IEP – IRP comment

groundWork

9 December 2016
Process

• For the IRP, this consultation was advertised as being about the base case and assumptions.
• IEP/IRP presented on 22 November.
• Actual documents available only on 25 Nov.
• Annexures available yesterday (8 December).

• We conclude that this is not a good faith process but one designed to limit rather facilitate participation.
• This invites speculation on DoE’s motives and, read with the manipulation of data, it points to deceitful defence of the nuclear agenda & of coal
IEP - demand

• Technical background papers (Ann A & B) on DoE site from 2012/13. Is this still counted as valid?
• Growth assumption in IEP remains exaggerated: actual growth is below low growth forecast and likely to remain so.
• All growth forecasts show exponential curves which is unlikely
• Global economy in long term depression
• Climate impacts already retard growth
Jobs

- Exaggerated forecasts particularly for gas:
- The Scientific Assessment for Shale Gas in the Karoo Big Gas scenario gives 2,575 direct jobs with 390-900 going to locals [SPM Tble 10-1].
- IEP fig.0-38 gives up to 1.4 million jobs in extraction alone. This is not credible.
- Job potential in RE manufacturing not there.
- Smart grid jobs not there.
Climate change

• 1.5° target = no remaining carbon budget.
• 2° target requires Southern country ~4% pa reduction from 2020 (no plateau) or ~7% pa reduction if left till 2025.
• We exclude ‘net negative’ fairy tale.
• This budget does not allow for climate feedbacks
• PPD trajectory is wholly inadequate.
GHG Emissions

• PPD is all GHGs.
• IEP is CO2 only. Substantial CH4 emissions ignored.
• Fig 0-17 Elx: 2014 emissions <200Mt v Eskom’s reported 224Mt. EA scenario ~165Mt.
• Fig 0-18 liquid fuel production: 2014 emissions ~10Mt below Sasol’s reported CO2 (60 Mt) & 20Mt below all GHG (72 Mt). How does it fit PPD so exactly? EA case from zero not credible.
• Fig 0-19 energy emissions: 2014 emissions ~ 60 Mt CO2 below 2012 total of 417 MtCO2 & 70Mt below 424 MtCO2e in GHG inventory.
• Spontaneous combustion from coal not counted.
• IRP moderate demand not close
IRP 2016

• Base case not credible
• Technology cost figures dated & wrong – to advantage nuclear and disadvantage RE.
• NB. RE prices are proven, nuclear prices are not
• Exchange rate dated with significant implications for nuclear because of high import costs and long (& delayed) lead times.
• Inflated demand projection.
• Arbitrary limit on RE with no justification given.
Grid adaptation

• Comment from Eskom amongst others suggests RE is limited because of grid constraints
• We note:
  - Substantial budget for grid overhaul anyway – to extend dumb grid or retrofit/build smart grid?
  - Nuclear also requires re-orientation of grid – why is it not similarly constrained?
  - Decentralised dispersed RE with smart grid implies smaller grid (less cost) but increased information & switching power flows (more cost & jobs).
High cost base load centralised nuclear puts the squeeze on the municipalities

• Implies further escalation of costs
• Roof top PV is already below tariff. It is either
  • a) accepted as part of national/municipal resource or
  • b) forced off-grid.
• If a), it increases system (grid and storage) costs but saves on procuring generators.
• If b) the rich and commerce and industry go off-grid and leave municipalities and the poor with a slum grid & more poor people cut off. Which is it to be?
Already surplus base load at high cost

- Reduced demand + 1 Medupi unit + Ingula = excess capacity.
- Medupi, Kusile & BLIPPs add more excess + cost to economy (paid by whom?). Therefore cancel some units and/or close existing coal plants early.
- Add RE so as to close more coal plant and to respond to credible signs of demand growth.
Externalities

RE in place of coal saves on:
• New mines, emissions, water consumption, ruin of catchments, permanent loss of good agricultural land & biodiversity,
• damage to people’s health, homes and communities,
• Loss of capacity to adapt to climate change.

We welcome discussion of externalities in IEP.
• We don’t see it coming through in IRP technology costs.
• We do not think assumed carbon tax rates are an adequate reflection of externality costs.
Conclusion

If SA wants to

• supply the energy needs of its people,
• respond to unemployment,
• avoid catastrophic climate change,
• clean up air pollution to let people breathe,
• conserve water and prevent the further destruction of whole watersheds, and
• avoid bankrupting itself,

it should focus national resources on developing renewables under democratic control while shutting down coal plants.