



TECHNICAL NOTE #24

South African Carbon Tax legislation and its impact on the Clay Brick Industry

This summary is based on the Draft South African Carbon Tax Regulations published by National Treasury on 30 November 2015.

TECHNICAL CONTRIBUTOR

This summary was developed by EcoMetrix Africa for the Energy Efficient Clay Brick (EECB) Project.

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THE DRAFT CARBON TAX BILL

Draft Published 30 November 2015



SOUTH AFRICA

544 million
tons of CO_{2e}



CLAY BRICK MAKERS

2.6 million
tons of CO_{2e}

80% covered under
Carbon Tax

Expected start date
2018

INITIAL TAX RATE = ZAR120 PER TON OF CO_{2e}

Discounts on the taxable emissions based on sector and company characteristics and climate change related activities

THE RATE
WILL GO UP

THE DISCOUNT
WILL GO DOWN

THE TOTAL TAX
WILL GO UP

TOTAL PRODUCTS < 4 MILLION BRICKS

Excluded from Carbon Tax



SOUTH AFRICAN CARBON TAX LEGISLATION AND ITS IMPACT ON THE CLAY BRICK INDUSTRY

1. Introduction

Climate change is caused by the emission of man-made Greenhouse Gases (GHGs) into the atmosphere. Although there is a wide range of other sources, the majority of these GHG come in the form of CO₂ and are the result of some form of (fossil fuel) combustion. Concerns around the environmental impact of these emissions globally has sparked a wide range of initiatives to curb the output of GHGs into the atmosphere.

In 2010 the total GHG emissions for South Africa were estimated to be 544 million tonnes of CO_{2e}/year. South Africa is committed to shifting the country to a lower-carbon economy. In Paris in 2015, South Africa submitted its *Intended Nationally Determined Contribution (INDC)*, which commits the country to an emission reduction target to limit the increase of average global temperatures by 2 degrees Celsius. Like any government, the South African government has three instruments at its disposal to change the behaviour of its industry and citizens:

- **Command and Control:** where the emissions above a certain level is made illegal and exceeding the determined level of GHGs could result in penalties and/or termination of the emitting activity;
- **Stick Approach:** whereby the emission of GHGs is not illegal but comes at a cost to industry and/or citizens. The costs can be collected in a number of different ways, one of which is the introduction of a carbon tax;
- **Carrot Approach:** where the reduction of GHG by industry and/or citizens is rewarded by providing an incentive to demonstrate the desired behaviour. As is the case with the stick approach, this reward can be issued to industry and/or citizens in a variety of ways, one of which is the issuance and commercialisation of carbon credits.

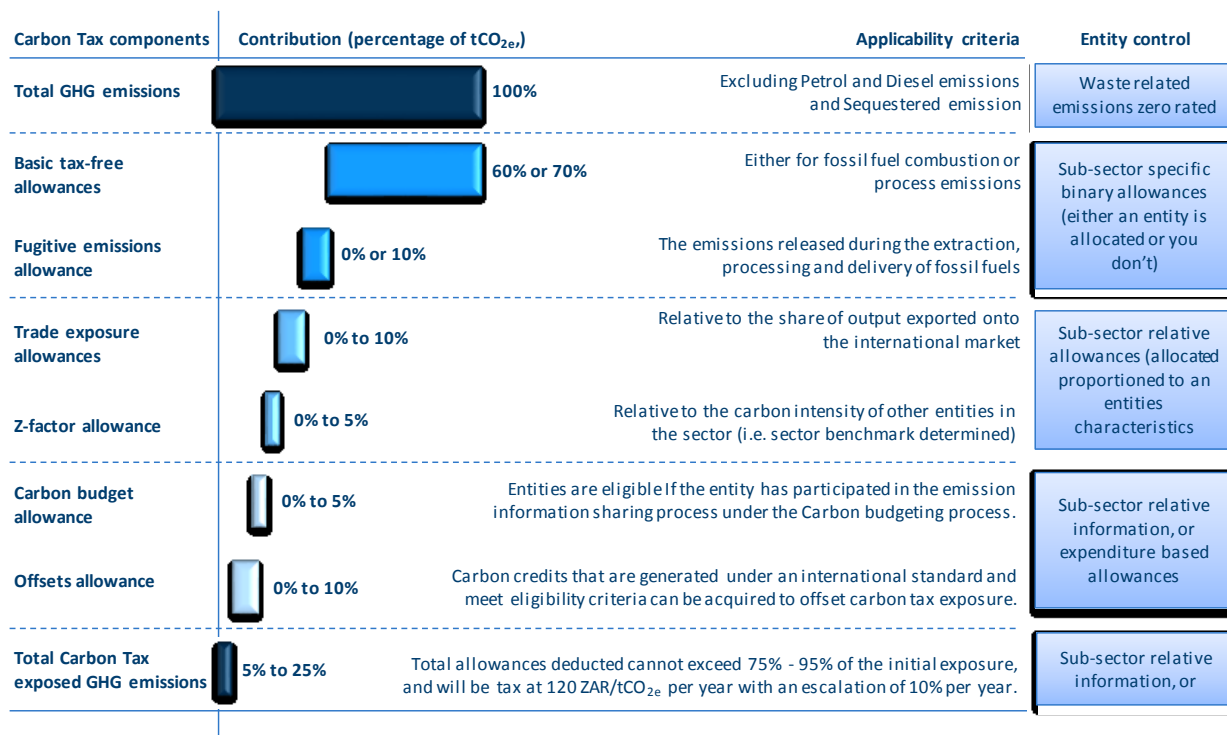
With the ratification of the Kyoto Protocol, the South Africa government had already adopted a Carrot Approach instrument in the form of the Clean Development Mechanism (CDM). Currently, the government is in the process of developing a Stick Approach instrument in the form of '*The South African Carbon Tax*'. The implementation of the Carbon Tax has been postponed several times and implementation is currently expected for 2018.



2. The South African Carbon Tax

Following a number of policy documents and stakeholder consultations, National Treasury (NT) published a Draft Carbon Tax Bill¹ in November 2015 (the 'Carbon Tax'). The bill calls for a levy of 120 ZAR/tCO_{2e} (rand per tonne of carbon dioxide equivalent) emitted, which may be adjusted by the Minister of Finance as part of the annual budgetary process. Although the details are still being discussed, a basic tax-free threshold would be set at 60% - 70% for all sectors, with a maximum obtainable tax-free threshold of 75% - 95% when taking into account various adjustment to the basic threshold. The diagram below provides a schematic overview of the basic design of the proposed South African Carbon Tax.

Figure 1 The Carbon Tax Waterfall.



The Carbon Tax focusses on the country's carbon intensive industries including the clay brick sector. The current design of the Carbon Tax indicates the eligibility specific tax-free thresholds per sector. The next section outlines in greater detail the Carbon Tax formula which underpins the above Carbon Tax waterfall and makes it specific to the clay brick sector.

¹ Source: Draft Carbon Tax Bill (see: <http://www.treasury.gov.za/public%20comments/CarbonTaxBill2015/Carbon%20Tax%20Bill%20final%20for%20release%20for%20comment.pdf>)



3. The Clay brick Carbon Tax calculation

It is estimated that the formal brick making sector in South African emits roughly 2.6 million tCO_{2e}/year. The Carbon Tax intends to not only cover the emission of GHGs resulting from the combustion of fossil fuels, but also emissions resulting from chemical processes (so-called process emissions) and emissions from organic sources (so-called fugitive emissions). The clay brick production process by its nature results in process and/or fugitive emissions. For this reason, these emissions together with the component of the formula that deals with the sequestration of CO₂ in commercial forest operations are excluded for the Carbon Tax formula. The formula here below outlines the Carbon Tax formula as outlined in the Draft Carbon Tax bill, but excludes components that are not relevant to the clay brick sector.

Figure 2: Clay brick Carbon Tax formula

$$X = (E-D) * (1-C) * R$$

Where:

- X** is the tax to be paid per year (in ZAR)
- E** is the total fossil fuel combustion-related GHG emissions (in TCO_{2e})
- D** is the petrol and diesel related GHG emissions (in TCO_{2e})
- C** is the sum of percentages of allowances discount (in %) which are applicable according to Schedule 2 of the Draft Carbon Tax Bill and determined accordingly
- R** is the Carbon Tax rate (in ZAR/tCO_{2e})

In essence, a clay brick producer's Carbon Tax is thus determined by its total direct emissions minus its transport-related emissions, multiplied by a number between 0 and 1, and then multiplied by the Carbon Tax rate.

3.1. How do I determine my direct emissions?

First identify all of the fuel (fossil and renewable) that is used as part of its operation per year. The company's total emissions are determined by multiplying the total annual volume (in tonnes) consumed per year of a specific fuel type with the fuel's emission factor (in tCO_{2e}/tonne). The total of all emissions minus those of petrol and diesel that are used as transport fuels represents the total taxable volume of GHGs under the Carbon Tax.



CLAY BRICK CARBON TAX CALCULATOR

The CBA has placed a Carbon tax impact assessment model on its website which will not only provide insight into a brick makers direct emissions but also apply the different Carbon Tax free thresholds as outlined below.

[Free download from our website!](#)

www.claybrick.org/carbon-tax-calculator

3.2. How do I determine my tax free allowances?

According to the Draft Carbon Tax Bill, clay brick produces are eligible for the following tax free allowances:

- Basic tax free allowance for fossil fuel combustion emissions (60%);
- Trade exposure allowance (0% - 10%);
- Z-factor allowance (0% - 5%);
- Carbon Budget allowance (0% - 5%);
- Offsets allowance (0% - 10%).

To ensure a gradual introduction of the Carbon Tax, all companies covered by the tax are eligible for a basic tax free allowance of 60%. In practical terms, this means that during the first period of the tax a clay brick producer does not have to pay tax over 60% of its GHG emissions. Note that however this discount is expected to be reduced over time.

The trade exposure allowance provides for an additional discount of up to 10% of the taxed GHG volume of those entities the generate revenue from exporting part or all of its products. Although the formula to determine the discount needs to be revised in the next version of the draft bill, it is fair to say that if more than 5% of the annual revenue is derived from export, a discount can be obtained.

The Z-factor allowance grants an additional discount of up to 5% for those producers within a certain sector or sub-sector that can demonstrate that the carbon intensity of its operation is lower than that of the sector or sub-sector. Before being able to apply for such a discount an industry needs to obtain confirmation from the Minister of Environmental Affairs as to the carbon intensity of a sector or sub-sector (expressed in tCO_{2e}/unit of product). The CBA is in the process of determining the process according to which the sector could determine the carbon intensity benchmark with government. Technical Note 27 provides more insight into the sector benchmarking process.



The Department of Environmental Affairs (DEA) is in the process of implementing a so-called carbon budgeting process (see Technical Note 26). As part of this process, entities are requested to disclose its fossil fuel consumption and GHG emissions to the department on a voluntary basis. If an entity participates in this carbon budgeting process, it is eligible for an additional discount on its taxable GHG emissions of 5%.

Different from other tax-free allowance categories, the Offsets allowance requires the submission of carbon credits that are generated from mitigation activities that are validated, verified and issued under an international standard (such as the CDM) and are eligible according to the criteria set in the *Draft regulations: Carbon Offsets* as issued by NT on the 20th of June 2016. Technical Note 28 provides more detail on how these Carbon Credits and the Carbon Tax Offsets derived from them can be realised by a clay brick producer.

4. Who is liable for paying Carbon Tax?

The Draft Carbon Tax Bill indicates that if an entity conducts an activity as set out in Annexure 1 of the Notice issued by the Minister of Environmental Affairs in respect of declaration of GHGs as priority pollutants under section 29(1) in conjunction with section 57(1) of the National Environmental Management: Air Quality Act, 2004 (act No 39 of 2004), the entity is liable under the South African Carbon tax.

In practical terms, this means that if an entity is required to report its GHG emissions in accordance with the requirements and process as described in the *Draft National Greenhouse Gas Emission Reporting Regulations* (Technical Note 25), it is liable to pay Carbon Tax. The GHG reporting regulations set a minimum threshold below which entities do not have to report on their emissions. Those regulations require brick manufacturers to report direct greenhouse gas emissions from facilities within South Africa. In the current draft regulation design, brick manufacturers who exceed the threshold of 4 million bricks per month must register all their facilities with the National Atmospheric Emissions Inventory System (also known as the NAEIS²).

According to current understanding and interpretations, clay brick companies manufacturing less than 4 million bricks per month may be excluded from the Carbon Tax

Brick manufacturers who produce over 4 million bricks per month across ALL their South African facilities, are liable under the Carbon Tax.
(according to current understanding and interpretations)

² Further information on the NAEIS and SA Air Quality Information System (SAAQIS) is available at www.saaqis.org.za/Emissions3.aspx



Brick makers who have to report their emissions according to the draft reporting regulations are also liable under the Carbon Tax once it comes into effect. It is important to note that although brick makers that produce less than 4 million bricks per month are excluded from paying carbon tax, they are considered to be inside the Carbon Tax net.

This distinction is important in that only mitigation activities outside of the Carbon Tax net have the potential to generate Carbon Tax Offsets. As indicated, Carbon Tax Offsets under the Carbon Tax are described in Technical Note 28.

For further information on the Climate, Carbon and Energy Regulations:

The Clay Brick Association of South Africa

Website: www.claybrick.org/climate-carbon-energy-regulations

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This publication is based on Draft Carbon Tax Bill and the Draft Regulations: Carbon Offsets published by the National Treasury on the 2nd of November 2015 and 20th of June 2016.

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