



Long-Term Mitigation Scenarios

Long-Term Mitigation Scenarios PROJECT REPORT

by Harald Winkler, LTMS project leader

The story of LTMS

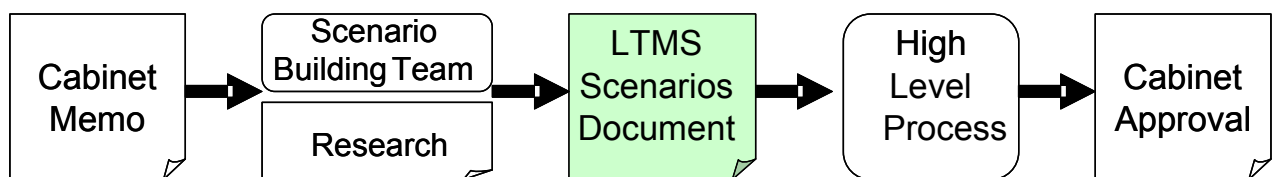
Work on the Long-Term Mitigation Scenarios (LTMS) for South Africa, started with a mandate from Cabinet in March 2006, and concluded with outcomes agreed by a Cabinet lekgotla in July 2008.

The process had objectives at both national and international level:

- Nationally, to develop robust and broadly supported scenarios to lay the basis for long-term climate policy
- Internationally, to provide South African negotiators well-founded positions for the negotiations on the future of the climate regime after 2012

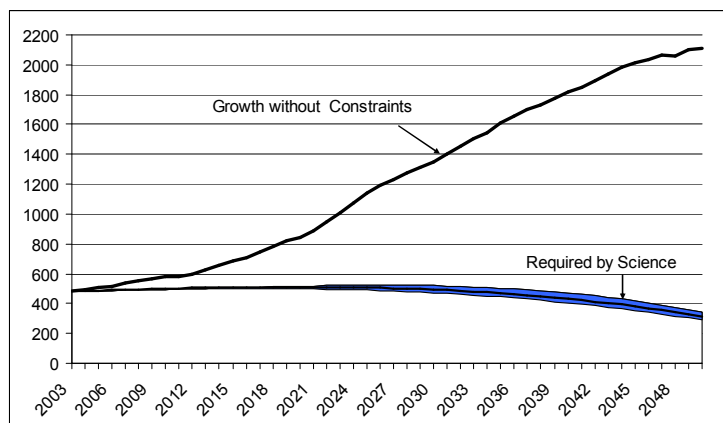
The Department of Environmental Affairs & Tourism (DEAT) was mandated by Cabinet to carry out the LTMS, in turn asked the Energy Research Center (ERC) to project manage the process, with Tokiso providing independent facilitation.

The technical work on the LTMS stood on two legs – a facilitated stakeholder process and best available information. What made LTMS different to many research reports was that the research fed into a facilitated stakeholder process. Central to the process was the Scenario Building Team (SBT), bringing together strategic thinkers from key sectors across government, business and civil society (see the LTMS Process Report for a fuller description of the process). What gave the LTMS process rigour and a foundation in the best available scientific information were the four research teams. Significant effort was expended in the first phases of LTMS to set up the SBT and appropriate research teams.



The SBT met 6 times, the first taking place on 16 August 2006, with the final meeting on 24 October 2007. In addition, a core group of Stakeholders formed a working group, meeting 3 times in total. Members of the SBT participated in their individual capacities, but brought their strategic understanding of their sectors to the table.

In the early phases, the SBT was involved in conceptualising the scenarios, brain-storming mitigation options and commissioning research groups (SBT 2, Sept 2006) – energy (led by ERC's modeling group); non-energy (led by the CSIR); industrial process emissions (Airshed and ERC); economic analysis (initial work by Kalie Pauw, later Marna Kearney); and work on climate change impacts and



adaptation (led by SANBI). The SBT gave detailed comments on the assumptions and data used by the research teams from Nov 2006 to February 2007. The first major round of research was then conducted. The initial results reported to SBT4 (May 2007) brought the first shock – that ‘The Gap’ between Growth without Constraints and Required by Science was enormous – three times the size of base year emissions.

The shock had the effect of turning the RBS scenario into the effective goal – and all other scenarios into strategic options. When the SBT realised that the “Start Now” set of wedges (mitigation options) did not close the gap even half-way, more ambitious wedges and strategic options were examined. The research teams were sent back to model and analyse both regulatory options as well as taxes and incentives. SBT 5 (Aug 2007) considered Scale Up and Use the Market. Two meetings of a smaller Working Group advised on further refinements of strategic options, as well as conducting sensitivity analysis (including variants on the future oil price).

Various smaller meetings were convened. A special meeting was held with industry to debate in detail the potential of energy efficiency. Two meetings were convened with senior economists (including from Nedlac, Chamber of Mines, Treasury, Presidency and others) to examine the economy-wide modeling in particular. An important contribution from those meetings was to recommend further work on dynamic (rather than comparative-static) economy-wide modeling, which has since been completed. As the SBT realised that the full gap could not be bridged with the currently known technologies we currently face, a so-called ‘fairy godmother’ meeting was convened. Far from being a dream, this meeting pointed to the important long-term changes needed not only in technology, but also in resources, behaviour and economic structure.

In short, with the support of the research teams, the SBT was

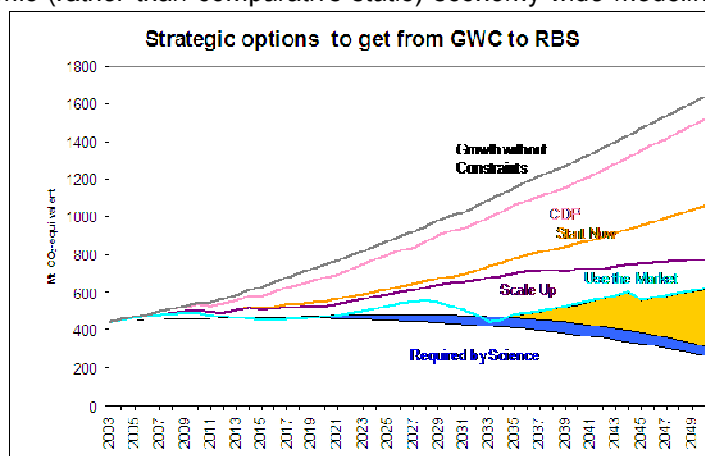
able to develop evidence-based scenarios. SBT6 (October 2007) was a remarkable meeting in that participants from a wide diversity of backgrounds, acknowledging their differing views on specific issues, were able to sign off on a single set of documents. In the style of the IPCC, the SBT approved the Scenario Document page by page and also approved the Technical Summary, accepting the Technical Report, its appendix and the multiple underlying inputs from the four research teams (the ‘telephone book’) as representing a solid basis for decision-making. The LTMS documents were presented to a broader set of stakeholders during October and November 2007, in particular a meeting of FOSAD, a dinner of CEOs and meeting with NGOs and labour.

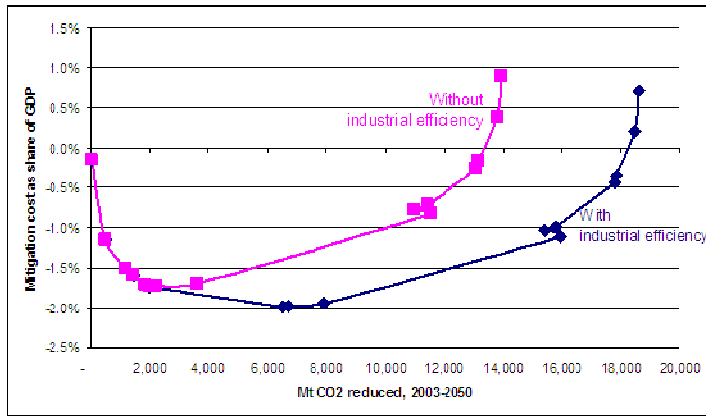
During 2008, the LTMS shifted into a high-level process. During 2008, the DEAT team took the lead, with ERC and Tokiso providing support on request basis, in the form of additional drafting and analysis. The DEAT team prepared a memorandum for consideration by Cabinet. The process of consulting within government was intensified, and further meetings with business (coordinated with the National Business Initiative) and civil society were convened.

Broader achievements

The real significance of the LTMS lies in its broader achievements. Some intangible results of the LTMS rank among its most important of these.

Evidence-based scenarios were the result of pioneering methodology, with research and process interacting to produce an integrated whole. The facilitated stakeholder process was critical to build consensus around results, as important as building confidence through the rigour of the research methodology. The cutting-edge work on the interaction between energy modeling and economy-wide modeling deserves to be highlighted. The overall rigour (including state-of-the-art analysis of impacts) was affirmed by the World Bank peer review, with the Markal energy model passing a second international review with flying colours.





South Africa has moved ahead of the curve in terms of its ‘homework’ for the negotiations on the future of the climate regime, to be concluded by 2009. LTMS outlined mitigation potential, across virtually all sectors. While the ‘big hits’ catch attention, a multiplicity of ‘wedges’ has been analysed. The costs of different mitigation options is understood clearly. It is very clear that there are many negative-cost options – mitigation actions that require investment upfront, but

save more than is spent. Even better news is that much can be done at no cost to the economy, and even more at a modest cost, below 1% of GDP.

The creation of the Scenario Building Team in itself is an important outcome of the LTMS. Results shaped and endorsed by a set of strategic thinkers from a diversity of stakeholders carry much greater weight than a simple research report. This team of people has the potential to continue playing an important role in future.

Much of the LTMS focused on technology-based options. The SBT gave clear recognition to other dimensions and stressed the need for research into future options. New resources and behavioural changes are two key dimensions. But perhaps the most fundamental issue raised by LTMS was about the need for a transition to a low-carbon economy. Changing from our energy- and emissions intensive past to a climate –friendly future requires a major transformation. The benefits and costs of such changes and transitions need to be much more deeply understood.

The leadership shown by DEAT and Ministry enabled involvement of many government departments and other actors – some of whom have not been that active in climate change before. LTMS was climate change “mainstreaming in action”. The LTMS process, naturally together with other developments, has raised levels of awareness on climate change significantly, compared to the start of the project. The high-level process and political work by DEAT started conversations that will be critical in the policy development process.

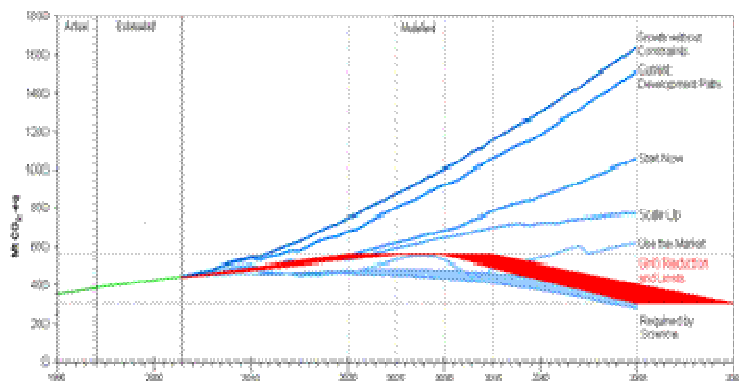
Overall, LTMS represents a watershed in SA climate policy. The outcomes are a vision, a strategic direction and a framework for policy. While the litmus test will be to implement the many recommendations, a firm foundation has been laid.

LTMS was a process that started and ended at the highest level in government, with Cabinet. The statement of LTMS outcomes by government as a whole summarised the key achievements.

Outcomes

At the national level:

In July 2008, Cabinet agreed on an ambitious plan, driven by the aim of limiting temperature increase to 2°C above pre-industrial levels and doing a fair share in the international context. Taking a long-term view, the goal is to make a transition to a low-carbon economy, presenting this as the best option for job creation and development in a carbon-constrained future. Cabinet stated clearly that emissions need to peak (at the latest by 2020-25), then plateau for a decade or so, and then decline. This strategic direction needs to be given more immediate effect by setting more ambitious domestic targets for energy efficiency, renewables and transport. Increasingly, mandatory action is needed rather than voluntary. In developing formal policy, state-led regulation will play a key role, complemented by getting the economic incentive structure right. Policymakers understand that the country’s new competitive



advantage will lie in becoming world leaders in climate-friendly technology. An escalating price on carbon is designed to trigger action in many sectors. The SA government as a whole has indicated that it seeks long-term change, making a major transition from an energy-intensive to a low-carbon economy. Greater investment in long-term research and development will be crucial on the road to a low-carbon society. Together, the implementation of the strategic options outlined in the LTMS will enable South Africa to turn climate change mitigation into a pro-growth, pro-job and pro-development strategy for the future.

At the international level:

As a developing country, South Africa is stepping up to make a fair and meaningful contribution to solving the challenge of global climate change. Acknowledging the aim of limiting temperature increase to 2°C is a major step for a developing country and demonstrates bold leadership. It is also fully consistent with the findings of the IPCC, which found that the absolute reductions will be required of developed countries and deviations below baseline from developing countries.

South Africa has signalled that it is serious about negotiating on climate change. It can do so on the basis of having done its homework at the national level.

Clearly, South Africa expects all developed countries to respond with leadership, taking on legally-binding, absolute reductions in their emissions. Only by all agreeing to their respective responsibilities will it be possible to agree a long-term goal, which the planet so urgently needs.