

Development of Municipal Electricity Generation and Distribution in South Africa and its impact on Electricity Conservation

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Country Facts

Population: 53 million

GDP: \$ 350 billion

GDP / capita \$6,600 pa

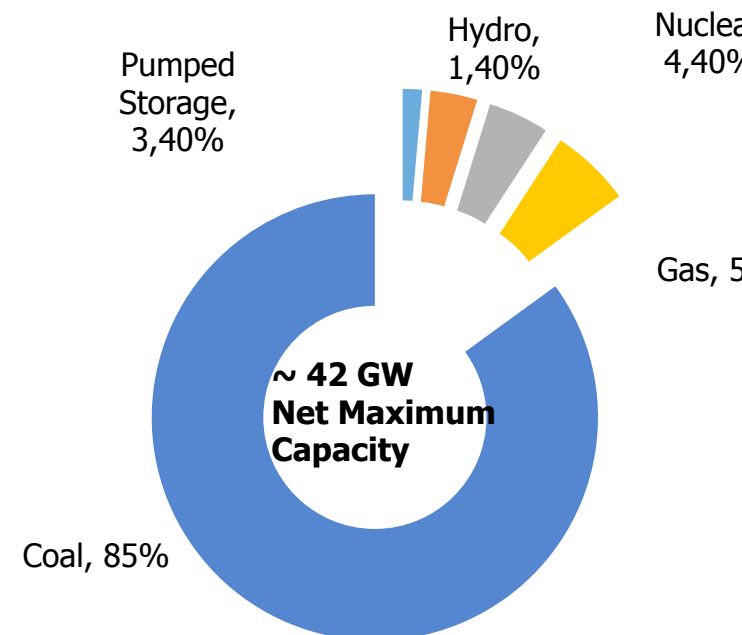
Economy Energy intensive – mining & associated industries plus some services

Installed capacity ~42GW (33-35 GW available at any one time)

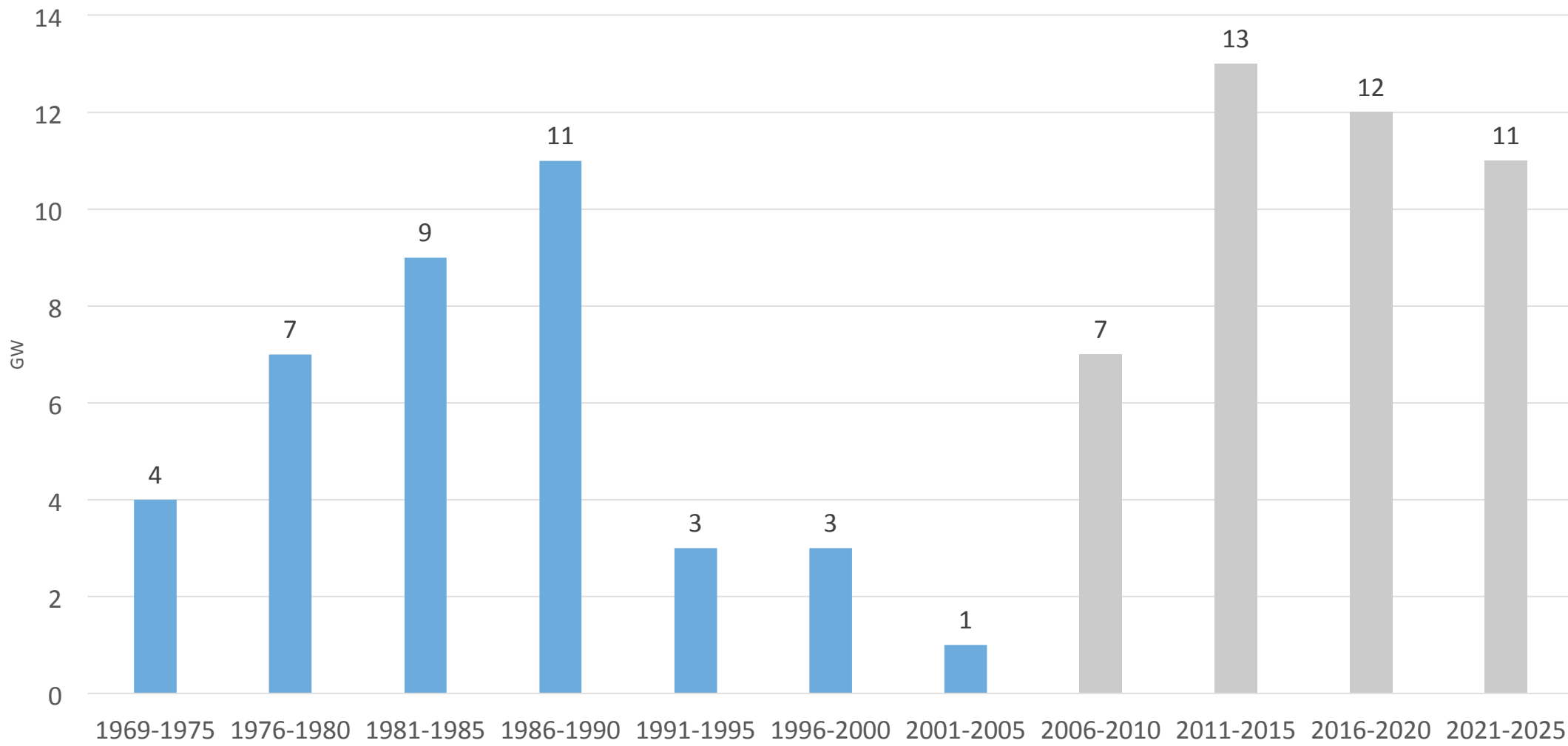
Source: National utility Eskom. 95% coal (Grid Emission Factor: ~1 kg of CO₂ / kWh), **Eskom generates & transmits. Distribution - 40% of power to 60% of customers undertaken by Municipalities, the rest is distributed by Eskom. – regular blackouts.**

Country Targets To reduce its GHG emissions to 34% below its “business-as-usual” growth trajectory by 2025 and by 42% by 2030, subject to specified conditions

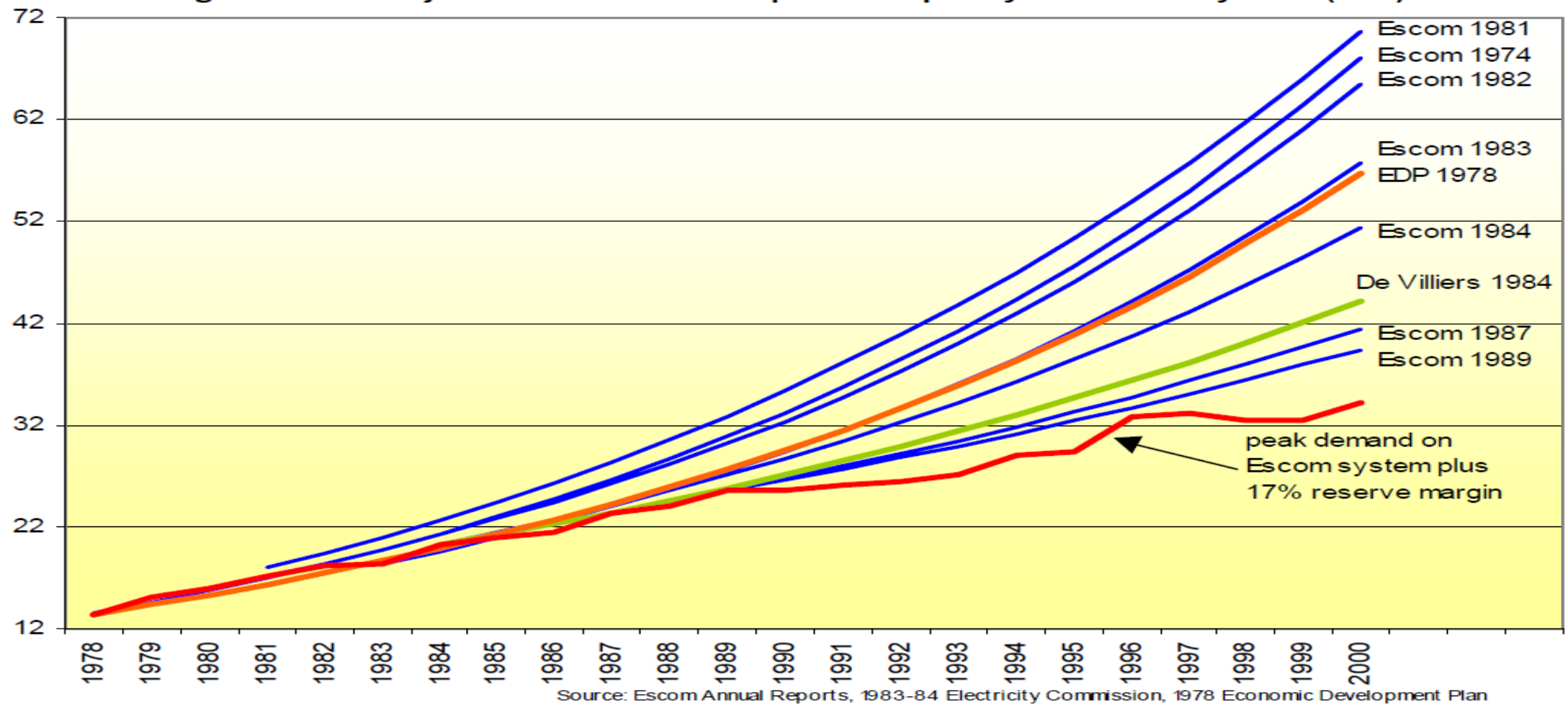
National EE Strategy: Voluntary national target of a 12% reduction in final energy demand by 2015 and 3.4 GW DSM by 2030 - IRP



Eskom Build Programme (1969-2025)



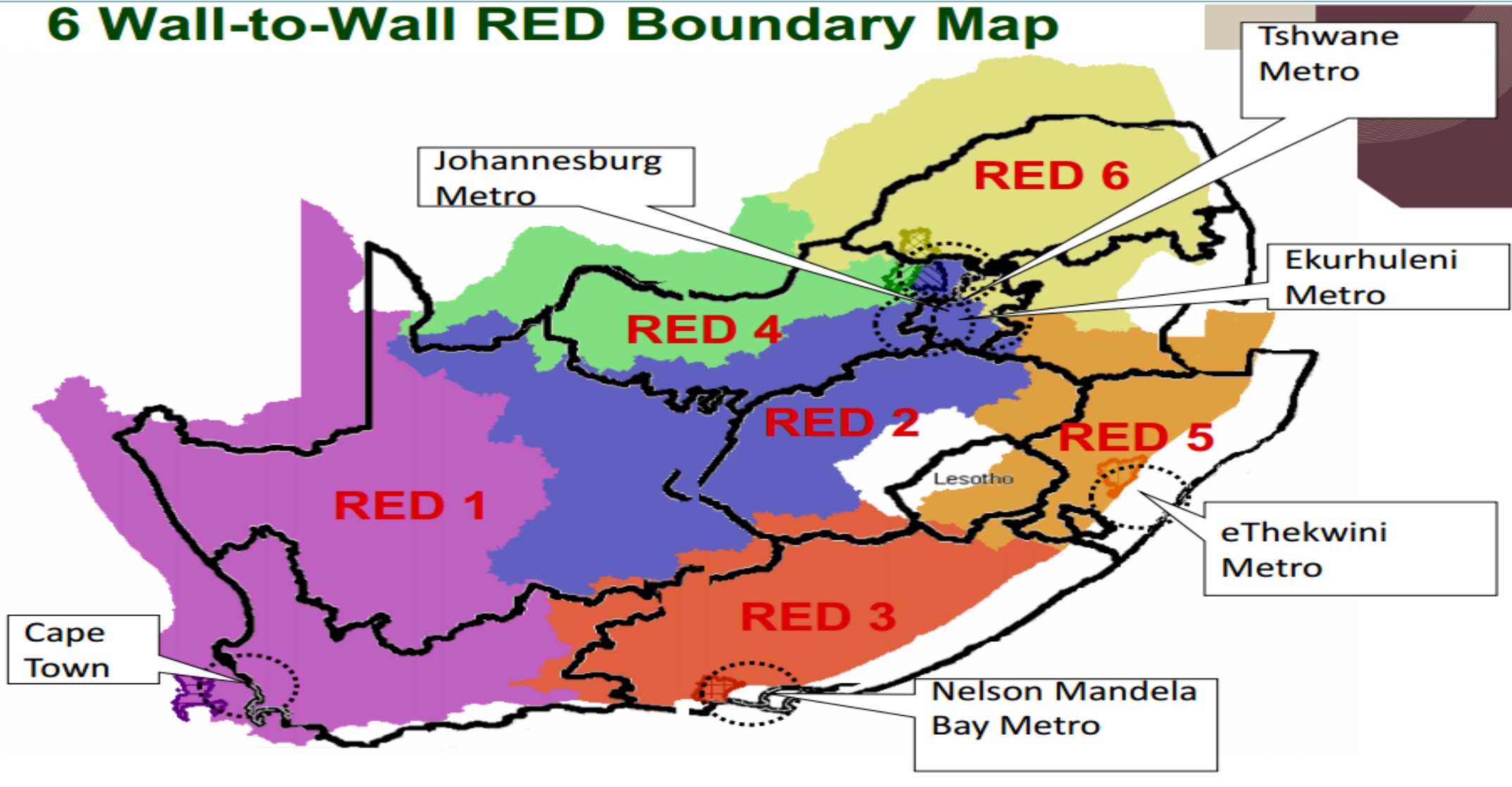
1970 -1990



Actual versus Forecast Electricity Consumption (Marquard, 2004)

1990 – to present day

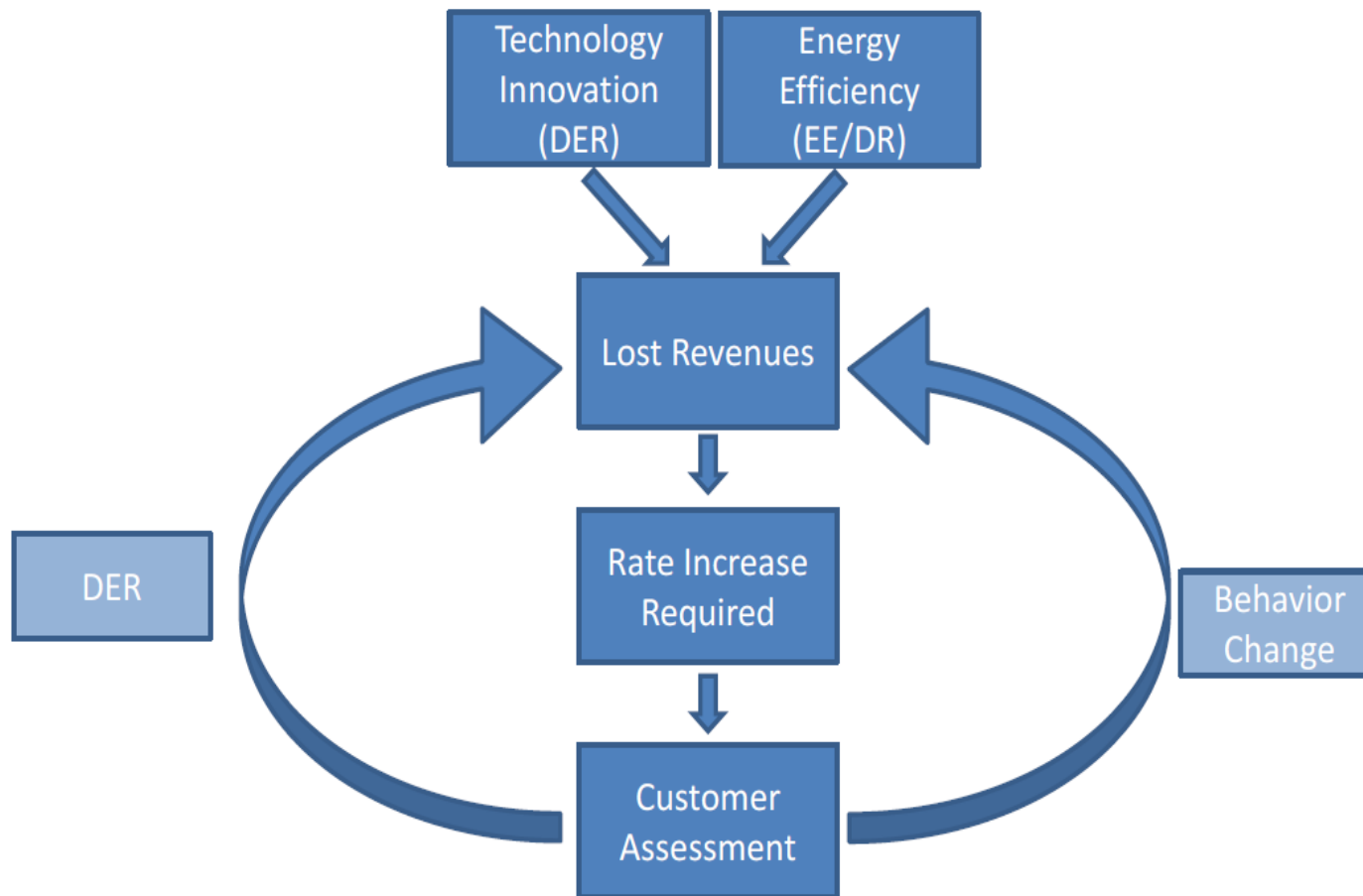
6 Wall-to-Wall RED Boundary Map



	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Million (1EUR=R13)					Medium term estimates		
Category A (metros)	2,888	3,211	3,350	2,454	2,945	2,168	1,151
Category B (locals)	1,487	1,473	1,251	795	608	-331	-1,281
Secondary cities	815	618	577	341	339	-87	-785
Large Towns	310	406	374	151	214	-92	-285
Small Towns	304	372	253	252	37	-80	-205
Mostly Rural	58	77	46	50	17	-72	-7
Category C (districts)	-21	-28	-48	-25	4	-4	-7
Total	5,840	6,129	5,803	4,018	4,165	1,500	-1,421

Net Surpluses on Electricity Sales

Current reality



Vicious cycle of disruptive challenges – Kind (2013)

Recommendations

- **Reviews municipal funding model:** Reduce reliance on surpluses
- **Municipal generation:** Revert to original model of distributed generation
- **Clear policy signals:** Government to be more transparent and timeous with the publication of policy documents
- **Strong and independent regulator:** Decisions must be autonomous and binding
- **New Technology:** Rethink of large coal
- **Eskom:** Reform and removal of political interference