Energy and climate for development

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Reference: Many slides from the Energy Research Centre LTMS team & the KuyasaCDM team

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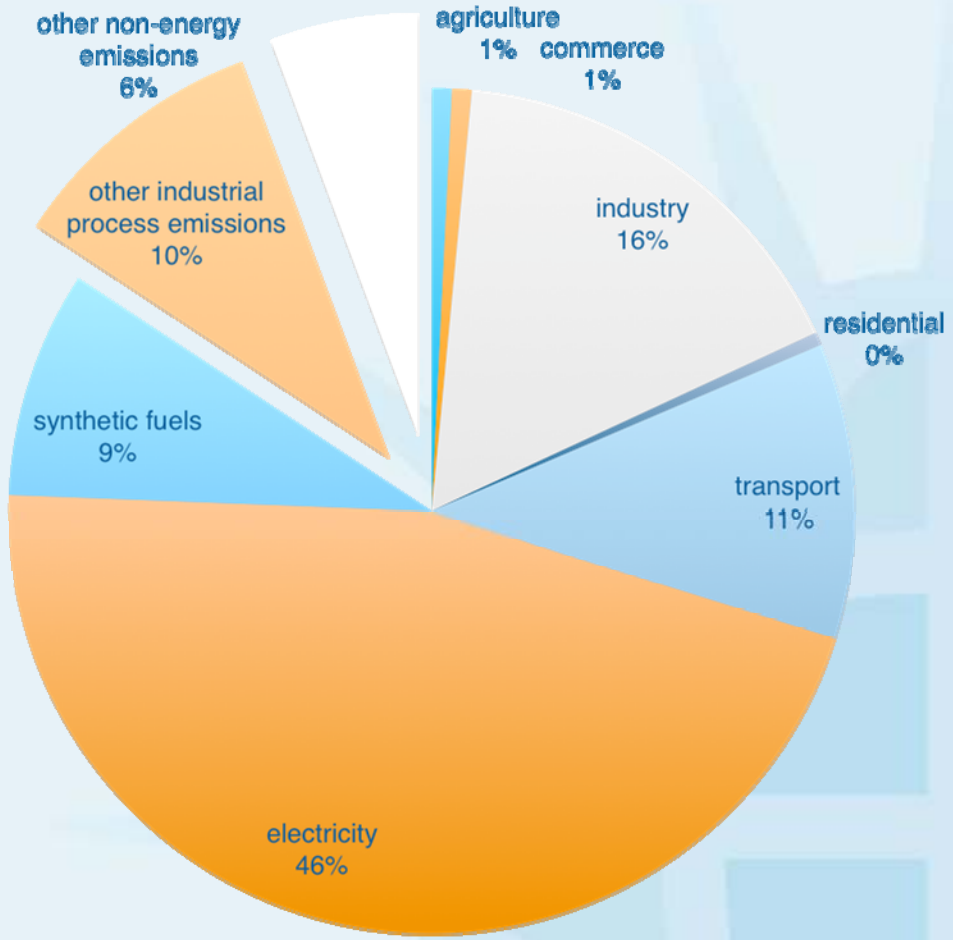
South African emissions profile (estimated shares, 2010)

- Vast majority of emissions from the energy sector
- Mainly from coal – electricity, industry, synthetic fuels manufacturing process
- Smaller share from crude-based liquid fuels
- Therefore key mitigation problem is tackling coal, especially electricity



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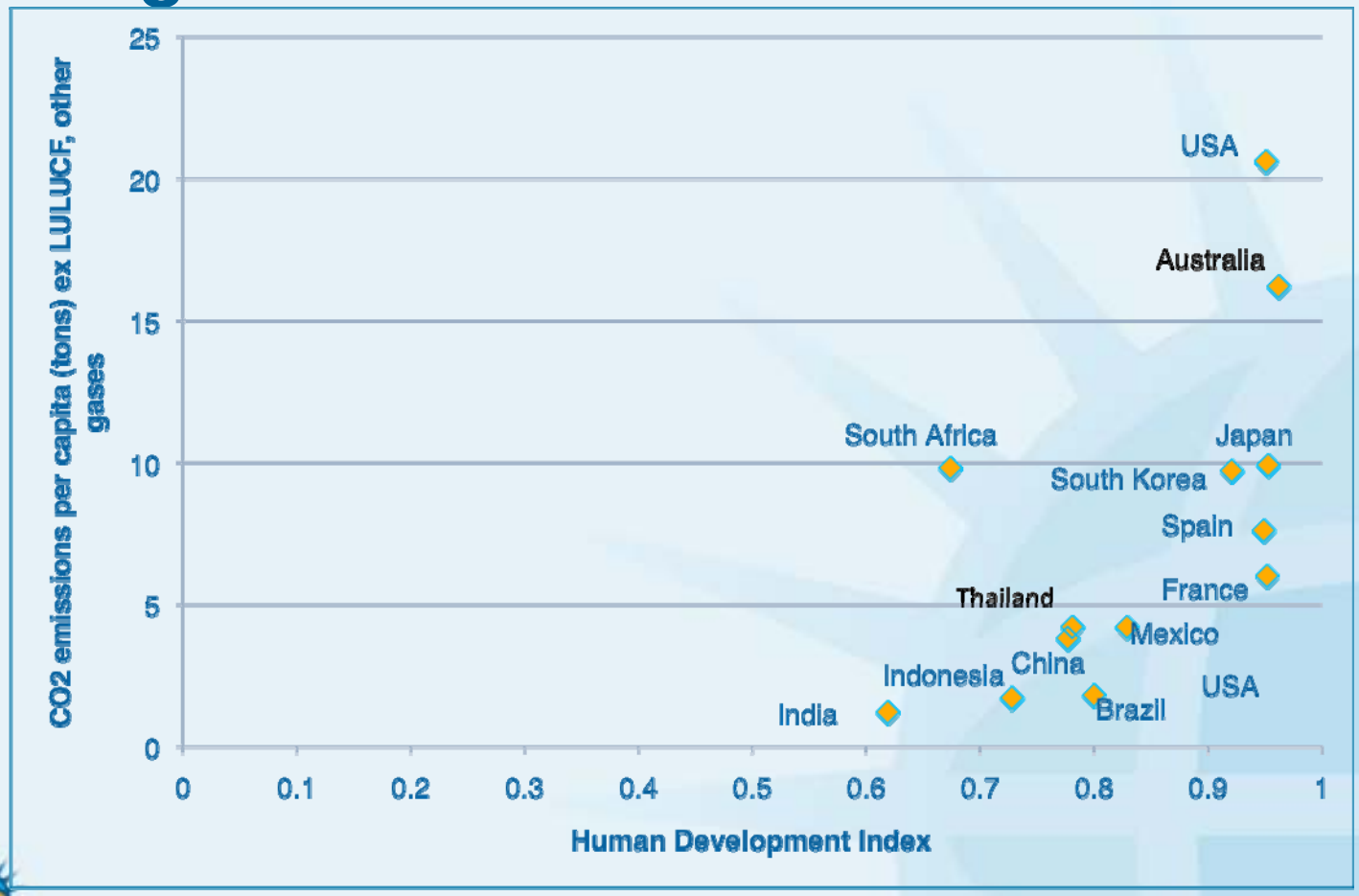
South Africa also has significant development challenges



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Climate policy process

- 2005 – national climate policy summit
- 2006-8 – Long Term Mitigation Scenarios process
- 2008 – Cabinet considers LTMS and adopts strategic direction that emissions should peak, plateau and decline
- 2009 – National Policy Summit initiates current policy process
- 2009/10 – SA proposes action of 34% deviation below BAU by 2020, conditional on support and a fair, binding and inclusive agreement
- 2010/11 – Green Paper – discussion document – to lead to White Paper – policy
- in the meantime, national discussions, etc.
- also, the Copenhagen targets conditional on support, a legally binding agreement etc

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Overview of the LTMS process

- Long-term view of economy-wide emissions – 2003-2050 – platform to project BAU emissions, and think about, and quantify, alternatives
- Two key components:
  - Technical – modeling – essential, but unimportant without political component
  - Political – stakeholder involvement, in process as well as expert capacity
- Consultations, followed by many technical iterations, followed by high-level consultations
- Cabinet endorsement, flowed into current policy process. The LTMS is NOT policy, and is NOT a strategy.

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LTMS Technical Process

- Develop a Business as Usual baseline
- Define an aspirational emissions reduction scenario – ‘Required by Science’
- Explore the mitigation potential of all feasible interventions, by sector, and quantify these
- Combine these into a number of economy-wide mitigation scenario
- Iteration and review by a ‘Scenario Building Team’ – experts from range of stakeholders

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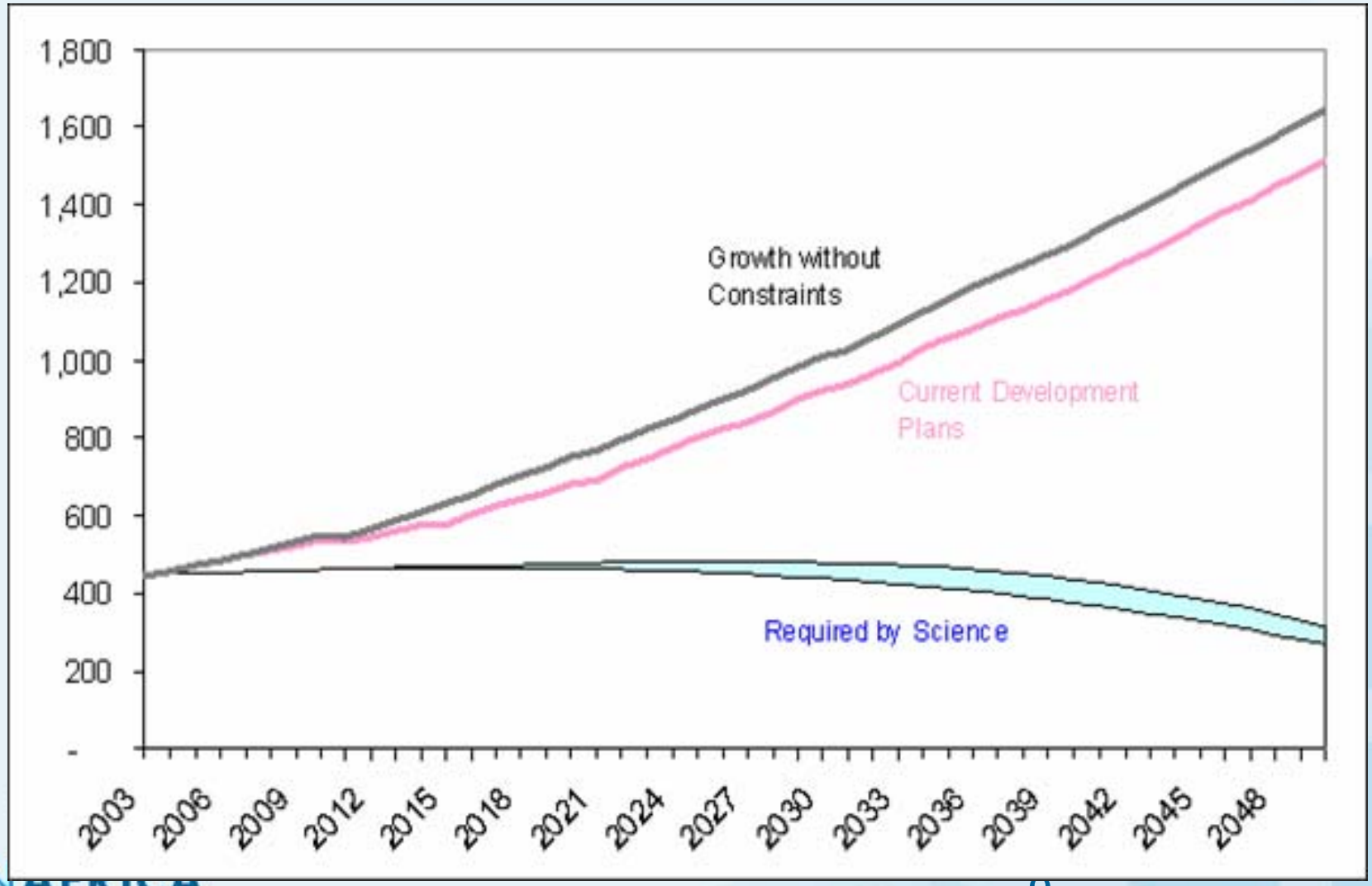
BAU – Growth Without Constraints – emissions grow around 4 times by 2050 – huge gap



From Scenarios to Action

- LTMS scenarios, and wedges, point to potential areas for national action – they identify areas with most potential and least cost, and give some idea about timing – short, medium and long-term.
- Specific measures need more detailed analysis to develop NAMAs, within this context / framework – updated cost and emissions data, coherence with national developments, policy processes, planning frameworks, etc.
- Options for implementation need to be explored, within existing policy / institutional context, also potential for institutional innovation, and international context

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NAMA	Discounted cost (2011	Mitigation	Simple carbon cost	Finance	Technology	Capacity-Building
Fast Start	955 M USD	53 Mt	18 USD / ton	REFIT subsidy	Limited – wind integration issues. Solar – demonstration plant.	REFIT regulation, grid management
Wind	3355 M USD	505 Mt	7 USD / ton	REFIT subsidy	Limited	Technical and regulatory
Solar	1891 M USD	109 Mt	17 USD / ton	REFIT subsidy	Significant opportunities for collaboration / technology	Development of technological

Other possible NAMAs

- Rapid bus transport and fuel switching
- Industrial cogeneration
- Industrial efficiency
- Standards and labeling
- National Sustainable Settlements Facility

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Why sustainable settlements?

- Health benefits
- Affordability - lower cost energy services
- Employment opportunities
- Lower peak demand for electricity
- Local participation in decision making
- Green House Gas mitigation

- Where is it better to invest upstream in the concrete and steel of power stations or in people and their homes? Somewhere in between… I think…

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NSSF

- Blend of carbon (either DSM or NAMA) and EEDSM finance flows
- Located within the Development Bank of Southern Africa
- Pilots already undertaken
- Buy-in at local, developer and city level as well as at high institutional level
- Dealing with energy upgrades in new and existing publicly funded structures

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Ceiling installation - Public Works

Suppressed demand

- Energy demand is constrained as a result of poverty or lack of infrastructure
- Suppressed demand can be included if proof of livelihoods improving can be shown
- Paragraph 46 of the Modalities and Procedures: “The baseline may include a scenario where future anthropogenic emissions by sources are projected to rise above current levels, due to the specific circumstances of the host Party.”
- Restated in the COP 15 outcomes: para 35 of “Further guidance related to the CDM.” Encourages the EB to further explore
- Precedent AMS ID and Kuyasa CDM project #0079

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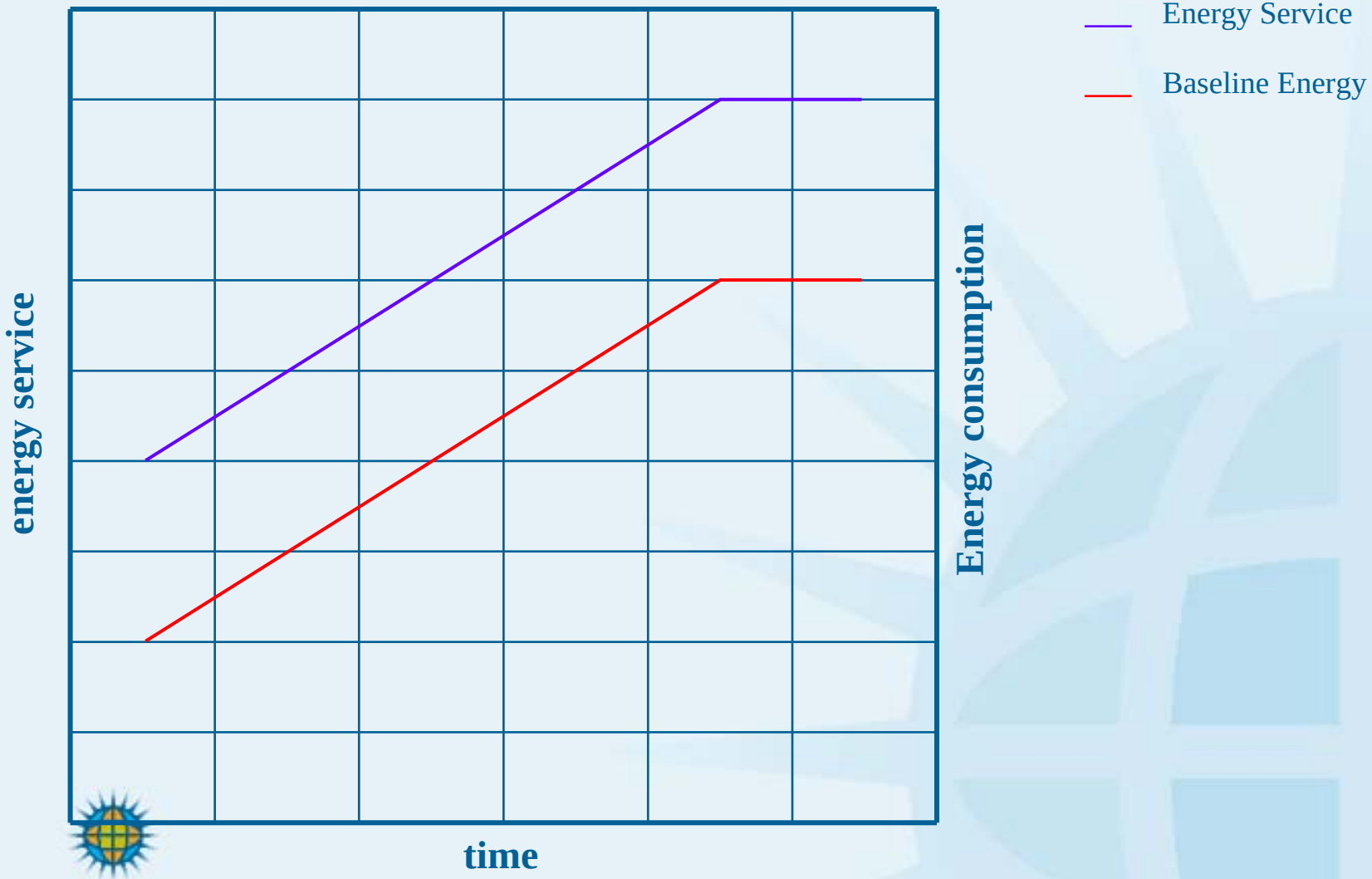
Energy services and energy consumption – business-as-usual



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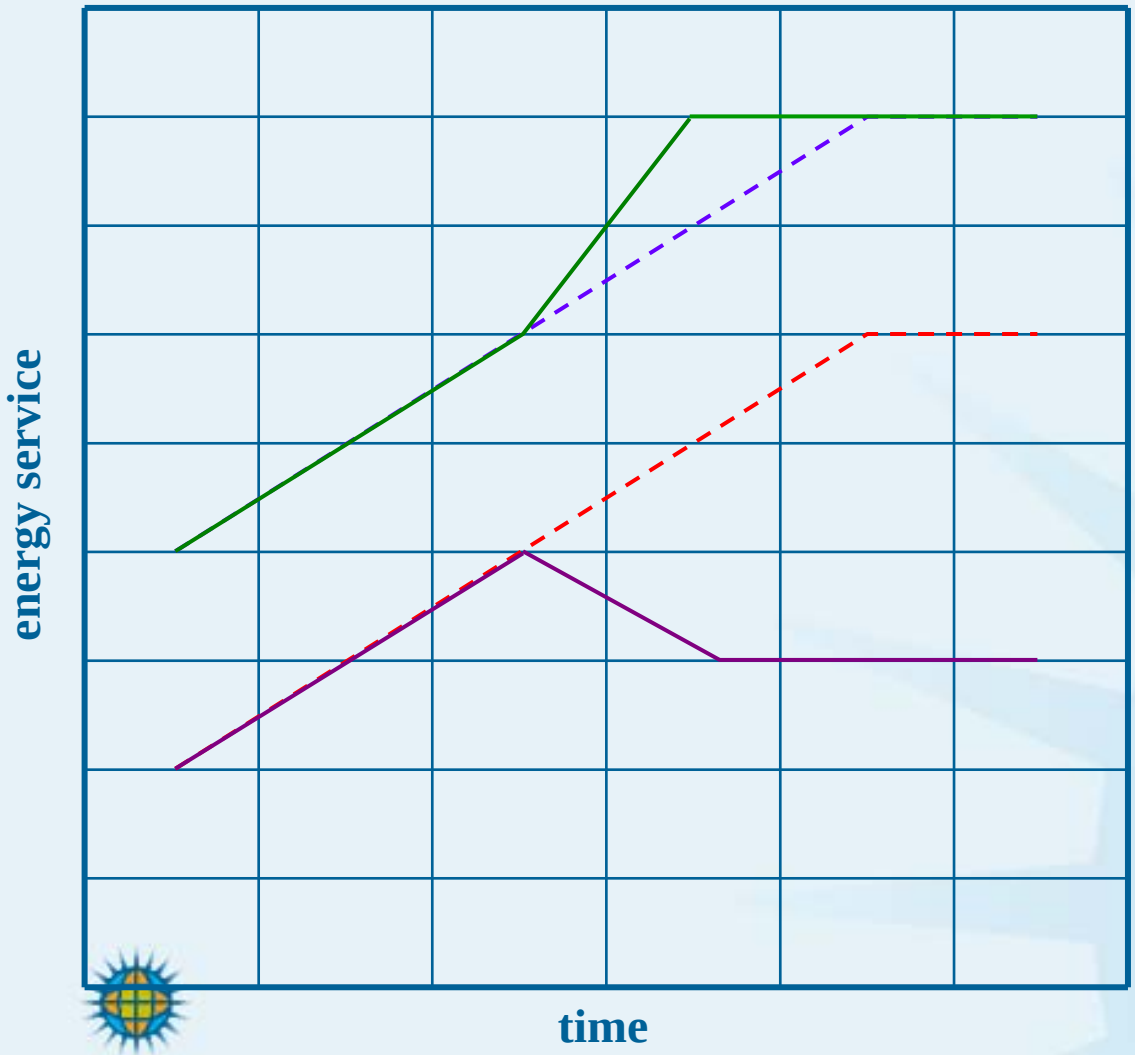
SUPPRESSED DEMAND INTERVENTIONS



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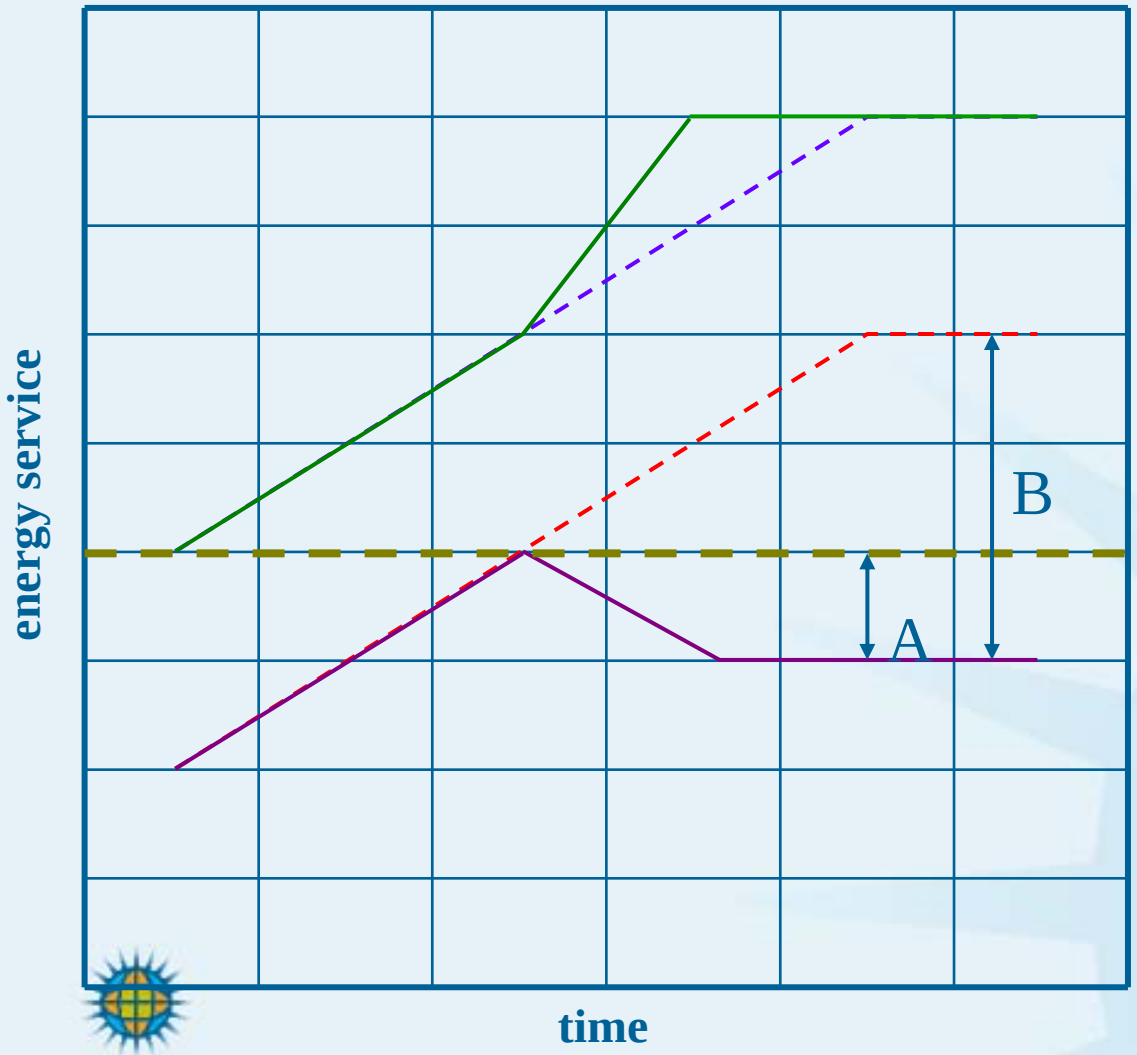
Energy Services and Consumption that take Suppressed Demand for service into account



Energy Service

Baseline Carbon emissions

Energy Service intervention

Carbon emission after clean energy service intervention

A are Existing Emissions

B are Existing Emissions + Future Avoided Emissions

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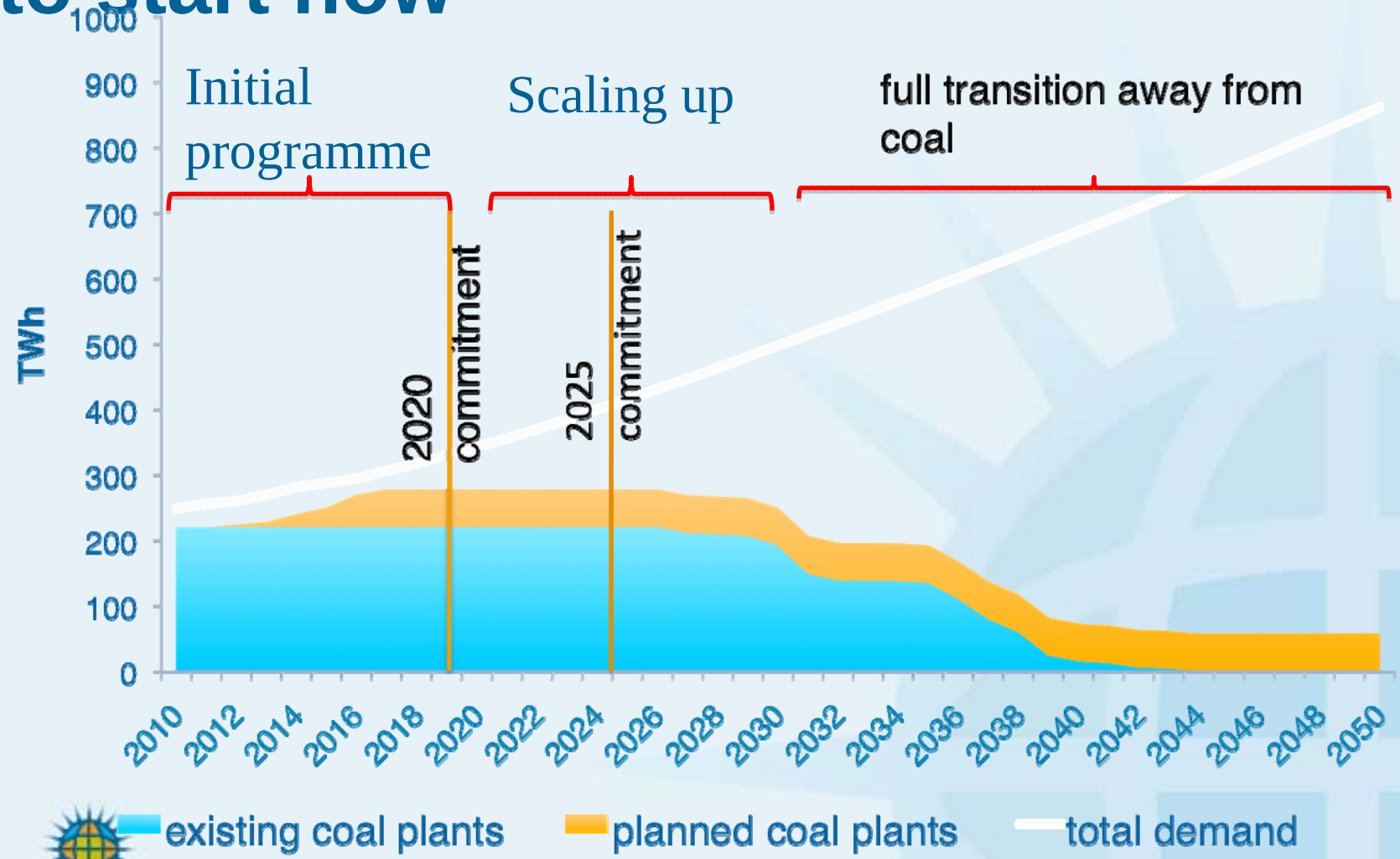
The big picture - strategic points in the SA electricity transition – need to start now



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Principles

- Real and measurable emissions reductions
- Include the suppressed demand for warm water and space heating services
- Reduced requirements for monitoring and verification

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Limitations to implementation

- Policy shopping lists and window dressing…
- Renewables targets …
- REFIT – no PPAs.
- EEDSM – ability to recoup losses/incentivise conservation.
- Corporate culture - the big centralised thing versus decent.
- Development/environment and climate - crowding out… New alignments with priority issues.
- Leadership – resources – capacity.
- Governance – players, referees and conflicted interests.
- Fiscal implications of fossil fuels and LDCs…
- Institutional readiness and investment in process…

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