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.