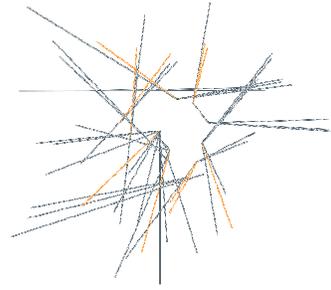


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## The Department of Environmental Affairs and National Treasury

### Attention:

Jongikhaya Witi ([JWiti@environment.gov.za](mailto:JWiti@environment.gov.za))

Joey Kuhn ([Jkuhn@environment.gov.za](mailto:Jkuhn@environment.gov.za))

Sharlin Hemraj ([Sharlin.Hemraj@treasury.gov.za](mailto:Sharlin.Hemraj@treasury.gov.za));

Memory Machingambi ([Memory.Machingambi@treasury.gov.za](mailto:Memory.Machingambi@treasury.gov.za))

CC: NCOP Finance, Zolani Rento ([zrento@parliament.gov.za](mailto:zrento@parliament.gov.za))

90 Rivonia Road, Sandton  
Johannesburg, 2196

PO Box 61771, Marshalltown  
Johannesburg, 2107, South Africa

Docex 26 Johannesburg

T +27 11 530 5000

F +27 11 530 5111

[www.webberwentzel.com](http://www.webberwentzel.com)

### By E-mail

Your reference

Carbon Tax Proposal  
Brick Manufacturing

Our reference

G Rapson / P Novotny  
3028175

Date

4 March 2019

Dear Sirs / Madams

<p align="center"><b>SUBMISSION TO THE DEPARTMENT OF ENVIRONMENTAL AFFAIRS AND NATIONAL TREASURY: APPLICATION OF THE CARBON TAX TO THE CLAY BRICK MANUFACTURING SECTOR</b></p>
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### 1. Introduction

1.1 We act on behalf of the Clay Brick Association of South Africa ("**CBA**").

1.2 The Draft Carbon Tax Bill, which proposes to introduce a new carbon tax on identified affected sectors on the basis of their greenhouse gas ("**GHG**") emission concentrations, was adopted by Parliament's Finance Committee on 5 February 2019. It is anticipated that the carbon tax will be implemented on 1 June 2019.

1.3 The clay brick manufacturing sector has been identified as an affected sector, with numerous medium- to large scale manufacturers being liable to pay the carbon tax, once implemented. This is on the basis of a related reporting obligation that has been imposed on brick manufacturing processes in terms of GHG reporting regulations under the National Environmental Management: Air Quality Act, 2004 ("**NEMAQA**") framework, triggered by any operation/activity undertaking brick manufacturing processes which meet or exceed a capacity threshold of 4 million bricks per month.

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- 1.4 CBA has queried whether the threshold of 4 million bricks per month is equitable for the purposes of the carbon tax, given that it does not take into account different clay brick products or the difference in firing technology and firing efficiency within technologies, and given the large variety of products and types of fuel used.
- 1.5 The CBA met with and discussed its threshold concerns with the Department of Environmental Affairs ("**DEA**") on 4 September 2018 and with both the DEA and with National Treasury ("**NT**") on 11 December 2018.
- 1.6 It was resolved in these meetings that the CBA would submit an alternative proposed threshold to the DEA and NT for consideration. This submission has been prepared for this purpose following an investigation of the industry, its energy use data and the imperative of the legislative framework informing the carbon tax.

## 2. **The clay brick manufacturing sector and process**

- 2.1 A clay brick can be defined as a block or a single unit of ceramic material used in masonry construction. Bricks are typically produced in common or standard sizes in bulk quantities. In most cases, clay bricks are fired in a kiln to form a true ceramic. The fuel used to fire bricks forms the main source of GHG emissions.
- 2.2 The production process of clay bricks consists of several different clay processing steps, culminating in the yield of a compact plastic clay substance, which is shaped / moulded into the preferred form. To partially remove the moisture content, green bricks are dried before they are fired in a kiln or conventional brick clamp. A brick clamp is a traditional method of baking bricks, done by stacking the unbaked bricks with fuel under or among them and then setting the fuel on fire, and is considered a type of kiln as well. This limits cracking in the end product due to a more gradual moisture release process. The heat for drying can be obtained by excess heat of the kiln or through solar radiation. Firing the bricks ensures the durable strength and fire resistance.
- 2.3 With low-cost coal available in abundance, the most common fuel used by clay brick producers is still coal. There have been efforts to convert to the use of biomass, however, it is still a largely unexplored area and first efforts have not been entirely successful.
- 2.4 Firing technologies outside of the formal, conventional brick clamp include tunnel kilns, Traverse Arch kilns ("**TVA**"), Hoffman kilns, Vertical Shaft Brick Kilns ("**VSBK**") and Zigzags, each ranging in capital outlay, technology and efficiency.

## 3. **Legislative framework**

- 3.1 Carbon Tax Bill: The carbon tax will take the form of a **fuel input tax** at an initial rate of R120 per tonne of CO<sub>2</sub>e (carbon dioxide equivalent), increasing at a marginal rate. The carbon tax will be levied in respect of the sum of the GHG emissions of a taxpayer in each tax period, expressed as the carbon dioxide equivalent of those GHG emissions resulting from fuel combustion, industrial processes and fugitive emissions in accordance with the emissions factors determined under the GHG reporting methodology approved by the DEA (i.e. the Global Warming Potential of each regulated GHG emitted).

- 3.2 **NEMAQA Regulations:** In order to facilitate the carbon tax, the DEA has implemented a mandatory atmospheric emission reporting system under NEMAQA. Together, the below regulations govern the GHG reporting framework:
- 3.2.1 In 2016, the National GHG Emission Reporting Regulations ("**GHG Reporting Regulations**") were promulgated in order to introduce a single national reporting system for the transparent reporting of GHG emissions. The reported information is used predominantly to update and maintain a National Greenhouse Gas Inventory;
- 3.2.2 In 2017, the National Pollution Prevention Plan Regulations ("**NPPP Regulations**") were promulgated, which require persons conducting declared activities or processes which result in GHG emissions beyond the threshold of 0.1 Megatonne of GHG annually to prepare and implement a pollution prevention plan; and
- 3.2.3 On the same day in 2017, the Declaration of Greenhouse Gases as Priority Air Pollutants ("**Declaration**") was promulgated, which lists various GHGs as priority air pollutants and declares identified production processes which result in the emission of more than 0.1 Megatonne of GHGs annually for the purposes of giving effect to the NPPP Regulations referred to above. Brick manufacturing falls within the Energy sub-sector, which is not a declared process and is in any event unlikely to emit GHGs in excess of 0.1 Megatonne per year.
- 3.3 **Guidelines:** the "Technical Guidelines for Monitoring, Reporting and Verification of Greenhouse Gas Emissions by Industry" ("**Technical Guidelines**"), published by the DEA as a companion to the GHG Reporting Regulations in April 2017, provides guidance to reporting companies (i.e. data providers) on methodologies to apply when quantifying GHG emissions from activities/emission sources listed in Annexure 1 to the GHG Reporting Regulations. The Technical Guidelines embody the latest methods for estimating emissions for reporting on the National Air Emission Inventory System ("**NAEIS**") and are based on the IPCC Guidelines for National Greenhouse Gas Inventories (2006) ("**IPCC Guidelines**"). The IPCC Guidelines further inform Annexure 1 to the GHG Reporting Regulations.

#### 4. **GHG Reporting obligations**

- 4.1 The GHG Reporting Regulations apply to the categories of emission sources listed in Annexure 1 thereto and a corresponding data provider as classified in regulation 4 thereof (identified based on their GHG emission concentrations). The GHG Reporting Regulations are one of the implementation tools which will be used to regulate the reporting of data to the NAEIS with a view to compiling atmospheric emission inventories to inform the proposed carbon tax. It is contemplated that the NAEIS will also house energy combustion data supplied by the Department of Energy.
- 4.2 Identified data providers are required to report on GHG emission activities at their facilities in line with the identified categories of emissions sources and corresponding capacity thresholds set out in Annexure 1 to the GHG Reporting Regulations (as informed by the IPCC Guidelines). IPCC Source Code 1A2m designates the "*Brick manufacturing*" activity, and stipulates a threshold of "*4 million bricks a month*". In other words, the threshold stipulates the scale of the operations of the activity, or in the

terms of regulation 4(a) of the GHG Reporting Regulations, the design capacity of the listed activity.

4.3 In specifying the required activity data (i.e. fuel consumption), the IPCC Guidelines further provide that brick manufacturing requires the reporting of activity data in the form of "*amount of fuel combusted/Consumed (Energy Unit)*", where the units are terajoules (TJ).

4.4 On the basis of the above, it is clear that brick manufacturing (including clay brick) has been identified as an affected sector which contributes to the nation's GHG emissions. Operations whose facilities, whether individually or jointly, exceed the threshold specified as 4 million bricks per month must thus report on their GHG emissions and activity data for all relevant GHGs emitted and fuel types consumed during these processes.

## 5. Identifying the carbon taxpayer threshold

5.1 In terms of section 3 of the Carbon Tax Bill, a person/company is regarded as a taxpayer liable to pay the carbon tax "*if that person conducts an activity in the Republic resulting in greenhouse gas emissions above the threshold determined by matching the activity listed in the column "Activity/Sector" in Schedule 2 with the number in the corresponding line of the column "Threshold" of that table.*"

5.2 The first three columns in Schedule 2 to the Carbon Tax Bill are duplicates of the IPCC Guidelines' information set out in Annexure 1 to the GHG Reporting Regulations, which sets out the list of activities for which GHG emissions must be reported on to the NAEIS or competent authority. It is the intention of the Carbon Tax Bill that all those data providers who are required to report their GHG emissions and activity data under the GHG Reporting Regulations are liable to pay the carbon tax - this much has been made clear in the Explanatory Memorandum to the Carbon Tax Bill, which states that:

*"Thresholds for mandatory reporting are provided in the NGERs based mainly on energy production, energy consumption and greenhouse gas emissions. For stationary emissions, reporting thresholds will be determined by source category as stipulated in Schedule 2 of the Bill. Only entities with total installed capacity for an activity that is equal to or above the indicated threshold (mostly a total installed thermal capacity of around 10MW) shall report their emissions and will be subject to the tax in the first phase. These thresholds are in line with the stipulated thresholds in Annexure 1 of the NGERs of the DEA." (emphases added)*

5.3 Most energy-using industrial sectors have a threshold of 10 MW(th) net heat input, meaning the energy input to the sector measured from the calorific value ("CV") and quantity of the fuel(s) used. Default values for the CV of, and emissions from, different fuels are provided in Tables 1 and 2 annexed to the Bill. The brick manufacturing sector (code 1A2m in the IPCC classification), however, has a threshold value of 4 million bricks per month - arguably a misnomer and a misapplied threshold which has been carried into the carbon tax framework presumptively from the IPCC Guidelines - see below.

## 6. Understanding the brick manufacturing threshold

- 6.1 The IPCC Guidelines identify key categories as emission sources that have a significant influence on a country's total GHG inventory. These are the highest emission categories, which when summed together add up to 95% of the total inventory.
- 6.2 Volume 1, Chapter 8 of the IPCC Guidelines (Reporting Guidance) classifies brick manufacturing (i.e. IPCC source code 1A2m) as a "*non-specified industry*" within the Energy sector, which is further defined as "*any manufacturing industry/construction not included above or for which separate data are not available. Includes ISIC Divisions 25, 33, 36 and 37.*"
- 6.3 It is clear then, that the IPCC has set the 4 million brick per month threshold as a characterisation of what is considered significant contribution to a country's total GHG inventory.
- 6.4 CBA notes, however, that the threshold of 4 million bricks per month is problematic because clay bricks in South Africa are produced in a large variety of shapes, sizes and other distinguishing features, such as solid and perforated bricks; plaster and facing bricks and pavers. In addition, the clay brick manufacturing sector is diverse in size, including a range of small, medium and very large producers. In most cases, the very small clay brick manufacturers are not institutionalised (mostly referred to as informal brick makers) and would not be subject to the carbon tax as they fall below the 4 million bricks per month threshold - yet it is contemplated that the fuel input of informal brick makers may contribute significantly to GHG emissions.

## 7. Proposing an alternative threshold for the brick manufacturing sector

### 7.1 Product mass

- 7.1.1 From a carbon tax threshold perspective, taking the average mass of a stock or face brick at 3.2 kg, the limit value of 4 million bricks per month would translate to 12 800 tonnes per month.
- 7.1.2 The advantage of adopting this approach to identifying a suitable taxpayer threshold would be that producers of non-standard brick products (perforated shapes, pavers or blocks) could produce more than 4 million units per month without exceeding the mass limit. The disadvantages, however, are that there would be no incentive to reduce the carbon intensity of the product (which is a stated primary objective of the legislation). A mass threshold is used only once as a default approach for 'Other uses of carbonates' in Schedule 2 to the Carbon Tax Bill, with a numerical value of 100 tonnes per year.

### 7.2 Energy use

- 7.2.1 The CBA has commissioned a technical review of the feasibility of a threshold based on energy use, much like the majority of industrial sectors identified in the

Carbon Tax Bill.<sup>1</sup> In addition, the CBA notes that several studies have been undertaken with regards to the energy usage of the different firing methods, including the Live Cycle Assessment from the CBA.

- 7.2.2 In essence, it is important to highlight that brick manufacturers use different brick firing methods and firing technologies. The different firing methods require differing energy volumes as inputs to the operations, which are largely also dependent on the efficiency of the operation and firing method used. When calculating the thermal input across different firing methods for a 4 million brick per month threshold, a large variation occurs which causes an unequal distribution across small to large operations due to the efficiencies at which they operate. Setting a thermal input (MWth) threshold for the industry would ensure equitable application across the industry and different operating methodologies, thereby supporting the principle of taxing inefficiency rather than production.
- 7.2.3 Although at face value the threshold of 10 MWth will include some smaller brickmakers that would not otherwise be included, the following should be considered:
- 7.2.3.1 The proposed threshold is more equitable, as it takes energy efficiency into account and rewards efficiency improvement; and
- 7.2.3.2 It is in line with the emission reduction objective of both DEA and NT.
- 7.2.4 A 15 MW(th) threshold would take the threshold in terms of brick production close to the original 4 million bricks per month, and close to the 25 000 tonnes of CO<sub>2</sub> per year envisaged by NT.
- 7.2.5 In adopting a uniform threshold for the brick manufacturing sector, such as that applied throughout Schedule 2 to the Carbon Tax Bill, alignment will be achieved with:
- 7.2.5.1 the drive to reduce emissions and incentivise energy efficiency for all operators in the sector who are considered to significantly contribute to the nation's GHG emissions;
- 7.2.5.2 the scope of reporting in terms of activity data/fuel consumption as a metric of energy actually consumed and processed by operations;
- 7.2.5.3 the fundamental premise of the carbon tax being imposed as a levy on fuel input and production capability as opposed to technical design capacity; and
- 7.2.5.4 the verifiability of the calculations used by taxpayers to estimate their GHG emissions.

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<sup>1</sup> This technical assessment was undertaken by Dr. Gerrit Kornelius, PrEng. A copy of the report is attached as "Annexe A".

- 7.3 The CBA, on behalf of its members, therefore wishes to engage DEA and NT on considering the designation and implementation of an alternative threshold for the brick manufacturing sector, both under the GHG Reporting Regulations framework and the Carbon Tax Bill framework. This threshold should be based on thermal input as opposed to units of brick produced.
- 7.4 The CBA proposes that an amended threshold be implemented on a progressive basis, such that the reporting and taxpayer thresholds be amended to 17.5 MW(th) for the first year, 15 MW(th) for the second year, 12.5 MW(th) for the third year and 10 MW(th) thereafter, in order to allow smaller brick manufacturers to align themselves to the prospect of future inclusion in the carbon tax bracket.
- 7.5 The CBA further proposes that the threshold be applied per factory and not per entity. Several of the CBA members own more than one factory in a single legal entity. The combined emissions of the factories may have the effect of pushing the member above the threshold, while the individual factories may be operating below the threshold, thus penalising members who invest in technology to produce “cleaner” bricks at one factory while still using older/inefficient technology at the other factory.
- 7.6 The CBA looks forward to favourable engagement by DEA and NT on this proposal.

# CLAY BRICK ASSOCIATION

## Consideration of an alternative carbon tax threshold

### INTRODUCTION

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The present threshold for implementation of carbon tax for the clay brick industry is a production rate of 4 million bricks per month. As this threshold does not take different clay brick products nor the difference in firing technology and firing efficiency within technologies into account, consideration is being given to a proposal to DEA and the National Treasury for an alternative threshold format. This document concerns consideration of an alternative only for the threshold, and based on design (not actual) capacity of a brick manufacture facility. In that sense, it takes cognizance of the operational factors implemented by kiln operators up to the present time and a proposal for the implementation of an alternative would involve convincing the government departments that current operational practice with regards to energy use represents design capacity. If and once the threshold has been modified, the tax payable would depend on the actual (not design) energy use over a given period.

This note provides background on the legislation and suggests the negotiation of a threshold based on energy use.

### 1. APPLICABLE AIR QUALITY LEGISLATION

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The National Environmental Management – Air Quality Act (Act 39/2004) (“the Act”) and its regulations contain a number of air quality management measures applicable to members of the Clay Brick Association (‘the Association’).

#### 1.1 SECTION 21 NATIONAL MINIMUM EMISSION STANDARDS (NMES)

Under regulations published in 2010 by the Department of Environmental Affairs (DEA) (Department of Environmental Affairs South Africa 2010), the sector must meet certain emission standards. For clamp kilns (subcategory 5.2 of the activities listed in terms of s21), which are not amenable to direct emission measurement, requirements are set to measure dust fallout and ambient sulphur dioxide concentrations on the site of the clamp kilns. For all other kilns (subcategory 5.7 of the activities listed in terms of s21) producing more than 100 ton of product per annum, emission concentration limits are set for sulphur dioxide, particulate matter and fluorides. Existing plant (i.e. commissioned before 1 April 2010) had to meet the first level of the standards by 1 April 2015. New plant (commissioned after 1 April 2010) had to meet the second level from date of commissioning, while existing plant must meet this second level of standards by 1 April 2020. The standards were not amended when the regulations were updated in 2013 (Department of Environmental Affairs South Africa 2013b) except that the numbering of the subcategories changed to 5.3 and 5.9 respectively. Reporting of emissions of all s21 listed activities (amongst others) including subcategories 5.3 and 5.9 became mandatory in 2015 (Department of Environmental Affairs South Africa 2015a). In 2015, the licensing and reporting requirements for subcategory 5.3 were made applicable only to installations producing more than 100 000 bricks per

month while emission requirements for the use of waste as a fuel were also added (Department of Environmental Affairs South Africa 2015b).

## 1.2 NATIONAL DUST CONTROL REGULATIONS (NDCR)

Under these regulations, promulgated in 2013 (Department of Environmental Affairs South Africa 2013a) with amendments proposed in 2018 (Department of Environmental Affairs South Africa, 2018a), a local Air Quality Officer may require dust monitoring at a facility which he/she suspects to cause a dust nuisance and, if the results exceed a standard given in the regulations, require the facility to submit and implement a dust management plan.

## 1.3 GREENHOUSE GAS REPORTING

In April 2017, regulations requiring reporting of greenhouse gas (GHG) emissions were promulgated (Department of Environmental Affairs South Africa 2017a). These require facilities in certain industrial sectors (in this case the classification system of the Intergovernmental Panel on Climate Change (IPCC) is used) to register as GHG emitters and to report annually (per calendar year, by the 31<sup>st</sup> March of the following year) on the quantity of greenhouse gases they have emitted if a production or energy use threshold has been exceeded. For the brick industry, the threshold is currently set at 4 million bricks per month; the inference from the “Definitions” section of the regulations is that this refers to the design capacity rather than the actual production rate of the facility. (Department of Environmental Affairs South Africa 2017b). This was followed later in 2017 by the requirement for certain industries (excluding the brickmaking industry) to submit pollution prevention plans in terms of s29 of the Act once GHGs have been declared priority pollutants (Department of Environmental Affairs South Africa 2017b). The declaration followed on the same day (Department of Environmental Affairs South Africa 2017c).

## 2. DRAFT CLIMATE CHANGE LEGISLATION.

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The most recent version of the Climate Change Bill was published in June 2018 (Department of Environmental Affairs South Africa 2018b). This is a framework bill, mainly setting out institutional arrangements to allow South Africa to mitigate its contribution to, and adapt to, climate change.

## 3. DRAFT CARBON TAX LEGISLATION

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After several years of discussion, a final Carbon Tax Bill was introduced in Parliament in November 2018 (National Treasury South Africa 2018a). At the same time an explanatory memorandum was published (National Treasury South Africa 2018b). The Bill introduces a carbon tax of R 120 per ton of equivalent CO<sub>2</sub> <sup>1</sup>emissions for concerns using more energy, or producing more product, than a threshold given in Schedule 2 of the Bill. The classification in Schedule 2 is the same as that used in the GHG reporting regulations (see 1.3 above). Both process emissions and the emissions from liquid or gaseous fuel used are to be taxed. For facilities using or producing more than the threshold, all emissions (not just those in

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<sup>1</sup> Equivalent CO<sub>2</sub> emissions means the emissions of all GHGs (six are listed in the Bill) multiplied by their Global Warming potential, with CO<sub>2</sub> itself having a GWP of 1. The only other GHG that may be of concern to the brick sector is methane (CH<sub>4</sub>) which has a GWP of 23 for purposes of this Bill.

excess of the threshold) are taxed. Electricity is exempt for the initial period (at least until 2022). A number of rebates or allowances are proposed in the Bill, with a maximum 'discount' of 90%

Most energy-using industrial sectors have a threshold of 10 MWth, meaning the energy input to the sector measured from the calorific value (CV) and quantity of the fuel(s) used. Default values for the CV of, and emissions from, different fuels are provided in Tables 1 and 2 annexed to the Bill. The brick sector (1A2m in the IPCC classification) does however have a threshold value of 4 million bricks per month, presumably following the GHG reporting regulations (see 1.3 above).

The question now arises whether this threshold is equitable for all members of the Association, given the large variety of products and types of fuel used, or whether an alternative threshold should be proposed the authorities. This report investigates this matter.

## 4. ALTERNATIVE THRESHOLD VALUES.

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### 4.1 PRODUCT MASS

Taking the average mass of a stock or face brick at 3.2 kg, the limit value of 4 million bricks per month would translate to 12 800 ton per month.

The advantage of this approach would be that producers of non-standard brick products (perforated shapes, pavers or blocks) could produce more than 4 million units per month without exceeding the mass limit. The disadvantages are that there would be no incentive to reduce the carbon intensity of the product (which is a stated primary objective of the legislation) and that it would be difficult to justify such an approach to DEA and the National Treasury, as a mass threshold is used in only a very few specialised cases in Schedule 2 of the Carbon Tax Bill.

### 4.2 ENERGY USE

Akinshipe (2017) provides a summary of the specific energy use in different brick firing technologies, focusing on formal clamp kilns on which he carried out a series of measurements. He finds the specific energy use (including body fuel, external or scintle fuel and fuel used for the fire box or starter) to vary from 1.91 MJ/kg to 4.19 MJ/kg of brick fired, with an average of 2.9 MJ/kg; this compares with values between 2.67 and 3.7 MJ/kg for this technology provided by international authors and a value of 3.4 MJ/kg found in South Africa by Hibberd (1996). For tunnel kilns, the international review found values between 1.5 and 2.5 MJ/kg and for Hoffman kilns a maximum value of 2 MJ/kg. For the Vertical Shaft Brick Kiln (VSBK), a number of which have recently been erected in South Africa, values ranging between 0.8 and 1.4 MJ/kg are given in Akinshipe's literature review. For comparison purposes between the different technologies, figures for coal use (g per kg fired brick) provided in the CBA's own literature (Clay Brick Association 2018) and based on a survey of CBA members, were multiplied by 27 MJ/kg (gross calorific value of SA coal) (Steyn and Minnitt 2010) to obtain energy use figures in Table 1 below.

Table 1: Average energy use per kg finished brick (CBA 2018, Steyn and Minnitt 2010)

Technology	Energy use MJ/kg finished brick.
Formal clamp	3.475
Tunnel	1.065
TVA	2.254
Hoffman	4.318
VSBK	2.228
Zigzag	1.792

Table 2 below provides the thermal input (calculated over 30.4 days of 24 hours each) for a 4 million bricks per month facility using the specific energy values from table 1. The numbers in the last column should be compared to the 10 MWth which is used as a threshold for the majority of the fuel users in Schedule 2 of the Carbon Tax Bill.

Table 2: Average thermal input (MWth) for a 4 million bricks/month clamp facility.

Technology	Thermal input (MWth)
Formal clamp	16.93
Tunnel	5.16
TVA	10.98
Hoffman	21.04
VSBK	10.86
Zigzag	8.73

It should be noted that, given the variation in energy input noted by Akinshipe, the thermal input value for formal clamp kilns in table 2 may vary between 9.3 and 20.4 MWth. For Akinshipe's average formal clamp kiln energy input of 2.91 MJ/kg, the thermal input would be 14.18 MWth for 4 million bricks per month.

Should a thermal input value of 10 MWth be considered as threshold (as used for virtually all of the industrial sectors in Schedule 2 of the Carbon Tax Bill), the threshold brick production rate for the different technologies (using the average energy use from Table 1) would then be as given in table 3 below.

Table 3: Average brick output for 10 MWth input.

Technology	Monthly production (million bricks)
Formal clamp	2.36
Tunnel	7.75
TVA	3.64
Hoffman	1.90
VSBK	3.68
Zigzag	4.58

Again, it should be noted that due to the large variation in clamp efficiencies, the value for the threshold for formal clamps in table 3 may vary between 4.30 and 1.96 million bricks per month. To determine the effect of the imposition of an energy threshold on individual CBA members, production rates and fuel use figures for the individual members would have to be considered.

A threshold of 10 MWth will cause more of the CBA members to pay carbon tax and will include some smaller brickmakers that would not otherwise be included. The following should be considered:

- The proposed threshold is more equitable, as it takes present energy efficiency into account.
- It is in line with the emission reduction objective of both DEA and the National Treasury.

In discussion with DEA and the National Treasury, a 15 MWth initial threshold could be requested, which would take the threshold in terms of brick production close to the original 4 million bricks per month. It is however doubtful whether this request would be acceded to in view of the 10 MWth threshold set for the majority of industrial sectors.

## 5. CONCLUSIONS AND RECOMMENDATIONS

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In the interest of supporting the objectives of the DEA's GHG reporting regulations and the National Treasury's Draft Carbon Tax, and to promote equity between CBA members, it is proposed that an energy use-based GHG reporting and Carbon Tax threshold be considered. A proposal for threshold of a 10 MWth would probably lead to quick agreement by both departments as this corresponds to the threshold for the majority of industrial sectors.

G Kornelius PrEng

2019-02-13

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