



TECHNICAL NOTE #23

South African Energy Reporting Regulations & their impact on the clay brick industry

This summary is based on Draft Regulations regarding Registration, Reporting on Energy Management and submission of Energy Management Plans published by the Department of Energy on 27 March 2015.

Summary Published:
31 October 2016

TECHNICAL CONTRIBUTORS

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



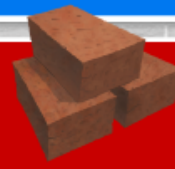


DRAFT ENERGY REPORTING REGULATIONS

Draft Regulations regarding Registration, Reporting on Energy Management and submission of Energy Management Plans
Draft Published 27 March 2015



SIC CODE 34
(5th Edition)



CLAY BRICK
MANUFACTURER

0 days
Regulations
commence

Within 60
Days
Registration
on EEMS

+ 60 days
Submit
energy data

12 months
Submit
EMP

400 TJ/yr

INCREASING
ENERGY
CONSUMPTION

180 TJ/yr

PROVIDE ENERGY DATA

- Coal
- Natural Gas
- Off-grid renewable
- Petroleum products
- Electricity

SUBMIT ENERGY PLAN

NOT REQUIRED
TO SUBMIT
ENERGY PLAN

NOT REQUIRED
TO REPORT



SOUTH AFRICAN ENERGY REPORTING REGULATIONS AND THEIR IMPACT ON THE CLAY BRICK INDUSTRY

1. Introduction

South Africa is committed to regulating and transforming the energy sector, to enable the provision of secure, sustainable and affordable energy. Monitoring energy consumption within South Africa's economy forms part of this mission. As such the Department of Energy published *Draft Regulations Regarding Registration, Reporting on Energy Management and Submission of Energy Management Plans*¹ which were gazetted in March 2015. The draft regulations aim to monitor and manage energy consumption from large energy consumers in South Africa, but have yet to be finalised.

2. Who must report?

The draft regulations require companies to report if they are included in Annexure A of the draft regulations and if they meet the applicable energy consumption thresholds, as specified below. Annexure A details a list of sectors based on the Standard Industrial Classification (SIC) of all Economic Activities (5th Edition). Clay brick manufacturing would be classified under SIC code 34: *Manufacture of other non-metallic mineral products*, which has been included in Annexure A of the draft regulations.

3. What are the reporting requirements?

The draft regulations classify energy consumers into two categories: those that exceed 180 Terajoules (TJ) and those that exceed 400 Terajoules (TJ). The graphic below depicts the amount of coal in tonnes, the amount of natural gas in normal cubic meters (Nm³) and the amount of bricks/month, required to meet the thresholds of 180 TJ/year and 400 TJ/year. In order to convert fossil fuel consumption to energy (TJ) the fuel volume/weight must be multiplied by the Net Calorific Value (NCV) of the fuel, usually given in MJ/kg. When dealing with volumes of liquid fuels, the density of the fuel will need to be used when converting the volume to energy.

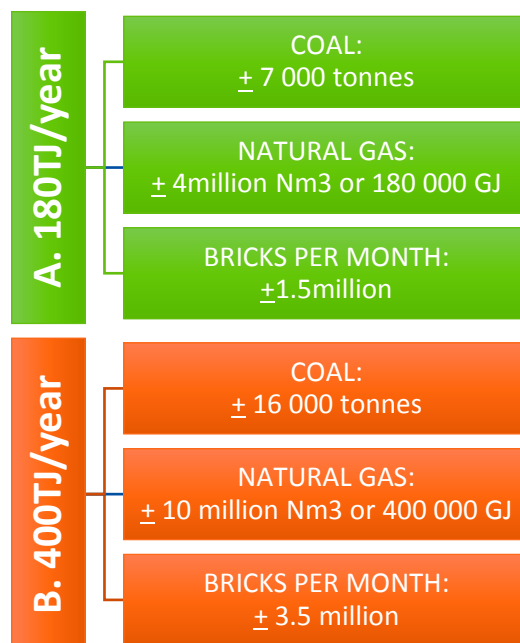


Figure 1 Terajoules (TJ) equivalent of coal, natural gas and bricks for energy reporting thresholds (brick estimated at an average of 3.2 MJ/kg and 3 kg/brick)

¹ [Website: National Energy Act: Regulations: Registration, reporting on energy management and submission of energy management plans: Draft](#)



Depending on the energy consumption, data providers will have to comply with different requirements, as per the following table.

Table 1 Classification of Energy Consumers

Data provider's total annual energy consumption	Provide energy data	Develop and submit energy management plan
Less than 180 TJ	✗	✗
Exceeds 180 TJ	✓	✗
Exceeds 400 TJ	✓	✓

3.1. Providing Energy Data (>180TJ)

Companies exceeding the 180 TJ threshold must disclose annual energy consumption data. Energy data must be measured and collected per calendar year. The energy data must then be submitted to the department by the 30 April. Once these draft regulations come into effect, data providers will have 60 days to register and a further 60 days to submit energy data for the previous calendar year. Energy data must be reported in a specific form via the Energy Efficiency Monitoring System (EEMS) web portal². The form requests energy consumption data as well as production and economic output.

3.2. Developing an Energy Management Plan (>400TJ)

Companies exceeding the 400 TJ threshold must develop an energy management plan. Energy management plans are to be updated at regular five year intervals. Once these draft regulations come into effect, data providers will have 12 months to submit the first energy management plan.

The plan must be developed in accordance with SANS 50001, which is based on the Plan-Do-Check-Act (PDCA) continual improvement framework.

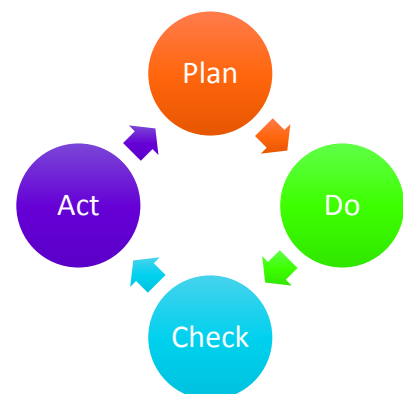


Figure 2 Plan-Do-Check-Act (PDCA) continual improvement framework.

² www.eems.co.za



The energy management plan must include the following aspects:

- An energy baseline prepared in accordance with SANS 50010;
- The areas of energy efficiency savings potential;
- Energy performance indicators for monitoring and measuring energy performance;
- A list of measures to achieve the energy efficiency savings potential. Measures should be technically viable, cost effective and within the financial means of the data provider, and are to be implemented over the five year period;
- Timelines for the implementation of the measures, and
- The period for the review of the energy management plan.

Yearly reports need to be submitted to the department regarding the implementation of the energy management plan which should include:

- Annual energy efficiency savings achieved;
- Energy efficiency measures implemented; and
- Any barriers encountered while trying to achieve energy efficiency improvements.

Templates have yet to be developed for both the energy management plans and the yearly reports regarding the implementation of the energy management plans.

3.3. Consumption Data & Data Quality

Companies would submit data and if required the Department of Energy would conduct verification. Government's primary aim for verification is to ensure that the data provided by companies is a true and fair account of their energy consumption. Ensuring transparency and verifiability of energy consumption data is crucial for verification. The more transparent, well controlled and well documented a company's energy consumption is, then the easier it will be to verify.

Well documented energy data may include keeping records of supplier invoices and capturing this data electronically. When bulk purchases are made (such as coal), then the consumption per month needs to be adjusted.

Supplier invoices and electronic data need to be archived by the company.



4. What are the timelines?

The draft regulations specify the following timelines regarding the reporting of energy data and completing energy management plans.

Table 2 Key Dates for Consideration.

Aspect of the draft regulations	Timeline
Registration on EEMS	60 days after the commencement of the Regulations or within 30 days after commencing a relevant activity once the Regulations are in force.
Provision of energy data	60 days after the registration on EEMS, whereafter the data shall be submitted by 30 April.
Submission of energy management plan	12 months after the commencement of the Regulations and thereafter at regular intervals of 5 years.
Yearly reports on the implementation of the energy management plan	Every year, by 30 April.

5. How should the data be reported?

The draft regulations provide questionnaires in which the energy data should be completed. A generic form is displayed on the next page. There is no specific form for clay brick manufacturing.

This form will be completed via the online portal (www.eems.co.za).



Text Box 1 The required form to be used when reporting energy data.

QUESTIONNAIRE 16			
Sub-Sector	OTHER		
SIC Code	34	Version	Nov-2013-v1

1. RESPONDENT DETAILS

Please provide details in the table below of the facility for which this response is being made:

Name of firm	
Name of facility	
Contact details	Name: E-mail: Telephone:

2. REPORTING PERIOD

Please specify which twelve-month period this response relates to:

Calendar Year

3. ENERGY CONSUMPTION

Please enter the total energy consumption of the facility over the time period specified in Question 2, for each of the energy carriers in the table below:

Energy carrier	Consumption	Units
Electricity		kWh/MWh/GWh
Coal		Tonnes
Natural Gas		m ³
Off-grid renewable		Please specify units
Petroleum products		
Diesel		Kilolitres
Petrol/gasoline		Kilolitres
Paraffin/kerosene		Kilolitres
LPG		Kilolitres
Light fuel oil		Kilolitres
Heavy fuel oil		Kilolitres
Other		Kilolitres
Total Energy Consumption		TJ

4. PHYSICAL OUTPUT

Please indicate in the table below, for each category of product, the production level of the facility over the time period specified in Question 2:

Product category	Quantity	Units

5. ECONOMIC OUTPUT

Please indicate in the table below the economic output produced during the reporting period to which this response applies:

Quantity	Output produced	Units
Gross output		Million Rand

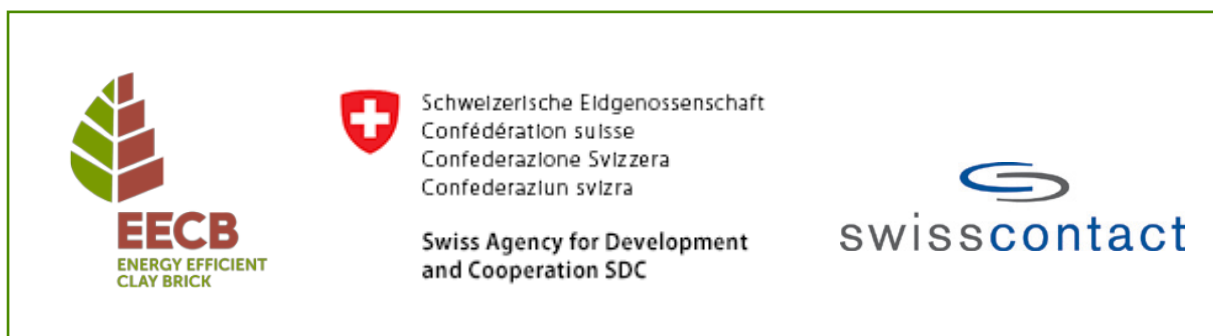


For further information on the Climate, Carbon and Energy Regulations:

The Clay Brick Association of South Africa

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

© Copyright: This document and its contents remain the sole property of ClayBrick.org



This summary of the energy regulations has been developed by Promethium Carbon for the Energy Efficient Clay Brick (EECB) Project. The project is funded by the Swiss Agency for Development and Cooperation (SDC) and implemented by Swisscontact in close partnership with the Clay Brick Association of Southern Africa (CBA).

This publication is based on draft energy regulations published in March 2015.

Summary Published: 31 October 2016

PROMETHIUM
C A R B O N 

Robbie Louw
Harmke Immink
Olivia Tuchten
Sarah Goodbrand