comments & recommendations by
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Member of public

Overview

- Paradigms of IRP
- Key assumptions of IRP
- Summary

Paradigm of IRP

Description	Old paradigm	Modern paradigm
Generation	Remote, centralised supply by State Utility, funded by tax payer & consumer	Distributed, on-site (co)-generation for own use & REFIT, funded & run by private sector
Energy source	Finite coal & nuclear	Renewable energies
Price	Cheap (no externalities), but rising	Higher capital cost, low running cost & falling
Lead times	Long	Short
Focus	Supply-side to energy intensive primary industry	Integrated DSM & supply for own & REFIT use to tertiary industry

Paradigm of IRP continued

Description	Old paradigm	Modern paradigm
Utility technology focus	Steam technology, supply grid	Smart grid, V2G
Generation efficiency	34%	60%+
Job creation	Very low	Very high
Criteria	Short-term: techno-econo	Long-term: socio-econo-enviro
Date	Before 2008 crisis	After 2008 crisis

Recommendations

- Revise draft IRP to modern paradigm standards

Key assumption

1. "South Africa loses [international] competitiveness [through higher power prices]" (Executive Summary: 25)

- Research facts: High energy price economies are more competitive[1,2].

South Africa had of the world's cheapest energy but of the world's lowest competitiveness (IMD index rating: 50th of 55 countries)

- Recommendation: Review assumption

Key assumption

2. "Localisation benefit" (p15) assumes that 4500MW wind & 600MW CSP & PV will create local industry.

- Recommendation: Revisit 2020 targets with *decremented* REFIT: SWH 35000MW[3]

  Wind 7000MW[4]

  CSP 6000MW[4]

  PV 125MW[5]

Key assumption

3. “Costs for future coal were decreased from R300 a ton to R200 a ton” (p16)

- Recommendation: Revisit assumption in view of
- Global Peak Oil
- Peak gas
- Peak SA coal
- Growing demand by BRIC countries

Key assumption

4. Externalities ignored in IRP.

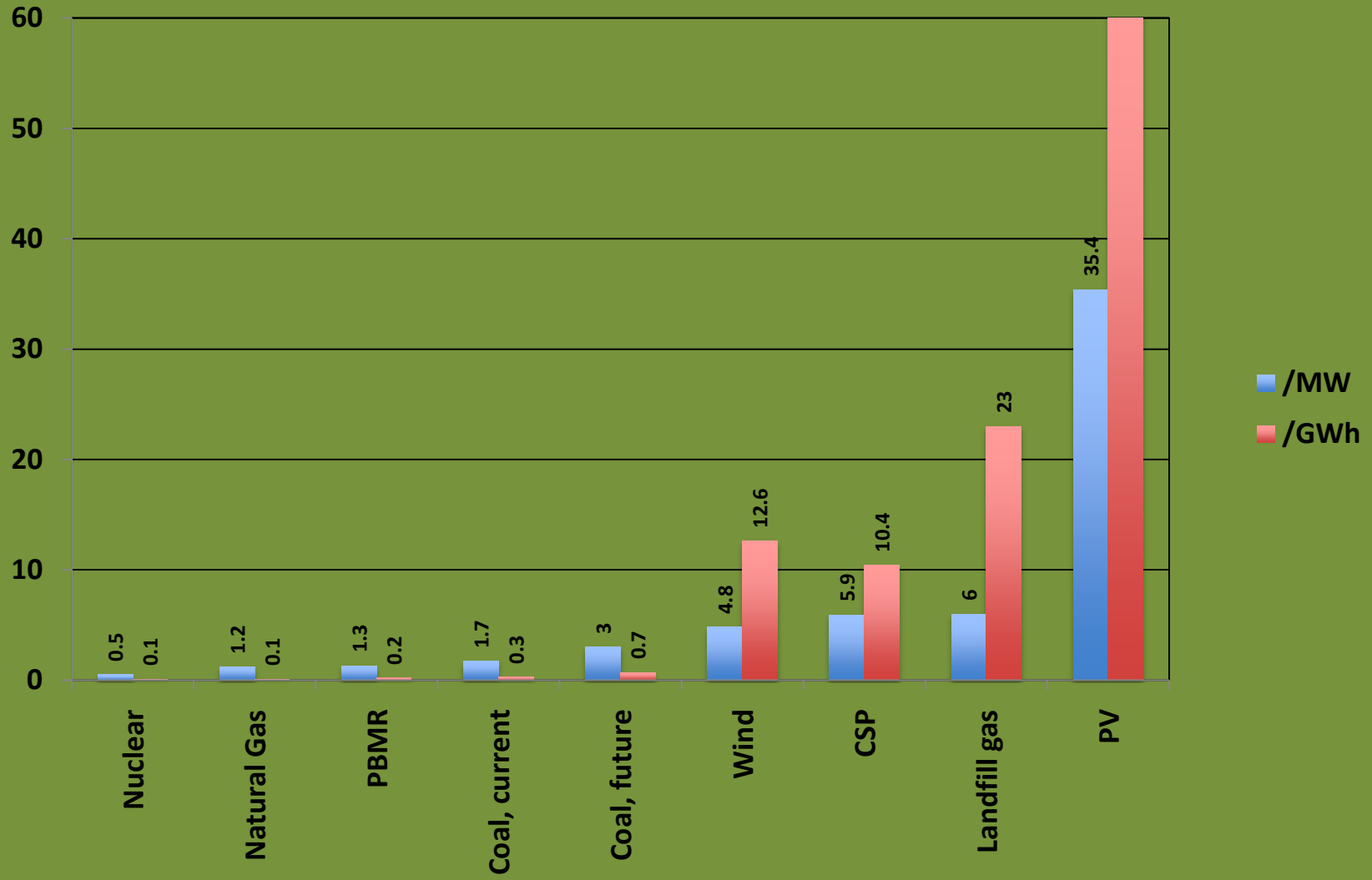
- Research facts: “Ignored costs are not avoided costs…but lead to inefficiencies which impoverish all”[1]
- SA externalities range from 19,5% to 105,3% of average end-consumer price, but exclude many items. Hence 105,3% is realistic.[6]

- Recommendation: Include externalities in IRP

Key assumption

5. Job creation underestimated

- Research facts: South Africa endorses Millennium Development Goals, Agenda 21 & Presidential Imperatives: Job creation is the common pressing priority.
- Renewable energies offer more job opportunities than any other conventional energy[7]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Natural Gas
PBMR
Coal, current
Coal, future
Wind
CSP
Landfill gas
PV
/MW
/GWh

- Rapid job creation is far less costly than poverty, xenophobia, crime, social & political upheaval

- Recommendation:
- Job creation should be the predominant criterion in this phase of IRP2010.

Summary

- Motivated recommendations have been provided to improve IRP2010 to the national, regional and global benefit
- Thank you for your kind attention

References

1 Braun,M.W.H.1993.Honest Energy Pricing. A Broad Economic Context. *African Sun*. Aug 1993:13-18

2 Von Weizsäcker, U. 1993. Sustainable Wealth Requires Honest Energy Prices. *African Sun*. Aug 1993:19-23

3 SESSA SWH Division Target 2010

4 Marquard, A., Merven, B. & Emily Taylor. 2008. Costing 2020 target of 15% RE electricity for South Africa

5 Holm, D. 2010. Establishing Framework for Development of the PV Industry in South Africa. In prep.

6 Van Horen, C. 1996. *Counting the social costs – electricity & externalities in South Africa*. Elan Press & UCT Press

7 Holm, D., Banks, D., Schäffler, J., Worthington, R., and Afrane-Okese, Y. March 2008. *Renewable Energy Briefing Paper*.