

SOUTH AFRICA'S CARBON TAX POLICY & THE PERFORMANCE ALLOWANCE

PMR WORKSHOP

Environmental & Fuel Taxes, Economic Tax Analysis Unit

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Presentation outline

- South Africa's Climate Change policy response & Paris Agreement
- Rationale for a carbon price / tax
- South African carbon tax design:
 - allowances
 - revenue recycling measures
- Rationale for the performance allowance under the carbon tax
- Design / process to claim performance allowance
- Next steps

South Africa's response to climate change

- South Africa voluntarily committed (at COP 15 in 2009) to curb GHG emissions by 34% by 2020 and 42% by 2025 below the BAU trajectory, subject to support from developed countries in the areas of climate finance, capacity building & technology transfers
- ⦿ South Africa **signed** the Paris Agreement in April 2016 and **endorsed** the submission of its Nationally Determined Contribution (NDC).
 - The NDC requires that **emissions peak in 2020 to 2025, plateau for a ten year period from 2025 to 2035 and declines from 2036 onwards.**
 - GHG emissions expected to range between **398 and 614 MT CO_{2eq}**
- ⦿ The policy instruments under development include a **carbon tax, desired emission reduction outcomes (DEROs) for sectors, company-level carbon budgets**, as well as regulatory standards and controls for specifically identified GHG pollutants emitters.



South Africa's National Climate Change Response White Paper, 2011

- South Africa's response to climate change has two objectives:
 - Effectively manage inevitable climate change impacts through interventions that build and sustain South Africa's social, economic and environmental resilience and emergency response capacity.
 - Make a fair contribution to the global effort to stabilise greenhouse gas (GHG) concentrations in the atmosphere at the level that avoids dangerous anthropogenic interference with the climate system within a timeframe that enables economic, social and environmental development to proceed in a sustainable manner.
- One of the elements in the **overall approach to mitigation is: The deployment of a range of economic instruments to support the system of desired emissions reduction outcomes, including the appropriate pricing of carbon** and economic incentives, as well as the possible use of emissions offset or emission reduction trading mechanisms ...

Rationale for the carbon price and tax

- “...Carbon pricing should ideally form the centerpiece of mitigation efforts... Moreover, the carbon price provides a strong signal for innovations to improve energy efficiency and reduce the costs of zero- or low-carbon technologies”
- **“Carbon pricing also strikes the cost-effective balance between different emission reduction opportunities** because all behavioral responses are encouraged up to where the cost of the last tonne reduced equals the emissions price.
 - Regulatory policies on their own, like mandates for renewable fuel generation and energy efficiency standards, are far less effective as they focus on a **much narrower range of emission reduction opportunities**”. *Fiscal policy to mitigate climate change: A guide to policymakers.* (2012) M. Keen, I. Parry and R. de Mooij (editors) IMF.
- **An economy-wide price on carbon is critical in shifting entire economies onto a low-carbon pathway and deliver multiple benefits, including local environmental and health benefits (OECD, 2015 and IMF, 2016)**

Carbon Tax Policy Development- timeline

**Environmental
Fiscal
Reform
Policy
Paper**
(2006)
LTMS
(2007)

**Carbon
Tax
Discussion Paper**
(Dec 2010)
**NCCR-
WP**
(2011)

**Carbon
Tax
Policy
Paper**
(May
2013)

**Carbon
Offset
Paper**
(April
2014)

**Draft
Carbon
Tax Bill
Published**
(2015)

**Draft
Regulation
on the
Carbon
Offset
published**
(2016)

**Revised
Carbon Tax
Bill to be
published
for public
consultation**
- Tabling in
Parliament by
mid 2017

CARBON TAX DESIGN FEATURES: Rate, Tax-free Allowances and Recycling Measures

Tax Design

Carbon tax at R120 per ton of CO₂e

60% basic tax-free threshold

Max of 10% tax-free allowance for trade exposure

10% tax-free allowance for process and fugitive emissions

Up to 5% performance allowance

5% tax-free allowance for complying with carbon budgets information requirements

5 or 10% allowance for Carbon Offsets – to reduce the carbon tax liability

- Tax-free allowances of **60-95%** - effective tax rate of

R6 - R48 t/CO₂e

- No impact on electricity prices until 2020

Revenue Recycling

Energy Efficiency Savings tax incentive

Credit against Eskom's carbon tax liability for the renewable energy premium built into the electricity tariffs

Credit for the electricity levy

Support for the installation of solar water geysers

Enhanced free basic electricity / energy for low income households

Improved public passenger transport & support for shift of freight from road to rail

Tax-free allowances

	<u>GHG Emissions</u>			
	Combustion	Process	Fugitive	
<u>Tax free allowances</u>				
Basic	60	60	60	
Process emissions	n/a	10	n/a	
Fugitive emissions	n/a	n/a	10	
Trade exposed	10	10	10	Max = 10
Performance based (Z - factor)	5	5	5	Max = 5
Carbon budget	5	5	5	
Offsets	10	5	5	
Total	90	95	95	

Performance allowance (Z-factor) rationale

- The performance allowance is designed to provide an additional incentive to encourage firms to reduce their carbon intensity of production and, where possible, to recognise those firms that made investment to reduce their emissions intensity before the implementation of the carbon tax;
- It is an emissions intensity measure/ benchmark covering both scope 1 (direct) emissions and scope 2 emissions related to the consumption of electricity;
- The emissions intensity factor for output is compared with an agreed sector / subsector benchmark. The performance allowance that a taxpayer will qualify for is calculated using the following formula:

$$Z = (A / B - 1) * 100$$

where:

- Z represents the calculated allowance
- A is the **agreed benchmark carbon emissions intensity** for the sector (including both Scope 1 and Scope 2 emissions)
- B is the **average measured and verified carbon intensity of a firm's output** (including both Scope 1 and Scope 2 emissions)

GHG intensity benchmarks for the z-factor under the carbon tax – Ecofys & The Green House (2015)

- Study was commissioned under the PMR in the context of the Z-factor under the carbon tax in 2015 to:
 - study the carbon tax policy objectives and the role of benchmarking therein and translate these into clear guidance for benchmarking in South Africa;
 - assesses the applicability of existing and international and South African benchmark studies for use in the South African context;
 - design one or more generic fallback approaches for activities not covered by a specific sub-sector product benchmark;
 - provide recommendations for each sector on the benchmark approach to be used and outlining next steps to finalize benchmark values.
- Result: Approach should be reasonable, keep incentives to reduce emissions within the system and should not be unnecessary complex.

Benchmarking, Maarten Neelis (Ecofys) and Brett Cohen (The Green House)

- Definition of benchmarking :
 - General: ‘Comparison of performance to comparable others/peers’;
 - In the context of carbon pricing: ‘Comparison of GHG emission performance to comparable others/peers’;
- Expressed as GHG emissions per unit of product (or per unit of input);
- Used in EU ETS and California as main methodology for free allocation of emission allowances, to protect competitiveness of industry;
- Advantages
 - Allows for awarding early action and is regarded as fair
 - Gives an indication of remaining emission reduction potential
- Difficulties
 - High demand for data and understanding of industry processes
 - What is “comparable”

Benchmarking – recommendations from 2015 study

*Based on international experiences, this **study concludes that** where possible, **product benchmarks (defined as emissions per unit of sector output) should be developed.** Developing such benchmarks allows all emission reduction options for companies to be taken into account when determining the benchmark approach. Ideally, the majority of emissions of sectors are covered by such product benchmarks so that the sector is treated in a uniform way.*

For the South African carbon tax policy, the “one product - one benchmark” approach is preferred.

'One product - one benchmark' principle & applicable alternative approaches

- **Preference for Product benchmarks because they cover a complete production process and there is:**
 - No differentiation by technology;
 - No differentiation by fuel type used;
 - No differentiation by plant age;
 - No differentiation by country;
 - No corrections for raw material quality;
 - No corrections for climatic circumstances.
- **Alternative approaches could be considered** for activities not covered by a product benchmark or when product benchmarks are not feasible:
 - **Heat Benchmark** - heat product of the combustion installation (steam, hot water, hot oil);
 - **Fuel Benchmark** - “fuel mix” used in the combustion installation;
 - **Grandfathering** - Basic free allocation for process emissions.

Reduction options & benchmark approaches

	Fuel mix choice	Combustion process efficiency	Heat end-use efficiency
Product benchmarks	Included	Included	Included
Heat benchmark	Included	Included	Not Included
Fuel benchmark	Included	Not Included	Not Included
Grandfathering process emissions	N/A	N/A	N/A

Options for emissions not covered by product benchmark

Fall-back Approach	Heat production emissions	Fuel Consumption emissions	Process emissions	Electricity emissions
Independent audit	X	X	X	X
Combination of benchmarking for heat, fuel, process and electricity emissions	X	X	X	X
Combination of benchmarking for fuel, process and electricity emissions	X (covered by a single approach)		X	X

Fallback approaches

- A benchmark could consist of more than one component:
 - Product benchmark(s) + 1 or more fallback approaches:
 - e.g.
 - Steel: product benchmark for coke and crude steel and fallback approaches for emissions related to downstream processes;
 - Chemicals: product benchmark for heavy emitting upstream processes and fallback for smaller processes.

Benchmark development – key criteria

- **Benchmark approaches and indicative benchmark values proposed for Iron and steel, Ferroalloys, Cement, Pulp and paper & Petroleum;**
- Industry should incorporate key criteria (based on international practice and policy paper) outlined in the technical report:
 - Benchmark values should cover both scope 1 and 2 emissions
 - Benchmark values should be undisputable and unambiguous
 - Benchmarks should in principle be based on physical indicators
 - Benchmark should be based on outputs rather than inputs to the extent feasible
 - One product, one benchmark approach, no differentiation
 - Fall-back approaches where product benchmarks are not feasible
 - Benchmark should take into account South African industry characteristics
 - Benchmarks should reflect average performance
 - Use existing benchmark methodologies where possible
 - Use the same key methodology for the lion share of a sector's emissions
- Benchmark should be defined so that they cover as many emissions as possible

Development of Benchmarks and Regulations under the carbon tax

- **Envisaged process for benchmark approval:**
 - Industry association consults with National Treasury (NT) to indicate interest & confirm if envisaged methodology for developing benchmark for their sector/ sub-sector is reasonable;
 - Industry develops benchmark and submits a technical report to the NT for assessment and review;
 - NT engages sector experts and / or government peers to assess & review the benchmarks and methodology;
 - Feedback from the review process is provided to industry and sector / sub-sector benchmarks and methodology are finalised.
- **NT will develop regulations specifying the methodology for developing benchmarks and the approved benchmarks for the sector / subsector** to be used to determine the performance based allowance that a company will qualify for under the carbon tax policy.
 - Companies claim their tax-free allowance if they perform better than industry benchmark based on submission to DEA.

Summary and Next Steps

- Policy development and public consultations with regard to a carbon price / carbon tax in South Africa commenced in 2010;
- The Climate Change Response White Paper in 2011 provided the broader policy context for a carbon price / tax as one a suite of measures to address the challenge of climate change and the transition to a low-carbon economy;
- The proposed design of the carbon tax tries to address concerns about the impact of higher energy prices on low income households and on the international competitiveness of South Africa firms (especially the mining & manufacturing sectors);
- The phased approach to the tax will provide the flexibility required for a cost-effective, just transition to a low carbon, climate resilient economy;
- **Revised carbon tax Bill** - will be published for public consultation and tabled in Parliament by mid-2017;
- **Benchmark regulations** – will be drafted following submissions by industry on proposed benchmarks.

Thank You

Any Questions?

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National Development Plan 2012: on Climate Change

- “Emissions of carbon dioxide and other greenhouse gases are changing the earth’s climate, potentially imposing a significant global cost that will fall disproportionately on the poor (p.35)”.
- “.... South Africa can manage the transition to a low-carbon economy at a pace consistent with government’s public pledges, without harming jobs or competitiveness (p.51)”.
- “By 2015 ... carbon-pricing mechanisms have been put in place (with appropriate exemptions). These are supported by a wider suite of mitigation policy instruments that target specific mitigation opportunities (p.214)”.
- “.... reduce carbon emissions from the electricity industry from 0.9kg per kilowatt-hour to 0.6kg per kilowatt-hour”.
- “... it is possible to both reduce greenhouse gas emissions from electricity production and still grow the minerals and mineral processing sectors”.

GHG Inventory, 2010 – Estimates, DEA

2010: GHG Inventory (Estimates) -- Categories	Emissions - CO2 Eq (Gg)	Emissions - CO2 Eq (Gg)	Total Emissions - CO2 Eq (Gg)	Percentage Contribution
1 - Energy			428 368	82.66%
A - Fuel Combustion Activities			402 817	77.73%
1.A.1.A - Electricity		236 798		45.69%
1.A.1.B - Petroleum Refining		2 284		0.44%
1.A.1.C - Manufacture of Liquid Fuels (Synfuel)		28 611		5.52%
1.A.2 - Manufacturing Industries and Construction		41 117		7.93%
1.A.3 - Transport		47 607		
Civil Aviation	3 670			
Road Transport	43 440			8.38%
Rail Transport	497			
1.A.4 - Other Sectors		44 684		8.62%
B - Fugitive emissions			25 551	4.93%
2 - Industrial Processes and Product Use			44 351	8.56%
2.A - Mineral Industry		4 793		
Cement production	4 187			
Lime production	502			
Glass Production	104			
2.B - Chemical Industry		1 011		
2.C - Metal Industry		37 513		
Iron and Steel Production	24 147			
Ferroalloys Production	11 809			
Aluminium production	1 468			
3 - Agriculture, Forestry, and Other Land Use			(25 714)	(4.96%)
4 - Waste			19 806	3.82%
Total National Emissions and Removals			518 239	100.00%
International Bunkers			2 572	

Administration of the Tax

- The carbon tax will be implemented by the South African Revenue Service (SARS);
- The DEA will maintain a mandatory GHG inventory database as part of the National Atmospheric Emissions Information System (NAEIS). Regulations for mandatory reporting of GHGs were gazetted on 3 April 2017.
- The Department of Energy (DoE)'s reporting on energy use data will be incorporated into the NAEIS maintained by DEA.
- SARS will liaise with DEA and will be able to access the GHG inventory and the NAEIS.
- The DoE currently hosts the Designated National Authority (DNA), which will be responsible for administering the carbon offset scheme.