ACMP ASSOCIATION OF CEMENTITIOUS MATERIAL PRODUCERS

Ports Regulator of South Africa
11th Floor, The Marine Building
22 Dorothy Nyembe Street
Durban 4001.

Attention:
Mr Mahesh Fakir
Miss Atiyah Bhabha

5th October 2018

OSHO CEMENT APPLICATION FOR THE 2019/20 TARIFF PERIOD REQUESTING SIGNIFICANT REDUCTION IN THE IMPORT COSTS OF CEMENT INPUTS WITH RESPECT TO IMPORT CARGO DUTY FEES FOR CLINKER, GRANULATED BLAST FURNACE SLAG, LIMESTONE, AND GYPSUM

Per e-mail:
info@portsregulator.org
Tariffcomments@portsregulator.org

Dear Sir/Madam

The Association of Cementitious Material Producers (ACMP) would like to thank the Ports Regulator of South Africa for calling for comments on the above-mentioned application.

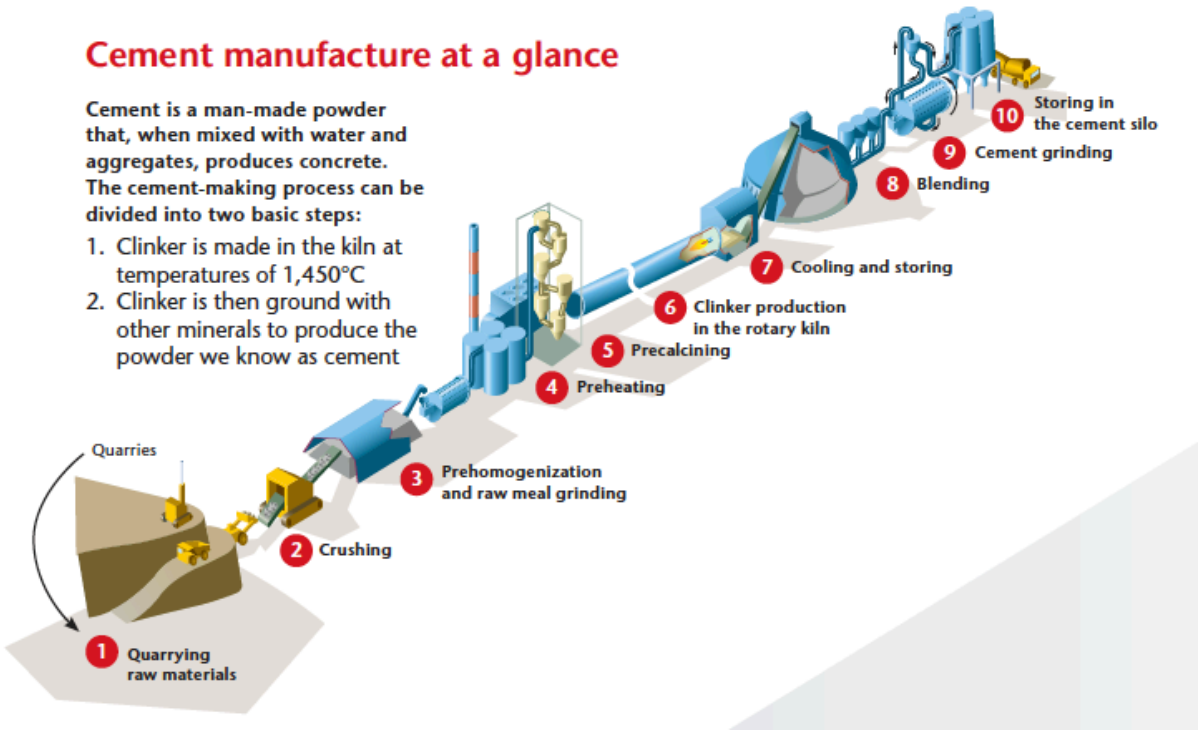
The Association of Cementitious Material Producers (ACMP) is an association of Cement producers representing all major producers in the Republic of South Africa. It is also a communication partner of the WBCSD_CSI (World Busines Councel for Sustainable Development_ Cement Sustainability Initiative).

To contextualise our comments please find below Figure 1 which provides an overview of integrated cement production across the value chain[1].

Cement manufacture at a glance

Cement is a man-made powder that, when mixed with water and aggregates, produces concrete. The cement-making process can be divided into two basic steps:

1. Clinker is made in the kiln at temperatures of 1,450°C
2. Clinker is then ground with other minerals to produce the powder we know as cement



1. Quarrying raw materials
Naturally occurring calcareous deposits such as limestone, marl or chalk provide calcium carbonate ($CaCO_3$) and are extracted from quarries, often located close to the cement plant. Very small amounts of "corrective" materials such as iron ore, bauxite, shale, clay or sand may be needed to provide extra iron oxide (Fe_2O_3), alumina (Al_2O_3) and silica (SiO_2) to adapt the chemical composition of the raw mix to the process and product requirements.

2. Crushing
The raw material is quarried and transported to the primary/secondary crushers and broken into 10cm large pieces.

3. Prehomogenization and raw meal grinding
Prehomogenization takes place in which different raw materials are mixed to maintain the required chemical composition, and the crushed pieces are then milled together to produce "raw meal". To ensure high cement quality, the chemistry of the raw materials and raw meal is very carefully monitored and controlled.

4. Preheating
A preheater is a series of vertical cyclones through which the raw meal is passed, coming into contact with swirling hot kiln exhaust gases moving in the opposite direction. In these cyclones, thermal energy is recovered from the hot flue gases, and the raw meal is preheated before it enters the kiln, so the necessary chemical reactions occur faster and more efficiently. Depending on the raw material moisture content, a kiln may have up to six stages of cyclones with increasing heat recovery with each extra stage.

5. Precalcining
Calcination is the decomposition of limestone to lime. Part of the reaction takes place in the "precalciner", a combustion chamber at the bottom of the preheater above the kiln, and part in the kiln. Here, the chemical decomposition of limestone typically emits 60-65% of total emissions. Fuel combustion generates the rest, 65% of which occur in the precalciner.

6. Clinker production in the rotary kiln
The precalcined meal then enters the kiln. Fuel is fired directly into the kiln to reach temperatures of up to 1,450°C. As the kiln rotates, about 3-5 times per minute, the material slides and tumbles down through progressively hotter zones towards the flame. The intense heat causes chemical and physical reactions that partially melt the meal into clinker.

7. Cooling and storing
From the kiln, the hot clinker falls onto a grate cooler where it is cooled by incoming combustion air, thereby minimising energy loss from the system. A typical cement plant will have clinker storage between clinker production and grinding. Clinker is commonly traded.

8. Blending
Clinker is mixed with other mineral components. All cement types contain around 4-5% gypsum to control the setting time of the product. If significant amounts of slag, fly ash, limestone or other materials are used to replace clinker, the product is called "blended cement".

9. Cement grinding
The cooled clinker and gypsum mixture is ground into a grey powder, Ordinary Portland Cement (OPC), or ground with other mineral components to make blended cement. Traditionally, ball mills have been used for grinding, although more efficient technologies - roller presses and vertical mills - are used in many modern plants today.

10. Storing in the cement silo
The final product is homogenised and stored in cement silos and dispatched from there to either a packing station (for bagged cement) or to a silo truck.

Note: There are older, much less efficient technologies, for example the wet kiln into which the raw material is fed as slurry and not as a powder (dry kiln).

Reference: www.wbcsdcement.org/technoloy or www.iea.org/roadmaps/cement.asp

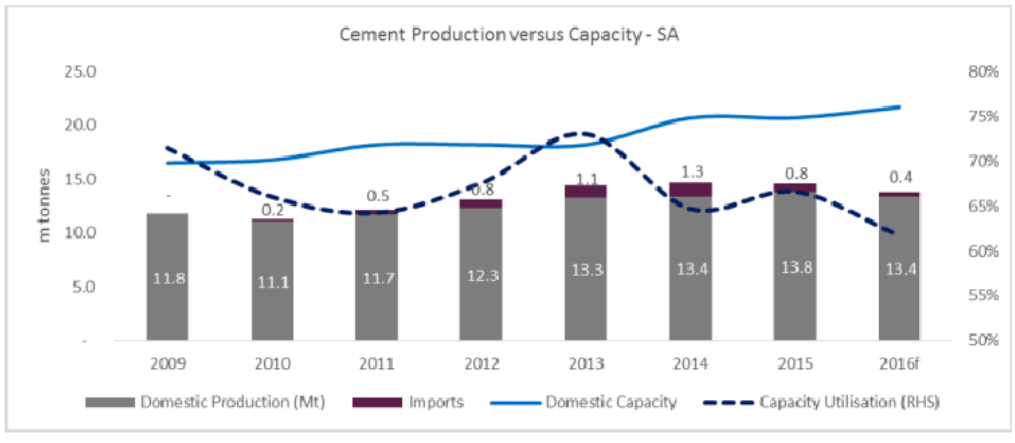
At the onset it is important to note that:

- Our members are fully committed to responding to all associated impacts posed along the entire value chain from end-to-end, that is, from mining of the raw materials to cement as the final product. This includes responsible management of environmental and soci-economic impacts across the entire value chain.
- All data based information included in this submission has been sourced from documents in the public domain and references have been included for ease of reference.
  The references have also been further consolidated in a singe list at the end of this communication.

As can be noted from the application, OSHO will be dealing mainly with cement production ***post clinker production*** with the blending, grinding and storage processes (numbered 8, 9, and 10 in Figure 1). This poses major risks to national investments in mining and clinker production facilities, which is both capital intensive as well as regional development intensive in terms of direct, indirect and induced employment.

Our members have expressed concern with regards to the OSHO application for various reasons and believe the request must be **denied based on the following reasons**:

1. **Production capacity:** The current clinker production capacity in South Africa exeeds the national demands as can be seen from the Figure below[2] published in 2016.



http://www.electus.co.za/media/88880/electus_quarterly_strategy_note_october_16.pdf

In a more recent publication (30 November 2017) it was confirmed that South Africa has an installed capacity for cement production of 20 million tons with

current demand around 13 million tons[3].
This translates to an oversupply of just over 30%. According to Tomes: "If one takes an extremely optimistic view and assumes that South Africa can make a miraculous recovery and achieve economic growth rates of 7,5% per annum (which has never been done before), then capacity and demand will start matching each other by 2020. A more realistic view is to use the long-term annual compound growth of 2,5%. This means that South Africa will only run out of capacity by 2030."
(Reference: Cementing future growth :
http://crown.co.za/latest-news/construction-world-latest-news/5883-cementing-future-growth)

There is thus no need for preferential imports of raw materials for cement production as South Africa has abundance of such materials.

2. **Cement production is capital intensive**

It is evident that the cement industry ranks amongst the **most capital-intensive** industries with a lower than average **capital turnover** when compared to others such chemical, steel, aluminium or paper and pulp (EU study)[4].
(*Reference*: The Cement Sector: A Strategic Contributor to Europe's Future; Mark Freedman; Boston Consultancy Group; BCG New York. freedman.mark@bcg.com)

There is thus no need for preferential imports of raw materials for cement production as South African producers have financial obligations to meet their capital-intensive obligations and risks associated with any preferential imports must be considered to ensure sustainable business nationally.

3. **Cement production is energy intensive**

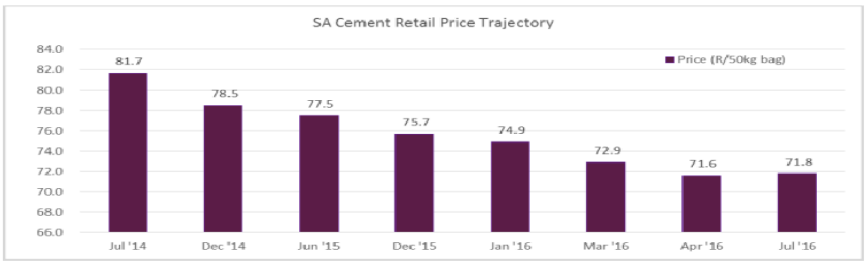
In addition to the sector being most capital intensive it is also the **most energy-intensive** of all manufacturing industries[5].
(Reference: EIA US energy information administration: today in energy July 1, 2013. data: U.S. Energy information administration, Department of Commerce, Bureau of economic analysis).

For example, in the USA the share of national energy cement production uses is roughly 10 times its share of the nation's gross output of goods and services. Other energy intensive industries' share of energy use is roughly twice their share of gross output. *Thus cement is 5 times more energy intensive than the other sectors compared*.
There is thus no need for preferential imports of raw materials for cement production as South Africa has financial obligation to meet its production capacity and energy efficiency investments in the production of clinker.

4. **Cement price intensity**

As can be noted form the Figure below, cement price is under tremendous pressure due to cheap imports as well local operational costs[6].

Chart 4: SA Cement Retail Price Trajectory



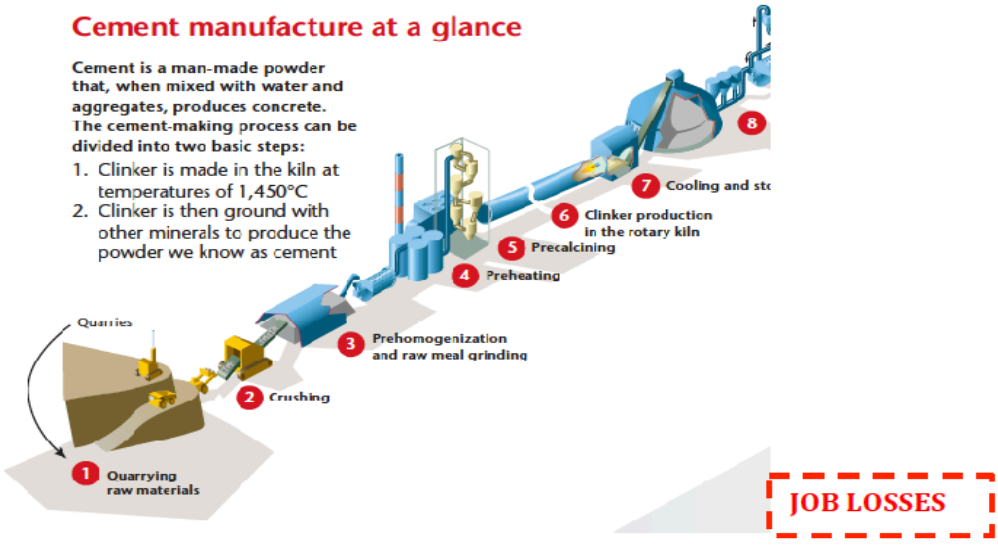
Source: UBS survey

Cost drivers: cement production
http://www.electus.co.za/media/88880/electus_quarterly_strategy_note_october_16.pdf

There is thus no need for preferential imports of raw materials for cement production as South African cement producers are already under stress to meet its margins in the context of rising costs and decreasing cement prices.

5. **Regionally employment intensive:** The cement sector contributes to direct, indirect and induced jobs specifically in rural areas where mining and clinker production facilities are based. Figure 2 below illustrates the nature of jobs along the value chain to produce clinker.

   There is no question that both direct and indirect jobs at each of the processes (1-8) reflected in the figures below will be compromised should local clinker not be utilised. In addition to this, jobs related to logistics, and other services sectors, etc will also be negatively impacted.



Furthermore, limestone mines are regionally based providing regional socio-

economic benefits to communities.

As an example, Lichtenberg in North West province is an important cement-producing hub where significant amounts of clinker are produced. Compromising clinker production would result in loss of jobs both at the cement plants and at the limestone quarries. In addition various indirect and induced jobs in these regions would be vulnerable to imports of clinker. This applies equally to other mining regions. Regions in other provinces where clinker is produced will be equally vulnerable.

There is thus no need for preferential imports of raw materials for cement production as South Africa is committed to meet its socio-economic reponsibilities with regards to the provison of employment in various regions

6. **Cement sector is a key GHG emitter**

The sector is subject to carbon tax. This provides unfair competitiveness to countries not implementing a carbon tax regime. The current carbon tax regime being developed has recognised the vulnerability of the cement sector.

There is thus no need for preferential imports of raw materials for cement production as South Africa has made significant financial obligation to reduce GHG emissions at its facilities.

7. **Competitiveness from cheap imports**

South Africa has strict regulatory requirements with regards to environmental management, mining, health, labour, and social sector plans and hence imports pose unfair competitiveness.

Furthermore, the rising costs in labour, energy such as coal, electricty, petrol and diesel all pose challenges for the cemnt sector in South Africa.

There is thus no need for preferential imports of raw materials for cement production. Internationally it is recognised that cement production is trade exposed from imports and it is important that the local cement sector does not experience the same negative consequences such as the clothing industry in Natal and Western Cape. The steel sector is another such example.

8. **Broader outlook on the implications of imports**

Imports of cement into South Africa increased by an alarming rate of 199 percent y-y during the month of June 2018, totaling 139 104 tons[7], **the highest level of imports since February 2015**.

(Reference: http://industryinsight.co.za/wp/cement-imports-surge-in-june-while-local-producers-struggle-for-profitability/)

In the meanwhile, local cement producers are struggling to contain debt, whilst maintaining some level of profitability as can be noted from some of their publicly published reports. Examples include

- **Sephaku Cement**, one of the newer to the cement industry in South Africa, reported that revenue is expected to be 40 percent lower in the 2018 financial year (which ended March 2018).
- **PPC** reported higher levels of profitability due to strong performance due to production in other countries, while sales volumes fell in South Africa and Botswana.
- **Lafarge Africa** is considering raising US$248m in a share sale in Nigeria, expected to take place in the 4th quarter of 2018, in an attempt to cut debt amidst poor performance in South Africa. Losses in Africa weighed heavily as the regional unit reported a loss after being hit by higher finance charges and losses from its South African business.

There is thus no need for preferential tariffs for imports of raw materials for cement production.

9. Circular economy

The South African Government at the the Waste Phakisa convened in 2017 recognised that implementing the hierarchy of waste principles towards reuse, recycling and recovery could contribute significantly to the circular economy resulting in economic growth and job creation, as well as saving diminishing landfill space with overall consequences to sound environmental and public health consequences.

There is thus no need for preferential imports of raw materials for cement production as South Africa has committed to the international sustainable development goals and the required materials are readily available locally.

10. National waste management strategy

The cement kilns provide support to the national waste management strategy such as managing waste tyres and other waste streams prohibited from being landfilled. Diverting such waste streams from incinerators have an added benefit to mitigating our national GHG emissions in line with our international commitments to climate change. The cement kilns operations must thus not be compromised by clinker imports. Using such wastes streams as alternate fuels and resources also contributes to less utilisation of coal and natural resources.

There is thus no need for preferential imports of raw materials for cement production as South Africa has major challenges with waste management and the cement kilns have an important role to play in supporting the national

strategy both in terms of environmental protection and public health

11. Fly ash, gypsum, and slags from metallurgical waste for cement production

The Department of Environment has recognised these waste streams as important waste streams to be managed by the cement and construction sectors. Draft regulations were recently published to exclude these waste streams from the Waste Act to improve its uptake by amongst others the cement sector. The final Gazette has provided a methodology to have such waste streams to be excluded to ensure appropriate risk management.

There is thus no need for preferential imports of raw materials for cement production as South Africa has sufficient local supply.

12. National beneficiation strategy

The South African government and industry has committed to beneficiation of our national raw materials to address poverty, inequality and job creation, It is thus imperative that the Ports Authority consider end-to-end implications when reviewing port tariffs to address upsteam implications.

There is thus no need for preferential imports of raw materials for cement production as South Africa has sufficient local supply

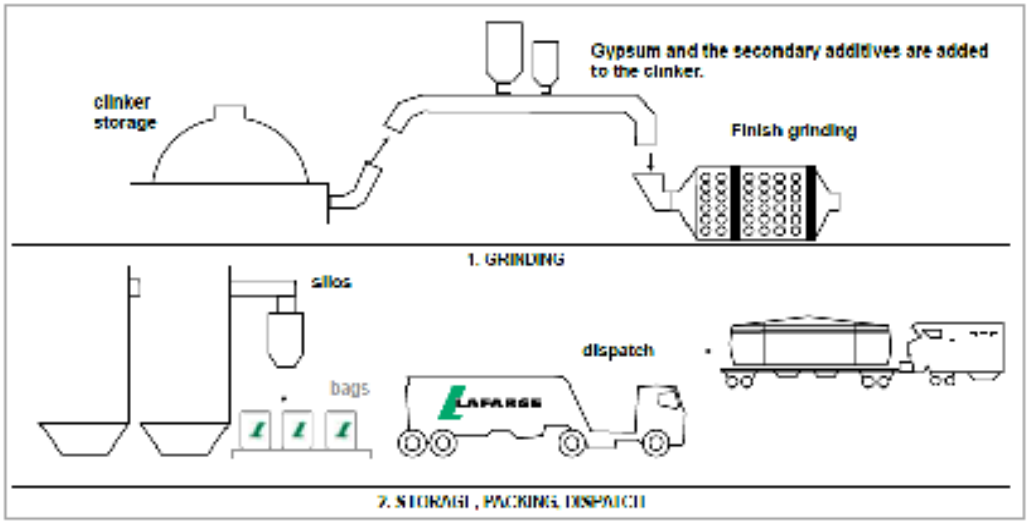
13. General comment

Based on the budget process reflected by the Ports authority it is evident that any reduction of port tariffs in one material would require an upward adjustment of tariffs of other materials to ensure financial stability. This may have negative consequences on the broader consumer body due to the outcome of adjustments in the tariffs of other imports.

14. OSHO application refers to job creation

The application refers to job creation without making reference to the jobs that would be compromised (see Figure 2 above). The key activities of the application is summarised in Figure 3 below which is the last few steps of cement production as illustrated by one of our members in their publications:

Figure 4: Grinding, Storage, Packing and Dispatch stages of cement production



It is to be noted that these jobs can be equally created using local materials so as not to compromise jobs assocated with activities as reflected in Figure 2.

It is our view that using local raw materials available to OSHO will not compromise the creation of jobs reflected in the application. For example, there is an oversupply of clinker in South Africa.

There is thus no need for preferential imports of raw materials for cement production, as no significant increase in jobs will be created with imported materials as opposed to local raw materials.

Recommendation and conclusions

The Ports Authority consider the merits of the various concerns raised above and the request by OSHO for a significant reduction in the import costs of cement inputs with respect to import cargo duty fees for clinker, granulated blast furnace slag, limestone, and gypsum ***be rejected*****.**

Your favourable consideration of our comments will be highly appreciated. Please feel free to contact this office should you require additional information. The ACMP will be most willing to present our comments at a time convenient to you.

Yours Faithfully

Dr D.B.K. Rama
Executive Director
Association of Cementitious Material Producers
P. O Box 168, Halfway House, 1685
Tel: 082 373 7706
FAX: 011 315 0315
dhirajr@acmp.co.za
www.acmp.co.za

Annexure: Summary of key refrences

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REFERENCES

1. WBCSD_CSI: www.wbcsdcement.org/technoloy or www.iea.org/roadmaps/cement.asp

2. http://www.electus.co.za/media/88880/electus_quarterly_strategy_note_october_16.pdf

3. Cementing furure growth. http://crown.co.za/latest-news/construction-world-latest-news/5883-cementing-future-growth

4. The Cement Sector: A Strategic Contributor to Europe's Future; Mark Freedman; Boston Consultancy Group; BCG New York. freedman.mark@bcg.com)

5. EIA US energy information administration: today in energy July 1, 2013. data: U.S. Energy information administration, Department of Commerce, Bureau of economic analysis

6. http://www.electus.co.za/media/88880/electus_quarterly_strategy_note_october_16.pdf

7. http://industryinsight.co.za/wp/cement-imports-surge-in-june-while-local-producers-struggle-for-profitability/