

2019 CARBON TAX ACT

South Africa

WORKSHOP ON CARBON TAXATION

Swedish Ministry of Finance, Jacobsgatan 24, Stockholm

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national treasury

Department:
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REPUBLIC OF SOUTH AFRICA

Carbon Tax Policy Context

- 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 - climate finance, capacity building & technology transfers.
- South Africa **ratified** the Paris Agreement in November 2016 and **endorsed** the submission of its Nationally Determined Contribution (NDC) which requires that **emissions peak in 2020 to 2025, plateau for a ten year period from 2025 to 2035 and declines from 2036 onwards.**
- **South Africa's emissions by 2025 and 2030 will be in a range between 398 and 614 Mt CO₂-eq, as defined in national policy.**
- **Paris Agreement** will require sizable reductions in energy-related greenhouse gas (GHG) emissions by large emitting countries, including in developing economies. The NDC noted **carbon tax** as an important component of our **mitigation policy** strategy to lower GHG emissions.
- Carbon tax forms an integral part of **climate change** response policy package under the National Climate Change Response Policy (NCCRP) of 2011, and in **National Development Plan (NDP)** as an important cost-effective instrument
- **The Carbon Tax Act gives effect to the polluter-pays-principle** and helps to ensure that firms and consumers take these costs into account in their FUTURE production, consumption and investment decisions. Assists in reducing GHG emissions and ensuring SA will meet its NDC commitments as part of its ratification of the 2015 Paris Agreement.

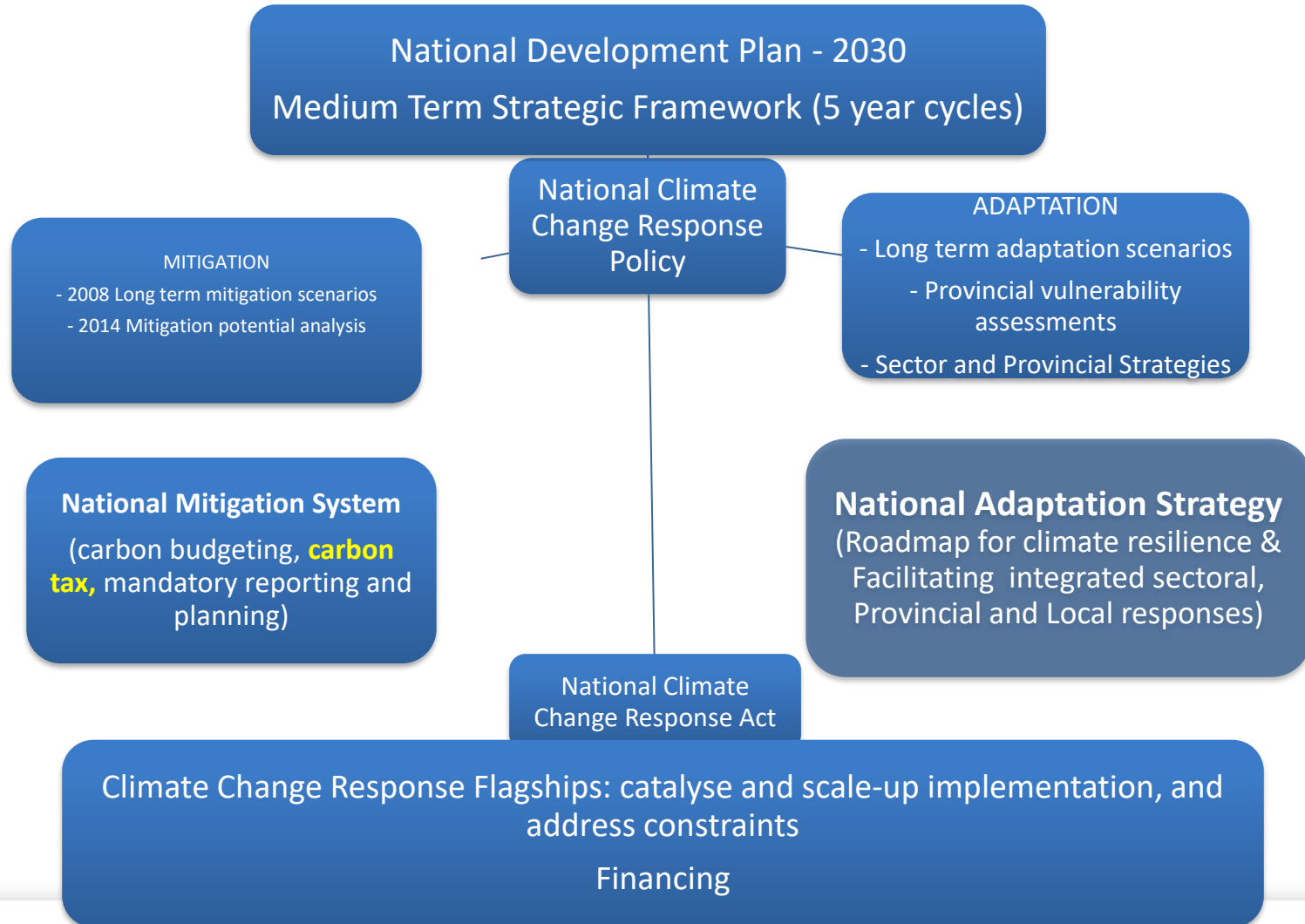
The Global Commission on the Economy and Climate: New Climate Economy report 2018

- As much as global action will be required, **national action will be critical to limit temperature rise to 1.5° C.**
- **Steeper reductions in emissions from the energy sector with increased efforts channelled towards cleaner, renewable energy alternatives**
- Crucial that we scale up our efforts to grow our economy in a manner that decouples economic growth from environmental damages - **Climate Action does not require economic sacrifice.**
- **Major structural and technological changes** in the global economy are **now making it possible to achieve both lower-carbon development and better economic growth.**
 - **The next 2—3 years are a critical window** when many of our policy and investment decisions that shape the next 10—15 years will be taken.
- With the scale of investment that will have to be made in the next two decades, **we cannot afford to lock-in polluting technologies and inefficient capital.**
- **Priorities for urgent action** are needed - **pricing carbon and moving toward mandatory disclosure of climate related financial risks**, as part of a broader package of climate policy measures **are crucial**

CARBON TAX RATE TOO LOW - Report of High Level Commission on Carbon Prices 2017 (Carbon Pricing Leadership Coalition – World Bank)

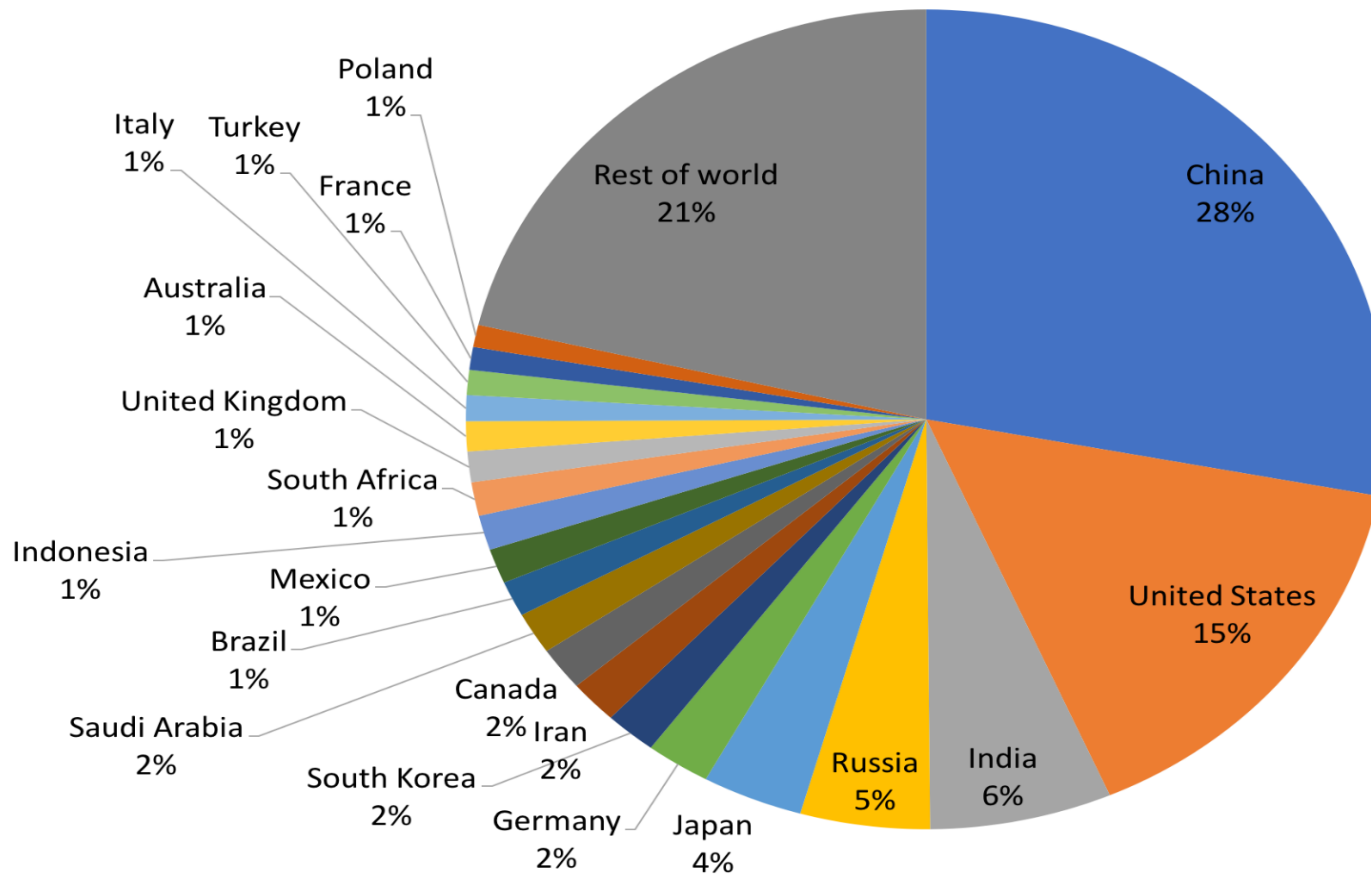
- **A well designed carbon price is an indispensable part of a strategy for reducing emissions in an efficient way.**
 - Carbon prices are intended to incentivize the changes needed in investment, production, and consumption patterns, and to induce the kind of technological progress that can bring down future abatement costs.
 - **Greenhouse gas (GHG) emissions can be priced explicitly through a carbon tax or a cap-and-trade system.**
 - **As carbon pricing measures take time to develop, countries should begin doing so immediately.**
- **Commission concludes that**
 - **the explicit carbon-price level consistent with achieving the Paris temperature target is at least US\$40–80/tCO₂ by 2020 and US\$50–100/tCO₂ by 2030.**
 - It will be **important to monitor and regularly review the evolution of emissions, technological costs, and the pace of technological change and diffusion so that carbon prices can be adjusted, particularly upward, if actual prices fail to trigger the required changes.**
 - **A carbon price could have important co-benefits – improvements in air pollution and congestion, health of ecosystems, access to modern energy.** Effectiveness of carbon pricing policies will require that future paths and policies be clear and credible.

South Africa's Climate Change Response Governance Framework - (DEA)



SA ranked 14th in absolute GHG emissions...

Share of global carbon dioxide emissions from fuel combustion (2015)



Data: IEA
Image: Union of Concerned Scientists

GHG Inventory, 2015 – DEFF

2015 GHG Inventory (Estimates) – Categories	Emissions - CO2 Eq (Gg)	Emissions - CO2 Eq (Gg)	Total Emissions - CO2 Eq (Gg)	Percentage Contribution
1 - Energy			424104	83%
A - Fuel Combustion Activities			395139	77%
1.A.1.A - Electricity		224 009		44%
1.A.1.B - Petroleum Refining		3 388		1%
1.A.1.C - Manufacture of Liquid Fuels (Synfuel)		31 299		6%
1.A.2 - Manufacturing Industries and Construction		36 704		7%
1.A.3 - Transport		51485		
Civil Aviation	4 258			
Road Transport	46 676			9%
Rail Transport	551			
1.A.4 - Other Sectors		48 254		9%
B - Fugitive emissions			28 965	6%
2 - Industrial Processes and Product Use			35875	7%
2.A - Mineral Industry		6179		
Cement production	5 205			
Lime production	860			
Glass Production	114			
2.B - Chemical Industry		Not disclosed		
2.C - Metal Industry		37 513		
Iron and Steel Production	14 094			
Ferroalloys Production	13 416			
Aluminium production	2 186			
3 - Agriculture, Forestry, and Other Land Use			(48 890)	(10%)
4 - Waste			22 211	4%
Total National Emissions and Removals			512383	100%
International Bunkers			11599	

2018 Carbon Tax Bill Parliamentary Process and Meetings

- The **policies reflected in the 2018 Carbon Tax Bill is a refinement of the 2013 Carbon Tax Policy Paper, the initial 2015 Draft Carbon Tax Bill and 2017 Bill.** 2018 bill incorporates public comments received on these earlier documents.
 - **Informal briefing of the Joint Committee (ScoF and PCoE)** – 13 February 2018
 - **Public Hearings on the Bill** – 14 March 2018
 - **National Treasury Response to Public Comments Hearings** – 7 June 2018
 - **Carbon Tax Bill Workshop** – 27 November 2018
 - **Carbon Tax Bill Meeting** – 4 December 2018
 - Report on NEDLAC Carbon Tax Bill Task Team (July to November 2018)
 - **Carbon Tax Bill meeting** – 5 December 2018
 - **Carbon Tax Bill Finalisation and Voting, SCoF** – 5 February 2019
 - **Customs and Excise Amendment Bill meeting** – 12 February 2019
 - **National Assembly** – 19 February 2019
 - **Briefing of the Select Committee on Finance** – 6 March 2019
 - **Public Hearings by SeCoF** – 12 March 2019
 - **Carbon Tax Bill Finalisation and Voting, SeCoF** – 19 March 2019
 - **SeCoF voting and passing of the bill** – 28 March 2019

Carbon Tax Consultation Process - timeline

Environmental
Fiscal Reform
Policy Paper

(2006)

LTMS

(2007)

Carbon Tax
Discussion
Paper

(80 comments)

(Dec 2010)

NCCR- WP

(2011)

Carbon
Tax
Policy
Paper

**(115
comments)**

(May 2013)

Carbon
Offsets
Paper

**(77
comments)**

(April
2014)

Draft Carbon
Tax Bill

(91 comments)

**& Draft
Regulations
on Carbon
Offset (65
comments)**
(2015-16)

Revised Carbon
Tax Bill
published

Dec 2017

(59 comments)

Submission &
Tabling in
Parliament

2018 – 2019

**Carbon Tax
Act No 15 of
2019**

(Gazetted on
23 May 2019)



Rationale for carbon tax and results from economic modelling

- Carbon tax aims to explicitly put a price on the negative externalities of GHG emissions and climate change – corrects a market failure and provides a price signal to promote changes in the behaviour of producers and consumers towards low carbon, energy efficiency technologies
- Various economic modelling studies were conducted and the results from a study completed through the Partnership for Market Readiness in 2016 is presented which shows the impacts of the tax.
- The results presented are for the focus scenario where tax free allowances of 60%, rate of R120tCO₂e initially and increased by 10%, agric and waste are exempt and allowances reduced by 10% from 2025.
- Revenue recycling measures also included such as output based rebate for all production, vat reduction and subsidising renewables
- Note: model does not model all allowances such as offsets and performance allowance, and negative impacts of climate change and benefits of reduced air pollution etc is not factored into modelling.

High level modelling results

- Carbon tax will have a significant impact in reducing emissions by 13 and 14,5% by 2025 and 26 to 33% by 2035 compared to business as usual.
- Impact on GDP will be reduced with recycling measures and modest reduction in the region of 0.05 to 0.15 percentage points
- Study finds that impacts on competitiveness due to carbon tax are overstated as exports will be 3,5% higher in 2035 due to exports in the transport equipment, electrical machinery, textile sectors (7%)
- Some sectors will likely experience declines such as the coke oven, and iron and steel sectors. For iron and steel sector will experience growth but at a lower level
- There are sectoral winners and losers...in 2035 output from clean energy such as wind, hydro, gas, nuclear and solar pv will be about 200% greater.
- Coal generation however is projected to be 46% lower in 2035 and the petroleum refining and electricity supply also likely to decline

High level modelling study results (2)

- The method of recycling used is an important driver of the results.
- Broad based recycling through chilling channelling revenues back to sectors will have smaller impacts on GDP
- Implications of modeling for carbon tax design:
 1. Introduction of tax at relatively low rate – for tax free allowances ranging from 60 to 95 percent results in effective tax rate of US\$ 0.5 to 3
 2. Marginal tax rate to be adjusted over time increasing from US\$ 8 to 10 in first phase up to Dec 2022 and likely to be a minimum of US\$ 15 in 2030.
 3. To help sectors transition, especially those likely to experience declines in exports, trade exposure allowance provided directly linked to trade intensity at a sector level.

Carbon tax policy framework for SA

- **Tax Base**
 - Electricity generation and fuel combustion
 - Industrial processes – cement, iron and steel, glass, ceramics,
 - **Fugitive emissions – e.g. methane emissions from mining**
 - Direct (Scope 1) stationary emissions
 - Direct (Scope 1) non- stationary emissions – as an add on to the fuel tax regime.
- **Marginal tax rate**
 - R120/tonCO_{2e}
- **Recycling measures**
 - Reducing other taxes and providing tax incentives
 - If revenues left over, on budget support for pro poor programmes in energy, transport sectors
- **Phased approach**
 - Phase 1: 2019 to 2022
 - Starting off the tax at a relatively modest rate, coupled with generous tax-free allowances, adjusted over time to facilitate a structural transition to a low carbon, climate resilient economy in a cost effective manner.

SOUTH AFRICA'S CARBON TAX DESIGN FEATURES: Rate, Tax-free Allowances and Recycling Measures

Revenue

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 in the first phase

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



Carbon Tax Policy Changes and Issues – 2013 to 2017

- 1. Electricity pricing and electricity levy:** Carbon tax (taken with electricity levy) will be revenue neutral in the first phase and have no impact on the price of electricity.
 - **credit for electricity generation levy** and for **renewable energy premium**
 - In addition business already benefits from **energy efficiency savings tax incentive** – **rate for allowance was increased from 45 to 95 cents/kWh in 2015**
- 2. Tax rates and thresholds** for phase 1 and 2 of the carbon tax: To provide policy certainty, **Section 5 of the bill was amended** to include the headline, marginal tax rate of R120/tCO_{2e}; and specifies the annual increase to the nominal carbon tax rate by a max of inflation plus 2 per cent.
- 3. Alignment of the carbon tax policy with the carbon budgeting system of the DEA:**
 - Phase 1: Introduction of the 5% carbon budget allowance in 2014
- 4. Carbon tax modelling study – modelling of the current design undertaken through the World Bank in 2016** and the socio-economic impact of the carbon tax shows a significant impact in reducing the country's emissions, without a significant impact on growth (negative 0.05-0.15%).



Carbon Tax Policy Changes and Issues – 2013 to 2017 (2)

5. **Trade exposure allowance** adjusted from a company to a sector-based trade exposure allowance. Further adjusted the qualifying threshold for the maximum allowance from 50 to 30 per cent trade intensity
6. **Carbon tax pass through** allowed for regulated sectors – liquid fuels
7. **Process and fugitive emissions** – provision of the 10 per cent additional tax free allowance
8. **Offset allowance** – scope of offsets expanded e.g. Inclusion of certain renewable projects
9. **Sequestration** – deduction for sequestered emissions e.g. from forestry plantations
10. **Application of thresholds** – Aligning reporting and classification of greenhouse gas emissions for tax purposes with mandatory emissions reporting to the Department of Environmental Affairs.

Competitiveness and trade exposure allowance

- The design of this allowance has been **adjusted from a company to a sector-based trade exposure allowance** and will also include imports in the revised formula. Worked in close collaboration with private sector in finalising the methodology for determining the sector based trade exposure allowance.
 - **Trade intensity will be used as a proxy for trade exposure** which will be determined at a sector or subsector level.
 - The trade intensity of a product/s for a particular sector / subsector will be based on the sum of the value of imports and exports divided by production.
- 3 trade intensity categories and allowances: 0 to <10 – 0% allowance, ≥ 10 and < 30 – 3 to 9% allowance and ≥ 30 – full 10 percent allowance
- Initial analysis suggests that sectors such as mining and iron and steel are likely to qualify for the full 10 per cent trade exposure allowance.
- The list of sectors and their trade exposure allowances will be published by way of a Regulation.
- Concerns about the competitiveness implications of the carbon tax should recede over time as more and more jurisdictions begin to phase in carbon pricing. Emerging economies that are already implementing some form of explicit carbon pricing are China, Mexico, Chile and India.

International Developments

- **China** has introduced seven regional carbon trading pilot schemes.
 - Each pilot covers a large city that is, Beijing, Tianjin, Shanghai, Chongqing and Shenzhen or a province namely, Guangdong, and Hubei.
 - Building on these pilots, **China implemented a national ETS in power sector in Dec 2017.**
- A carbon tax was introduced in **Mexico** in 2014 and applies to fossil fuels.
 - It also allows for the use of offsets in the payment (only CDM).
 - The tax rate applied is set at about US\$ 3.5 / tCO_{2e} and natural gas is exempted from the carbon tax.
- **India** implements a coal tax effective from 2010, currently US\$ 6/ton coal.
- Carbon tax implemented in **Chile** at the rate of US\$5 from 2017.
- In 2008, the **Canadian Province of British Columbia** launched its carbon tax at a rate of Can\$10 per tonne of CO₂. The national government implemented a national carbon tax for those provinces that have not implemented a carbon price in line with specific national criteria (i.e. A minimum carbon price).
- **Colombia** implemented a carbon tax in 2017 on transport fuels.
- **Singapore** and **Argentina** – implemented a carbon tax in 2019.
- **Brazil** exploring a carbon price, **Ivory Coast and Morocco** also exploring a carbon tax.

Revenue Recycling – Energy efficiency savings tax incentive Section 12L

- The Section 12 L energy-efficiency savings tax incentive was introduced in November 2013 to complement the proposed carbon tax. **This measure was specifically introduced as one of the options for potential revenue recycling**, even though the carbon tax had not yet been introduced.
 - The incentive allows businesses to claim deductions against their taxable income for energy-efficiency saving measures – measured in kWh equivalent. The rate at which the deduction is calculated was increased from 45c/ kWh to 95 c/kWh in 2015.
 - The South African National Energy Development Institute is responsible for monitoring and verification of energy efficiency savings claims from taxpayers and issues a certificate to the taxpayer endorsing the savings.
- The **mining and manufacturing sectors** are the **largest beneficiaries** of the incentive. **Initial analysis suggests that the monetary value or subsidy for energy efficiency investments is about R3 billion.**
- **National Treasury announced the extension of the duration of the EES incentive in Budget 2019 to 31st Dec 2022** to align with the first phase of the carbon tax.

Energy Efficiency Savings Tax Incentive: Applications per sector to date

List of approved projects / certificates (up to May 2018):

Project	Activity	kWh Saved	Technology
1	Manufacturing	15 940 704	Whole Plant Optimisation
2	Manufacturing	5 094 504 657	Operational Energy Efficiency
3	Manufacturing	3 573 590	Energy Efficiency Project
4	Mining	35 224 669	Operational Energy Efficiency
5	Mining	83 909 700	Energy Efficiency Project
6	Manufacturing	122 567	Lighting Retrofit
7	Manufacturing	59 254 015	Energy Efficiency Project
8	Manufacturing	9 638 183	Whole Plant Optimisation
9	Commercial Building	175 302	Lighting and HVAC
10	Commercial Building	100 675	Lighting and HVAC
11	Commercial Building	124 254	Lighting and HVAC
12	Commercial Building	(99 475)	Lighting and HVAC
13	Commercial Building	681 766	Lighting and HVAC
14	Commercial Building	128 680	Lighting and HVAC
15	Commercial Building	(123 531)	Lighting and HVAC
16	Manufacturing	61 406 520	Whole Plant Optimisation
17	Manufacturing	93 757 774	Whole Plant Optimisation
18	Manufacturing	215 977 808	Whole Plant Optimisation
19	Manufacturing	96 876 426	Whole Plant Optimisation
20	Manufacturing	159 422 461	Whole Plant Optimisation
21	Mining	2 017 987	Energy Efficiency Project
22	Mining	1 457 024	Energy Efficiency Project
23	Manufacturing	363 217	Lighting Retrofit
Total kWh saved		5 934 434 973	
Estimated cost to fiscus (Rand)		2 672 908 688	



Carbon offset opportunities under the carbon tax

- In 1st phase, permitted carbon credits should be developed under:
 - Clean Development Mechanism (CDM);
 - Verified Carbon Standard (VCS); and
 - Gold Standard (GS).
- Allowance for potential domestic standard to cover project types not well catered for under international standards e.g. AFOLU.
- Specific **eligibility criteria for carbon offset projects** for effective implementation of the offset mechanism in South Africa includes:
 - Project activities must occur **outside the scope of activities subject to the carbon tax**.
 - **Only South African based credits** will be eligible for use within the carbon offset scheme.
 - **Carbon offset projects registered and / or implemented before the introduction of the carbon tax** regime will be accepted subject to certain conditions.

Renewable energy (REIPPPP) in South Africa

- “Through the **competitive bidding process** the REIPPPP effectively leveraged rapid, global technology developments and price trends, buying clean energy at lower and lower rates with every bid cycle, resulting in **SA getting the benefit of RE at some of the lowest tariffs in the world**”.
- The estimated, average portfolio cost for all technologies under the REIPPPP has dropped consistently in every bid period from a combined average of R2.79/kWh in BW1 to **R0.92/kWh in BW4. Indications are that prices will continue to decrease in future rounds as low as R0. 40/kWh for wind.**”
- By the end of June 2018, the REIPPPP had made the following significant impacts to the country’s economic and social objectives:
 - **6 422 MW** of electricity procured from **112 projects** (IPPs) in seven bid rounds, **62 IPPs** started commercial operations with average lead time of **1.9 years** to complete construction;
 - Since 2013, the IPPPPP increased SA’s installed and operational RE capacity to **more than 3.7 GW**;
 - envisaged will create **114 266 job years** over the construction and 20 year operations period. A job year is equivalent to a full time employment opportunity for one person for one year.

IPCC report

- The **challenges from delayed actions to reduce greenhouse gas emissions** include the
 - risk of cost escalation,
 - lock-in of carbon-emitting infrastructure,
 - stranded assets, and
 - reduced flexibility in future response options
- These may **increase uneven distributional impacts between countries** at different stages of development
- Mitigation consistent with 1.5°C pathways could create risks for sustainable development in regions with high dependency on fossil fuels for revenue and employment generation.
 - **Policies that promote diversification of the economy and the energy sector can address these challenges**

Concluding remarks

- The ratification of the **2015 Paris Agreement emphasises the reality** that we will have to **prepare to operate in a carbon constrained economy** over the medium to long term.
- **A business-as-usual scenario is no longer an option** and we must take **appropriate action to help transition our economy onto a low carbon growth path** as articulated in our **National Development Plan**.
- **The carbon tax is, and will continue to be, an important instrument** as part of the **broader package of mitigation policy measures** under the National Climate Change Response Policy to help achieve our NDC target in a cost effective manner and nudge our economy onto a sustainable growth path.
- **The Carbon Tax Act takes into account stakeholder comments** on various documents including the 2015 and 2017 draft bills, 2015 Carbon Tax Policy Paper and comments submitted during the Parliamentary process.

Thank you

Coal mining externalities and “hidden” costs (sourcewatch.org)

- **Impacts of coal mining** includes **water pollution, toxic coal waste, air pollution and climate change**, and **long term damage for ecosystems and human health**
 - GHG emissions – CO₂, methane and nitrous oxide – climate change
 - Emissions of particulates, sulphur dioxide, ozone, heavy metals, benzene – reduction in life expectancy, respiratory hospital admissions,, chronic bronchitis, asthma attacks (particulates, ozone
 - Degradation of buildings – SO₂, acid deposition, particulates – impacts of acid rain
 - Ecosystem loss and degradation
 - Acid mine drainage
 - Release of heavy metal toxins and carcinogens into water supplies due to coal mining and processing - non-fatal cancer, osteoporosis
- **Estimates of the additional costs of these coal related externalities in US cents / kWh in 2010 range from** about 9 c/kWh (low) to 18 c/kWh (medium) to 27 c/kWh (high)