Presentation to IRP Public Hearing

Clive Ferreira- December 2016

Agenda

- Background
- Comments on IRP
- Analysis
- Conclusion

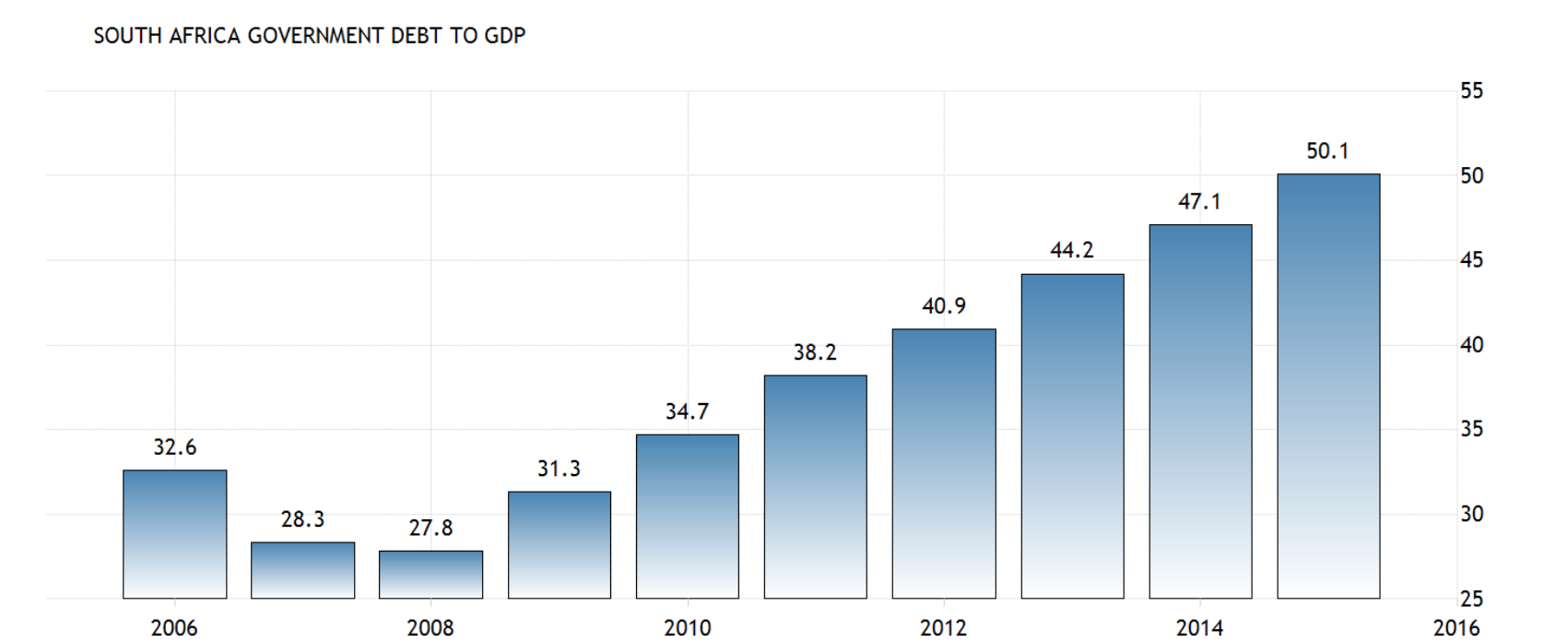
Background Presenter

- Retired investment banker (BSc. B. Eng. (Civil), B.Com., MBA (Finance)
- Forty years in infrastructure as contractor, advisor and financier
- The last 20 years advising IPPs and electricity sector across the continent
- Founder Fieldstone Africa, leading African energy advisor
- Founder Gaia Infrastructure Partners - continues to serve as non executive director on Gaia IP and listed Gaia IC boards

Comments on IRP as it stands

- The IRP is probably the biggest single infrastructure planning tool in the country
- It has significantly more impact, sadly, than the NDP as it explicitly determines and guides electricity generation spend
- It is therefore one of the most important capital budgeting decisions facing this country
- The IRP in my view fails dismally in assisting us in making the correct decisions
- Although nuclear is clearly not a viable option it is being kept in the picture by Eskom and others
- The IRP is already dated
- Wrong implementation has serious and even dire consequences for the country and vice versa
- The IRP seems to bind us in long term inflexible central planning

South African Government Recent Debt History- Not good



Expensive choices can tip South African over the edge!

Why do I reach this conclusion?

- Capital costs of all plant seems to be suspect
  - Ignores Interest During Construction (IDC). Very imported for long lead time items
  - Nuclear costs appears to be low
  - Other plant costs are too high
  - The capital costs are clearly dated as the ERPI assessment is dated AUGUST 2015
- The IRP seems to treat risk assuming that all technologies have equal risk. This is an error
- Financing of choices seem to be totally ignored
- The ERPI document seems to assume that the whole programme is implemented by Eskom
  - It ignores the spectacular, seemingly "inconvenient" success of the REI4P

Capital Costs Assumptions Suspect

- Interest during construction (IDC) appears to be ignored and coal and nuclear plants can have up to a 50% increase of total costs when IDC is included
- Nuclear plant costs assumed are unproven in SA. The CSIR costs for their base case that excluded nuclear were almost 30c/kwh lower, and no firm local prices for nuclear have been tabled. It is significant that even Vietnam recently aborted the so-called cheaper Russian units after seven years of negotiations. Counties like Japan, Sweden, US. Germany have curtailed their nuclear plans
- The assumed costs for wind and solar totally ignores the latest low prices achieved in the REI4P
- The latest spectacular reduction in battery prices is ignored
- The capital costs assumed is of October 2015 and not all technology price curves are the same

Technology Risk

- It is common cause that the 2010 IRP did not expect the dramatic price reductions in especially solar PV after 2011
- Nuclear, after 50 years, is still not a proven private sector solution i.e. its still depends on explicit Government support even in the US
- The IRP needs to be designed to be more flexible and not tie us to large long-term commitments
- We have just learnt a very expensive lesson with Medupi and Kusile
  - Investing in very large plants with new unproven technology and assuming the wrapping risk
- Why repeat the the same mistake again
- Why ignore the possibilities of batteries, solar roof top etc.

Financing choices

- Financing opportunities, restrictions, and costs seems to have been ignored
  - Finance is not an unlimited resource, and different financial conditions pertain to different technologies; yet this is not even mentioned in IRP
  - Energy supply is actually or should be a financial decision not a technogy choice
  - Nuclear plants will not be funded by most financial institutions even though it will be the most costly
  - Cheap USD funding may be offered for a nuclear build, but given our volatile currency, this could become even more costly

Private sector participation ignored

- The ERPI report does not mention the successful REI4P
- It plans the IRP from an Eskom vantage point
- Eskom has proven to be an unreliable supplier
- Eskom has a long history of making large capital budgeting mistakes
- Cheap cost of capital does not necessarily translate into cheap cost
- The REI4P has succeeded in the following:
  - Raised more than R200bn long term funding from local and international sources
  - Reduced tariffs significantly to below Eskom's weighted average cost of production
  - Despite this it created significantly BEE value and local manufacture
  - All this was achieved without scandal

Conclusion

- The IRP as is cannot be used to make an important Capital Budget Commitment
- The IRP seems to bend over backwards to accommodate Nuclear in the face of growing evidence that it is definitely un-fundable and may cripple our country
- The right IRP choices can ignite the SA economy, the current one is more of the unwelcome same
- Eskom's role in the execution of the IRP needs to be re-evaluated