IRP2 Stakeholder Workshop

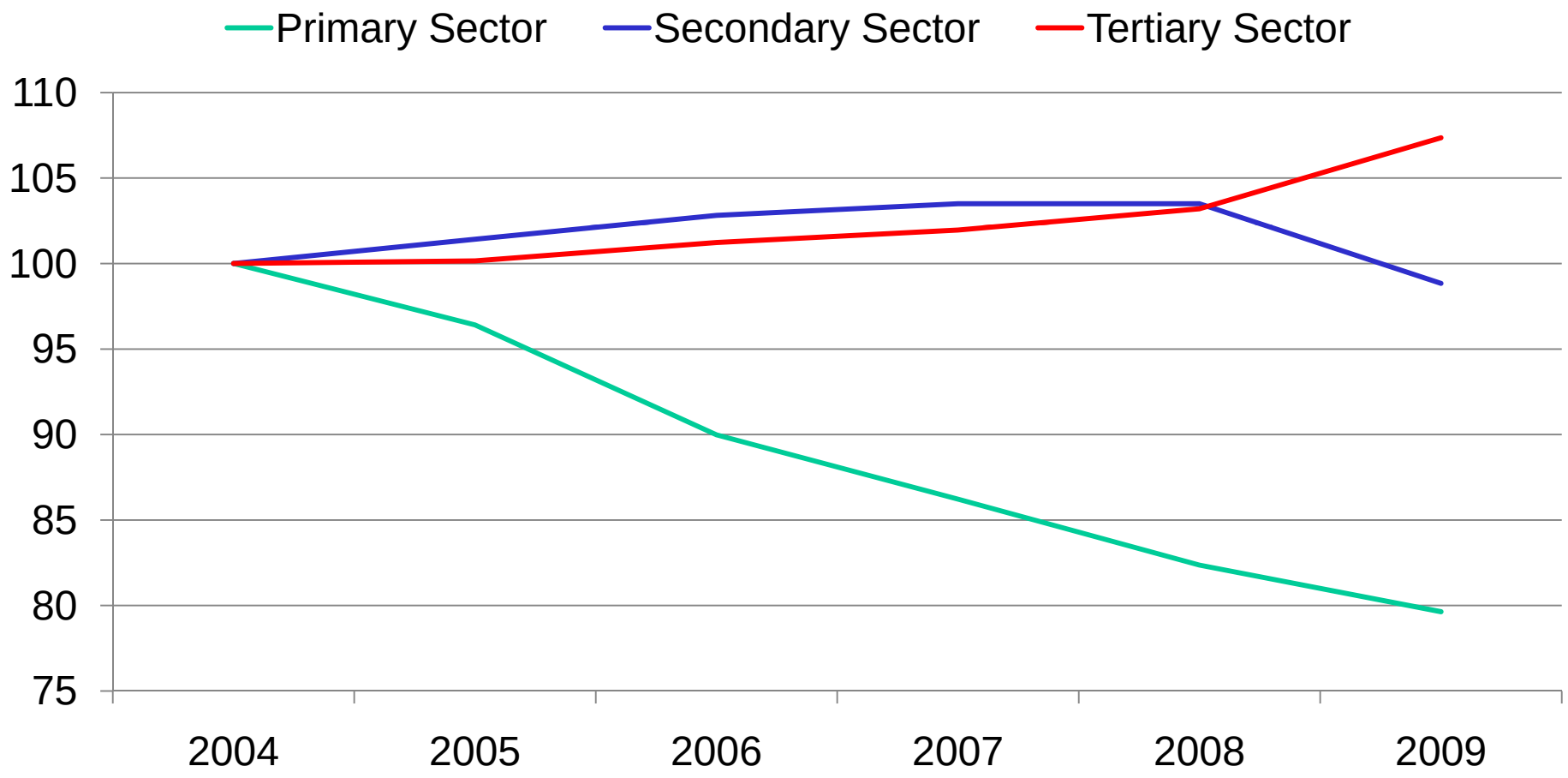
Presentation by the South African Gas Development Company (Pty) Ltd
iGas

07 June 2010

D3 & D4 : Electricity Intensity Assumption

- "Fixed ratio of electricity energy consumption growth relative to GDP growth"
  - 3:2 medium term (2010 – 2024)
  - 2:1 long term (2025 - 2035)
- iGas : "Absolute aggregate value of the ratio of sectoral electricity consumption relative to real term sectoral Market Value Added (MVA)"
- MAJOR CONCERN
  - Static ratio (assumed) vs Dynamic ratio (calculated)
- MAJOR IMPACT
  - Planned growth can be constrained by actual generation capacity
  - Reality of sectoral growth policies can be constrained by actual energy and carbon constraints
  - Sectoral job creation assumptions can fall short in reality

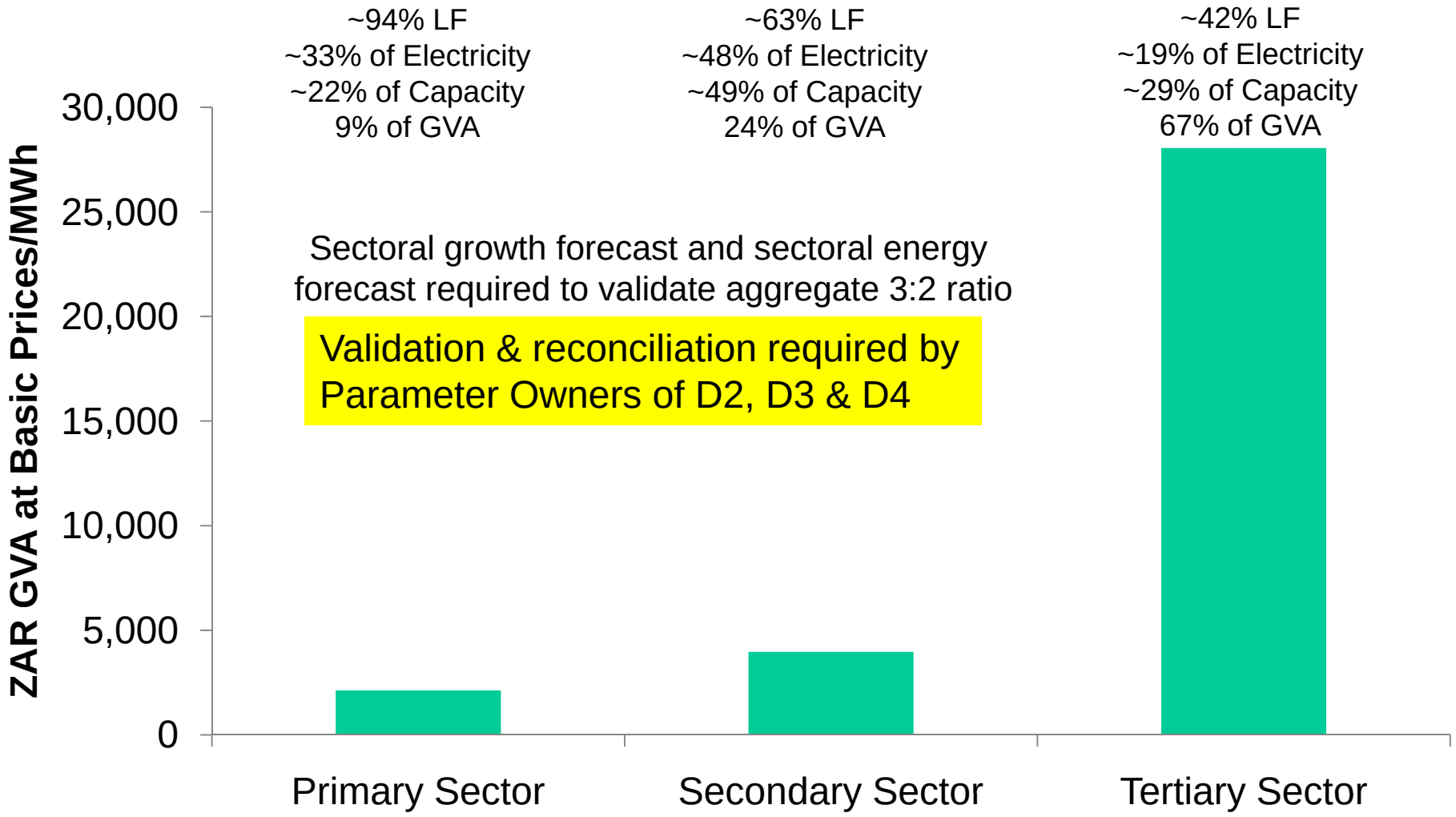
D2 : Sectoral Changes to the SA Economy since 2004
2004 = 100



Data Source : SARB Quarterly Bulletin

D2, D3 & D4 : Sectoral Electricity Intensity

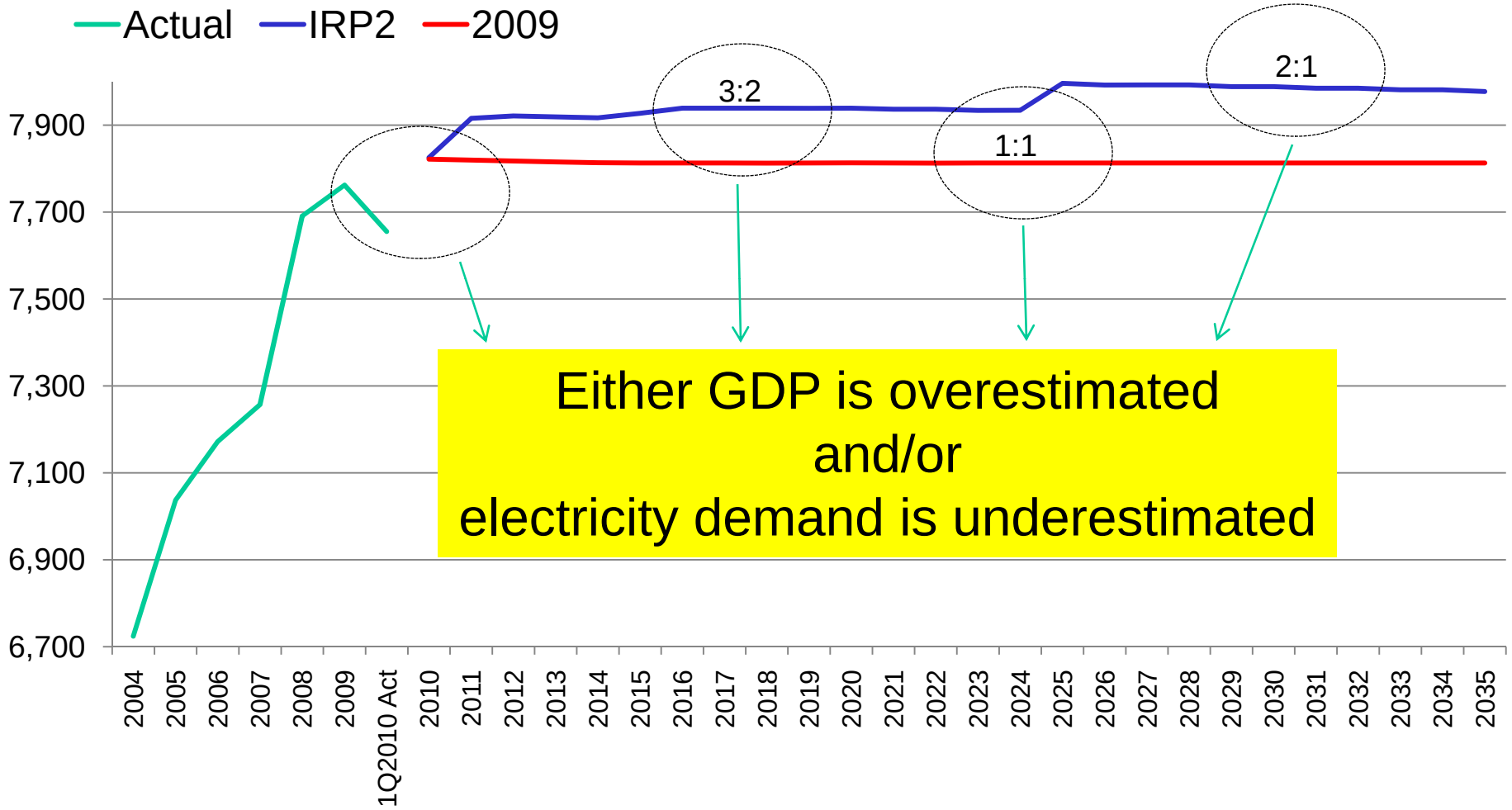
NB : (Segmentation based on guestimates of 2008 data for illustrative purposes only)



Sectoral growth forecast and sectoral energy forecast required to validate aggregate 3:2 ratio

Validation & reconciliation required by Parameter Owners of D2, D3 & D4

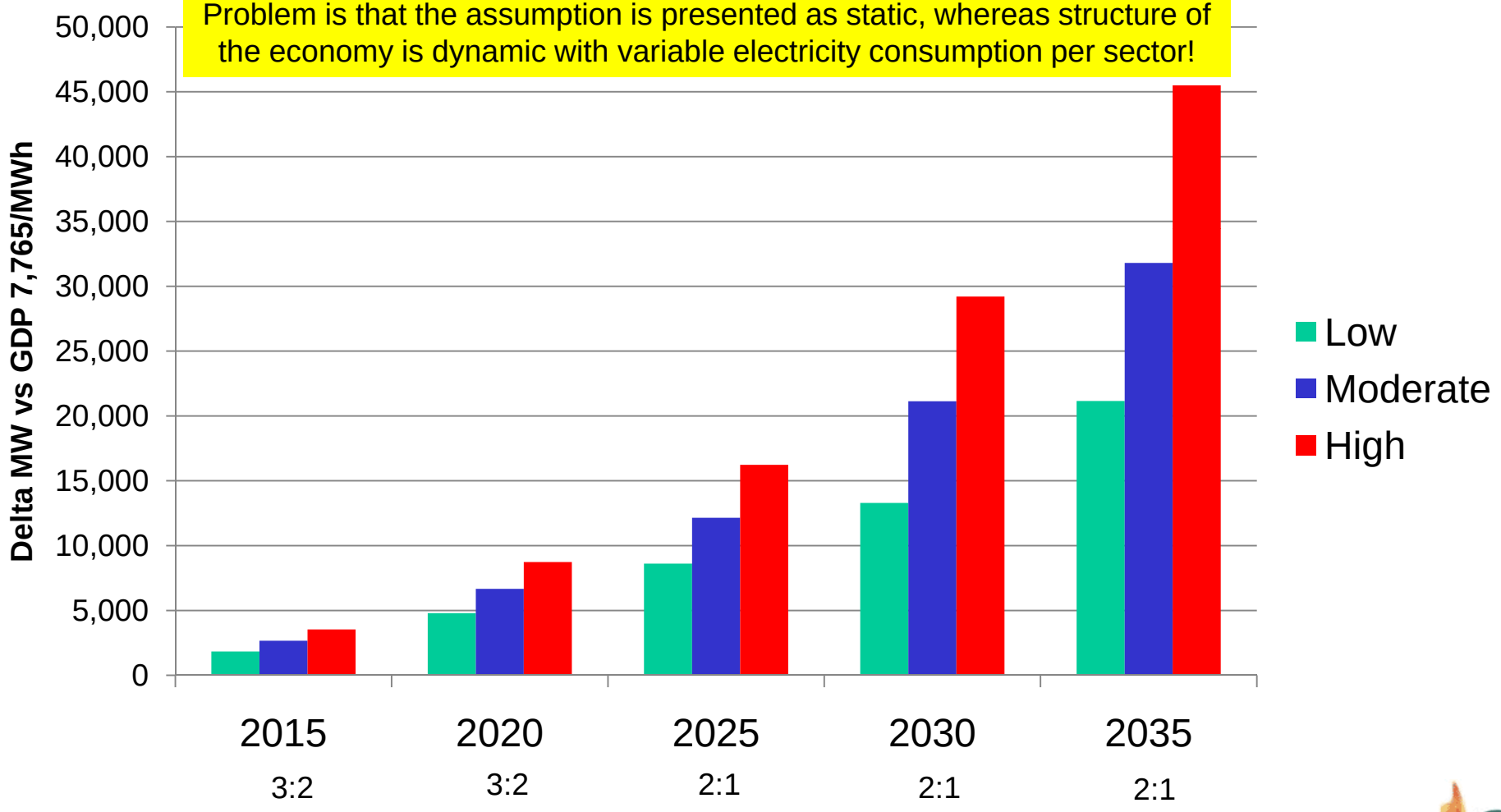
Result of D2, D3 & D4 : GDP (moderate) per MWh



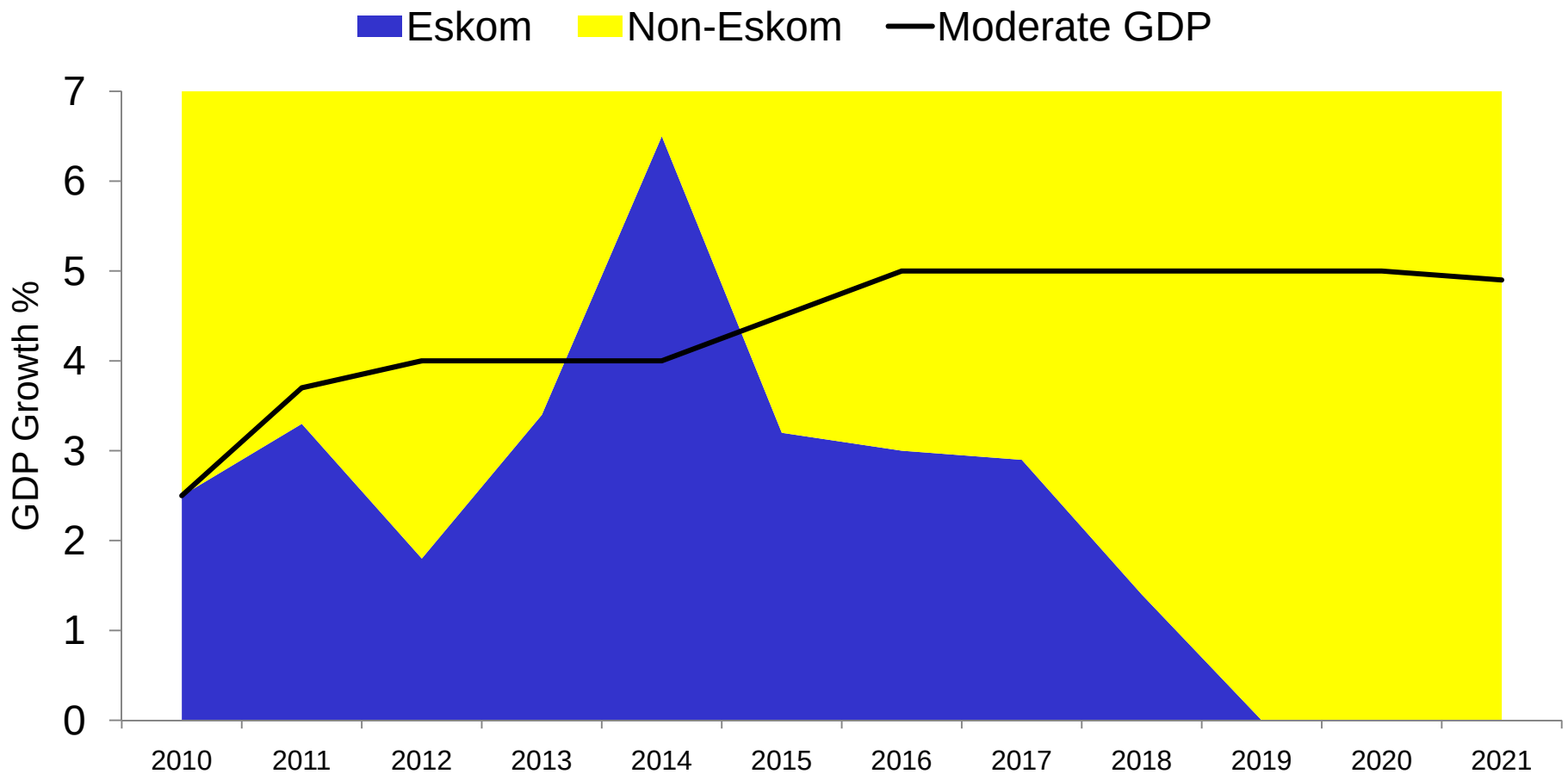
Actual Energy Intensity (2009) vs GDP Growth to Electricity Growth

By getting the Energy Intensity assumptions wrong,
planners can misplan a whole existing Eskom (over or under) by 2035!

Problem is that the assumption is presented as static, whereas structure of the economy is dynamic with variable electricity consumption per sector!



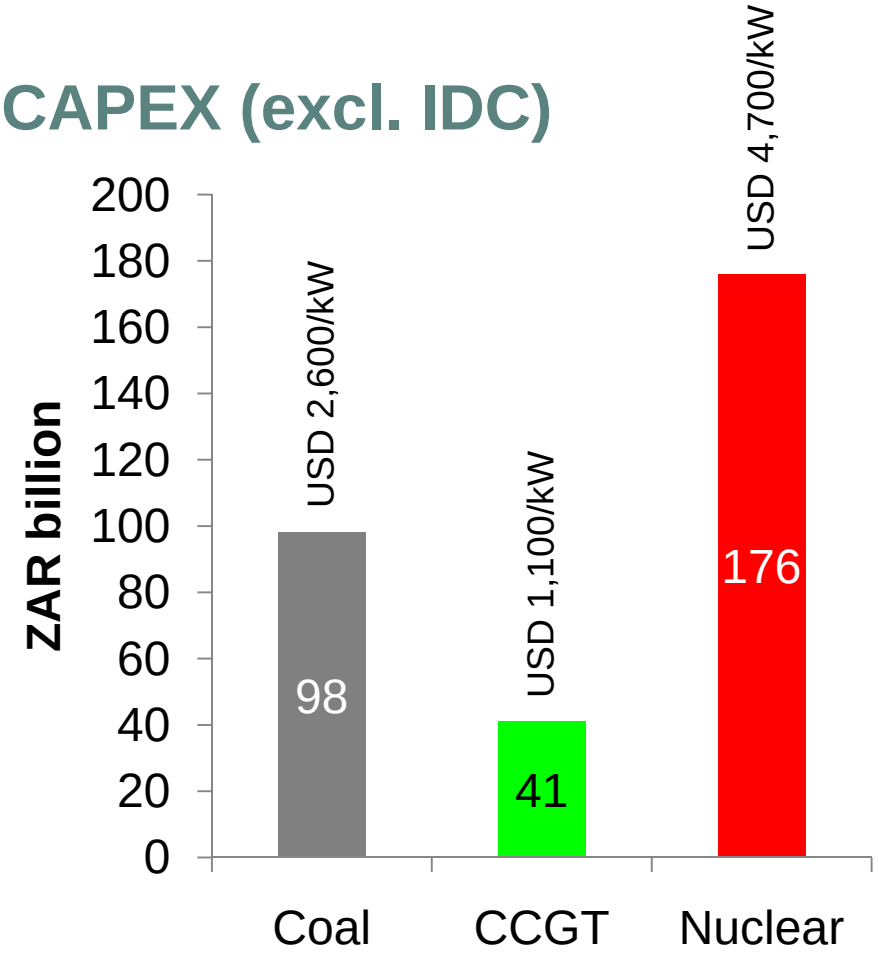
D2 : GDP Growth will not be constrained by electricity shortage in the long-run



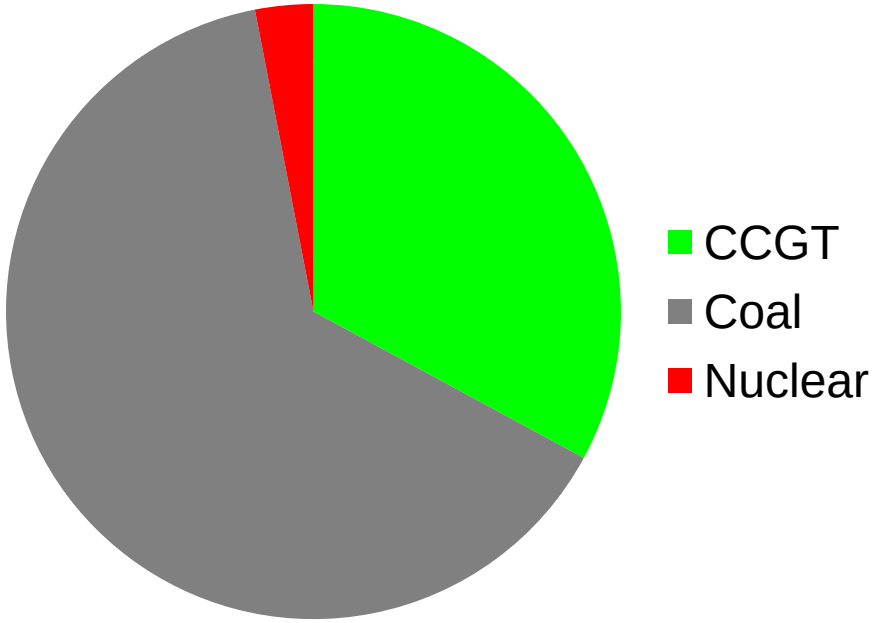
S9, S11, Ex1 & Ex2 : The Generating Mix has an impact on Capex & Carbon

For illustrative purposes only and assuming 5 GW of each option operating at 80% LF ~ 15 GW producing 105 TWh p.a.

CAPEX (excl. IDC)



CARBON – 46 Mt CO_2



THANK YOU