South Africa's Carbon Pricing Policy

PMR - Pricing Carbon to Achieve Mitigation, WASHINGTON, DC

Mpho Legote | 13 March 2013

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Outline

- Background
- SA's Climate Change Policy Context
- Climate Change Policy Measures
- SA's Carbon Pricing Policy
- Rationale for a Carbon Tax
- Proposed Carbon Tax Design
- Concluding Remarks

Background

- South Africa is ranked among the top 20 countries measured by absolute carbon dioxide (CO_2) emissions

- The energy sector emissions (i.e. electricity generation, petroleum refining) and transport accounted for more than 80% of total emissions in 2000

- Power Utility (Eskom) accounts for more than 90% of total electricity generated in the country, with coal accounting for more than 92% of fuel input

- South Africa (SA) committed to curb GHG emissions by 34% by 2020 and 42% by 2025 below the BAU trajectory (subject to provision of adequate financial, technological and capacity-building support)
- SA's has aspired to its emissions peaking between 2020 and 2025, remaining stable between 2025 and 2035 for a decade and declining in absolute terms from around 2035

The desired South African climate change mitigation outcome - the "Peak, Plateau and Decline" (PPD) greenhouse gas emission trajectory — comparison with other popularised conceptions of PPD
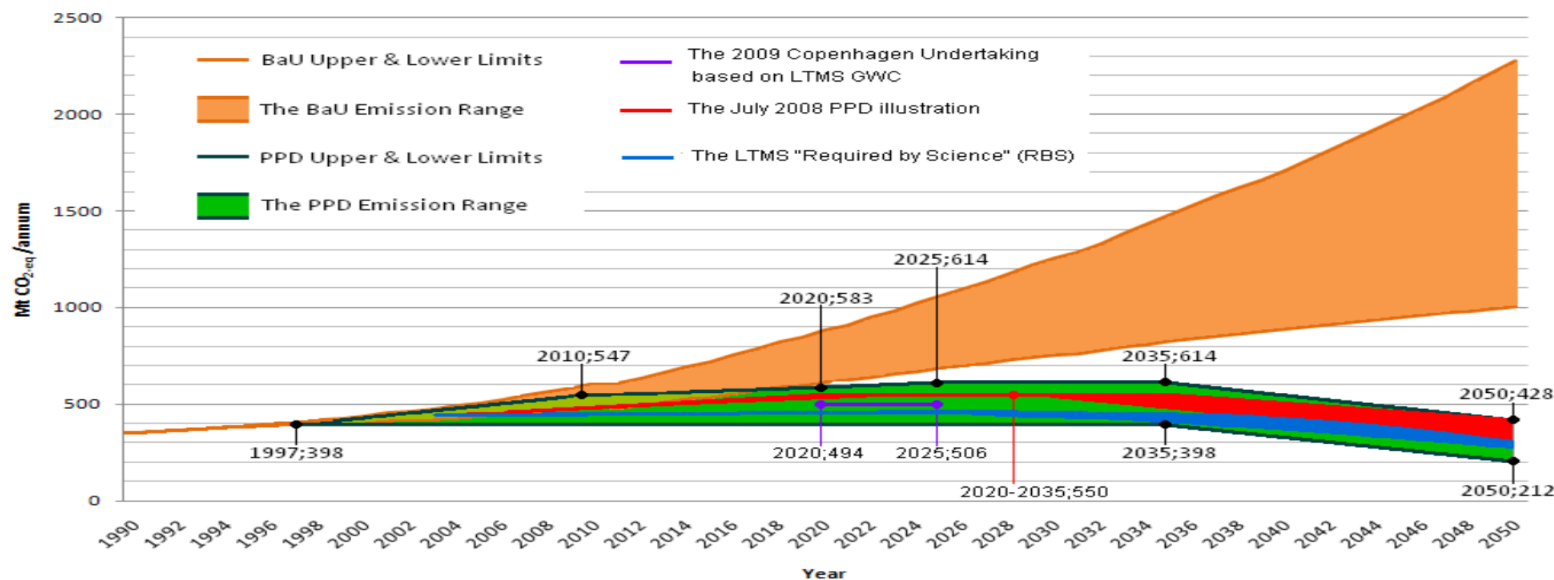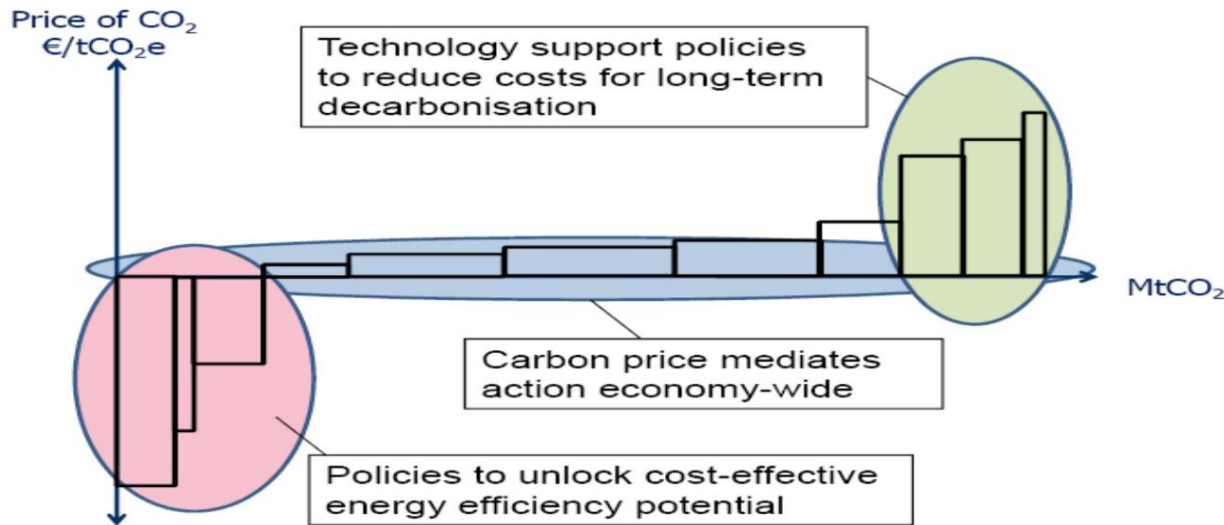
South Africa's Climate Change Policy Context

- **2006** – **Draft Environmental Fiscal Reform Policy Paper entitled** *"A Framework for considering market-based instruments to support Environmental Fiscal Reform in South Africa"*

- **2011** – **National Climate Change Response White Paper**
  - Approved by Cabinet in October 2011 before COP17 in Durban

  - Recognised that a mix of economic instruments including market based instruments such as carbon taxes, ETS and incentives complemented by appropriate regulatory policy measures are essential to drive and facilitating mitigation efforts and creating incentives for mitigation actions across a wide range of key economic sectors

Climate Change Policy Measures

- Carbon pricing should be the "core" policy measure to mitigate GHG emissions. However it is not a complete solution on its own due to possible incomplete coverage or design compromises. This may warrant further supplementary policies.

- Such supplementary policies should include energy efficiency (short-term) and technology support policies (long-term)

Price of CO_2
€/tCO_2e

Technology support policies to reduce costs for long-term decarbonisation

Carbon price mediates action economy-wide

Policies to unlock cost-effective energy efficiency potential

$MtCO_2$

(IEA, 2011. Summing up the parts: Combining Policy Instruments for Least-Cost Climate Mitigation Strategies.)

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South Africa's Carbon Pricing Policy

- **2010 – Publication of the carbon tax discussion paper entitled** *"Reducing Greenhouse Gas Emissions: The Carbon Tax Option"*
  - The negative external costs of GHG emissions are not reflected in market prices of certain goods and services, e.g. energy
  - A carbon tax is a means by which government can intervene by way of a market based instrument to appropriately take into account the social costs resulting from carbon emissions
  - It's a policy measure to price carbon emissions to stimulate behavioural change towards less energy intensive, low carbon emitting alternatives
  - It seeks to level the playing field between carbon-intensive (fossil-fuel based firms) and low carbon emitting sectors (renewable energy and energy efficient technologies)
  - To provide the necessary, credible long term price signals to stimulate behaviour changes towards energy efficient and low carbon alternatives
  - Although it does not set a fixed quantitative limit to carbon emission over the short term, a carbon tax at an appropriate level and phased in over time to the "correct" level will provide a strong price signal for behavioural change over the medium to long term
  - Document has been revised into a policy document for publication in end March 2013

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Rationale for a Carbon Tax

- As a developing country, South Africa does not (as yet) face a binding target for emissions reduction

- A carbon tax will provide the necessary flexibility and space for the country's economic development needs while also addressing environmental problems

- Setting a fixed target or emissions cap relative to a specific base year for South Africa will require rapid reductions in GHG emissions over a relatively short timeframe

- In order to work effectively, an ETS needs a sufficient numbers of traders entities participating in the scheme, as well as adequate trading volumes to generate an appropriate carbon price. In South Africa, the oligopolistic nature of the energy sector may fail to meet these requirements

- Dynamic economic incentives for further investments in research, development and technology innovation may be deterred due to uncertainties arising from inconsistent (and very volatile) carbon prices

Proposed Carbon Tax Design

- To apply to all direct, stationary (i.e. Scope 1) sources of emissions including process emissions based on fuel inputs
- Will be implemented from 1 January 2015 at a rate of R120 per ton of CO_2e emissions above a threshold
- The tax rate to increase annually at 10% for the first phase (2015 - 2020)
- For first phase – temporary tax exemption threshold will apply:
  - A basic threshold of 60% of actual emissions (rather than absolute emissions threshold)
  - Additional relief of a maximum 10% to allow for process emissions (i.e. cement, iron and steel, aluminium and glass sectors, etc.)
  - Additional relief of a maximum 10% for trade exposed sectors to deal with competitiveness concerns
  - An offset mechanism, similar to the CDM, to offset carbon tax liability up to a maximum of 5% and 10% for the different sectors to invest in projects outside their normal operations

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- The overall maximum tax-free threshold (including offsets) will be limited to 90 per cent during the first phase
- Firms will be encouraged to reduce the carbon intensity (including both Scope 1 & 2 emissions) of their products by adjustments to the basic tax-free threshold of 60 per cent by a factor Z.
- The reduction in carbon intensity will be measured with reference to a base year or industry benchmark
- Revenues from the tax will not be earmarked, but consideration will be given to spending to address environmental concerns.
- Incentives such as the proposed energy-efficiency tax incentive and measures to assist low-income households will be supported.

Concluding Remarks

- A carbon tax seems to be the more appropriate mechanism to price carbon and thereby begin to internalize externalities associated with GHG (CO_2) emissions;

- An alternative or possibly a complementary mechanism to price carbon by way of an emission trading scheme will be considered over the longer term

Thank You

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Economic Tax Analysis

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Additional Slides

Budget 2012: Proposed carbon tax design features:

Table C.13 Proposed emissions thresholds for sectors

Sector	Basic tax free threshold (%) below which no carbon tax will be payable during the first phase (2013 to 2019)	Maximum Additional allowance trade exposure	Additional allowance for "process" emissions	Total	Maximum offset percentage
Electricity	60%	-	-	60%	10%
Petroleum (coal to liquid)	60%	10%	10%	80%	5%
Petroleum – oil refinery	60%	10%	10%	80%	5%
Iron and steel	60%	10%	10%	80%	5%
Aluminium	60%	10%	10%	80%	5%
Cement	60%	10%	10%	80%	5%
Glass & ceramics	60%	10%	10%	80%	5%
Chemicals	60%	10%	10%	80%	5%
Pulp & paper	60%	10%	0%	70%	10%
Sugar	60%	10%	0%	70%	10%
Agriculture, forestry and land use	60%	-	40%	100%	0%
Waste	60%	-	40%	100%	0%
Fugitive emissions: coal	60%	10%	10%	80%	5%
Other	60%	10%	-	70%	10%

Adjustments to the (60%) basic percentage tax-free threshold

- Percentage thresholds will be used to quantify the carbon tax liability of an entity or firm based on the absolute emissions for that year.

- A formula is proposed to adjust the basic percentage tax-free threshold to take into account efforts already made by firms to reduce their emissions and to encourage firms to invest in low-carbon alternatives. The basic percentage threshold below which the tax will not be payable may be adjusted using a carbon emissions intensity factor for output compared to an agreed sector benchmark. A formula is proposed to calculate a factor Z, which will then be used to adjust (increase or decrease) the basic percentage tax-free threshold as described below:

- $Z = Y / X$

  - X is the average measured and verified carbon intensity of the output of a firm.

  - Y is the agreed benchmark carbon intensity for the sector.

- The adjustment to the tax-free threshold is then determined by multiplying the original percentage threshold by Z.