

Low Carbon Scenarios in Emergent Economies: the Brazilian Case

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Background

The challenge of developing the Brazilian economy without appreciably increasing its greenhouse gas emissions is important for policy development in the short, medium and long term. For the short term, Brazil has concluded a number of studies, including Scenario exercises, and these have been translated into pledges, plans and policies. The policy activity mostly covers the period up to 2020, and in particular focuses on Brazil's Copenhagen pledges. Activities include the Sectoral Mitigation Plans under preparation (due in December 2011) and the mitigation plans prepared for energy, agriculture and for forest protection in the Amazon and "cerrado" regions.

Forward planning in the economy must however stretch beyond the short and medium term. Preparatory studies need to be undertaken at this point that can start to build, over the next 3 years or so, an understanding of the implications for the economy and society of different economic pathways, each with an accompanying analysis of their greenhouse gas emissions trajectories and their economic and social implications. In short, the Scenario work done so far now needs to be updated and extended.

Although the work looks far into the future, up to horizons such as 2050, there are tools to do this, and modelling has become sophisticated enough, if inputs and assumptions are accurate enough, to create significant pictures of possible futures and provide meaningful analysis of their impacts on society.

Other emergent countries have done similar work: a good example is the Long Term Mitigation Scenarios study conducted in South Africa, between 2005 and 2008. This study showed how robust agreement between stakeholders could provide consensus-driven instructions to modellers who could in turn produce useful Scenarios for policy makers. The South African study has been influential in South Africa on a number of levels from policy making to capacity enrichment in all the sectors.

Mandate: Legitimacy

For a study of this nature to be significant and able to drive real action, it should be seen by all involved to have a high degree of legitimacy, and hence a mandate from the highest levels in Government would have to be obtained.

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Method: Credibility

Many studies of this nature are simply shelved: whilst technically valuable, they do not achieve high degrees of credibility within stakeholder groups for a number of reasons. These often have to do with the method followed: research groups or consultants take up available data and model this material resulting in technical studies which are complex and opaque, and often controversial.

Questions: Relevance

For the Scenario exercise to be taken up by policy makers and society it should be legitimate (high level mandate) and credible (stakeholder and research driven). It must also be relevant: the study should answer questions that are relevant to society, players in the economy and policy makers.

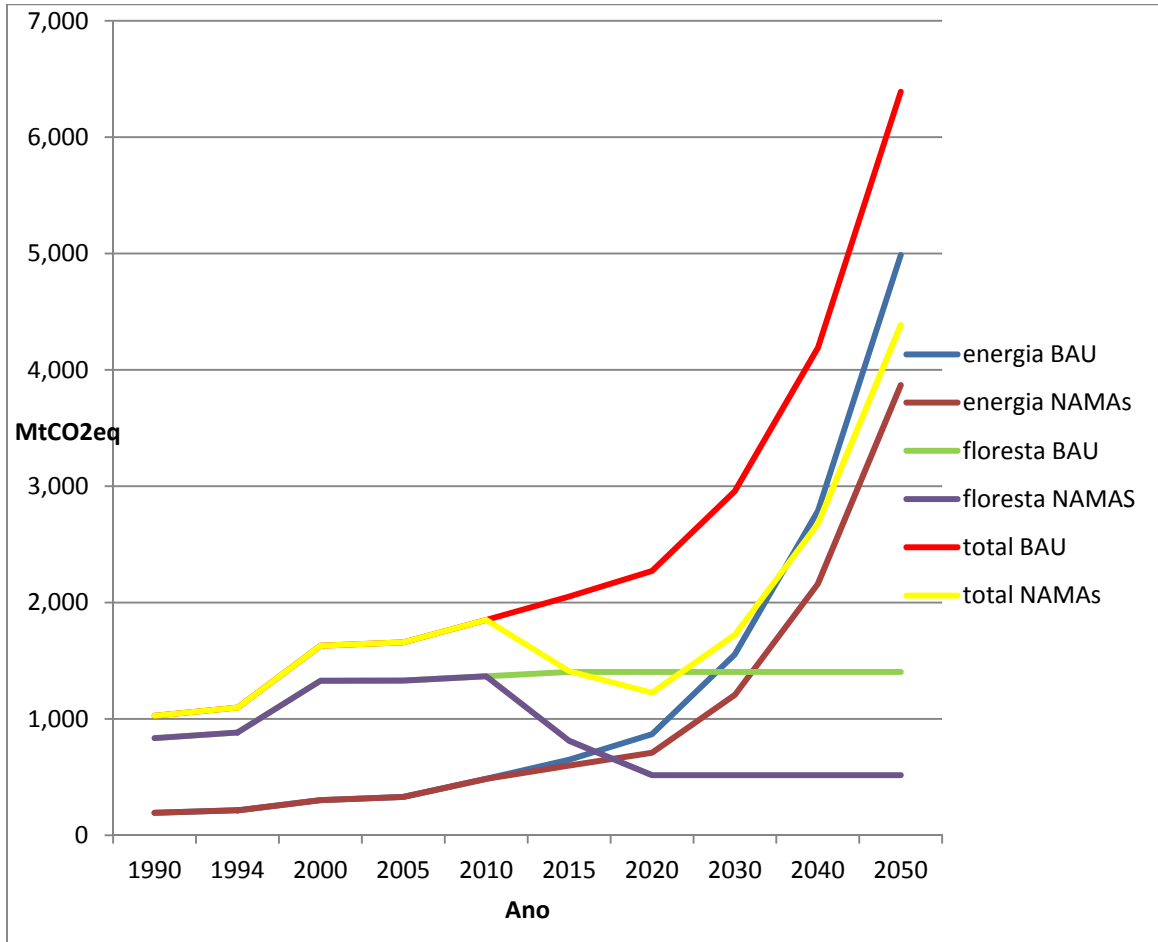
When we look at the emissions plan for Brazil it is clear that up to 2020 activities around avoided deforestation will take up the bulk of the emissions reduction. Our actions to avoid deforestation are on track, and our Copenhagen pledges ought to be met. Other sectors' plans are also being prepared and will be presented. The combined emissions of these sectors will however increase in the period up to 2020 and are likely (in the baseline at least) to increase on a business as usual basis. The graph shown in the next page makes this clear.

What the Graph clearly illustrates is that, whilst there are challenges in achieving the pledges for 2020, the real challenge lies beyond that date, as the economy relies more on energy and other sectors to decouple its development from increasing emissions.

The relevant questions therefore appear to be clear:

- *What is the projected "business as usual" or "growth without constraints" greenhouse gas emissions Scenario for Brazil between 2020 and 2050? What are the likely ranges in this Scenario, given different internal Scenarios, driven by, for example, different oil price realities?*
- *What are the economic, social and other implications of these unconstrained Scenarios?*
- *What are the likely constraints on this Scenario, both international and regional, and what are the likely impacts of these constraints? (the constraints may range from physical climate impacts to international policy impacts such as cross border trade and international agreements on ghg limitation; economic constraints from the international costs of transition to the low carbon economy and its impact on trade; regional constraints such as energy imports)*
- *Given these constraints, what low carbon economic and social pathways are available to Brazil, and what are the economy-wide and social (job creation, poverty impacts) implications of these various choices?*
- *How do these options compare to a Scenario that is driven purely by scientific requirements to keep to a 2 degree world?*

Brazilian GHG Emissions, 1990- 2020 - 2050



Energy BAU =Brazilian official BAU energy-emissions path presented to the UNFCCC, according to the national climate change policy, up to 2020; extended to 2050 at a 6% per year growth rate

Energy NAMAs = Brazilian official energy-emissions path presented to the UNFCCC, according to the national climate change policy, up to 2020; extended to 2050 at a 6% per year growth rate

Forests BAU = Brazilian official BAU LULUCF emissions path presented to the UNFCCC, according to the national climate change policy, up to 2020; extended to 2050 under a continuous zero-growth assumption

Forests NAMAs = Brazilian official energy-emissions path presented to the UNFCCC, according to the national climate change policy, up to 2020; extended to 2050 under a continuous zero-growth assumption