



**CEMENT INDUSTRY
FEDERATION**



**Cement Industry Federation
Submission:**

**ENERGY WHITE PAPER 2014
Issues Paper**

February 2014





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Summary

- Energy is a key component of cement manufacturing in Australia. It is important that Australian manufacturers have access to long-term, reliable supplies of energy at a price that ensures energy intensive industries remain internationally competitive.
- The CIF is therefore fully supportive of measures that put downward pressure on energy prices and reduce the regulatory burden on business.
- An opportunity exists to increase alternative fuel usage in Australian cement kilns, provided inconsistent and unnecessary regulatory barriers can be overcome.
- The CIF recommends that the role of alternative fuels be examined during the EWP process, with the objective of finding a pathway forward that clearly identifies regulatory barriers and policies at all levels of government - and explores possible solutions that will encourage the safe uptake of alternative fuel usage in Australia.
- The CIF, in the first instance, supports the cessation of RET both due to the distortionary costs of the scheme to businesses and consumers as well as the relatively high cost of abatement from an emissions perspective. Failing that outcome our industry would support a move away from a fixed target to one that represents a true 20 per cent.
- The EWP development process provides a unique opportunity to consider the removal of ineffective programs such as EEO, in favour of less intrusive approaches to addressing energy efficiency issues across the economy.

7 February 2014

Energy White Paper Taskforce
Department of Industry
GPO Box 1564
CANBERRA ACT 2601

Dear Sir/Madam,

1. Introduction

The Cement Industry Federation (CIF) welcomes the opportunity to respond to the Energy White Paper Issues Paper released in December 2013.

1.1 Cement Industry Federation

The CIF is the national body representing the Australian cement industry, and comprises the three major Australian cement producers - Adelaide Brighton Ltd, Boral Cement Ltd and Cement Australia Pty Ltd. Together these companies account for 100 per cent of integrated clinker¹ and cement supplies in Australia.

CIF member operations are located in every Australian state and territory, and include 8 integrated clinker and cement manufacturing sites, 6 stand alone cement mills, 8 limestone mines and a national distribution network to move raw materials, as well as our intermediary and finished products.

Sales of cementitious materials were 8.9 million tonnes in 2013, with an annual industry turnover in excess of \$2.2 billion. The cement industry is also a key employer with over 5,000 directly and indirectly employed in Australia.

1.2 The Importance of Cement

Cement is a vital commodity for the Australian economy, providing significant social and economic benefits both now and into the future. This strong and versatile material is a critical input for Australia's building and construction industry, our resources industry (e.g. LNG plants) as well as for infrastructure development (roads, rail, airports, bridges and ports).

In general, competitively priced supplies of cement are essential to Australia's continuing economic growth and, as such, security of supply should be a goal supported by all levels of government.

¹ Clinker is the main ingredient used to produce cement. It is a pebble-like material made by heating limestone, clay and sand in a kiln at around 1,450°C. Clinker is ground with gypsum and other materials to make cement. It is the main ingredient that gives cement its binding properties.

1.3 Cement – Alternative Fuels Opportunity

As significant users of energy Australian cement producers are directly affected by programs and measures that have led to increasing energy prices - such as the Renewable Energy Target (RET) for example.

Our industry also utilises alternative fuels to reduce our reliance on traditional fossil fuels (i.e. coal and gas). However, only a relatively small proportion (8 per cent) of our thermal energy needs are met through alternative fuels – compared to the European average of 20 per cent and up to 80 per cent in countries such as the Netherlands.

An opportunity therefore exists to increase alternative fuel usage in Australian cement kilns, provided inconsistent and unnecessary regulatory barriers can be overcome. The EWP process represents a unique opportunity to analyse and assess the barriers that currently exist to utilising alternative fuels more extensively, and to explore possible solutions.

2. The Australian Cement Industry and Energy

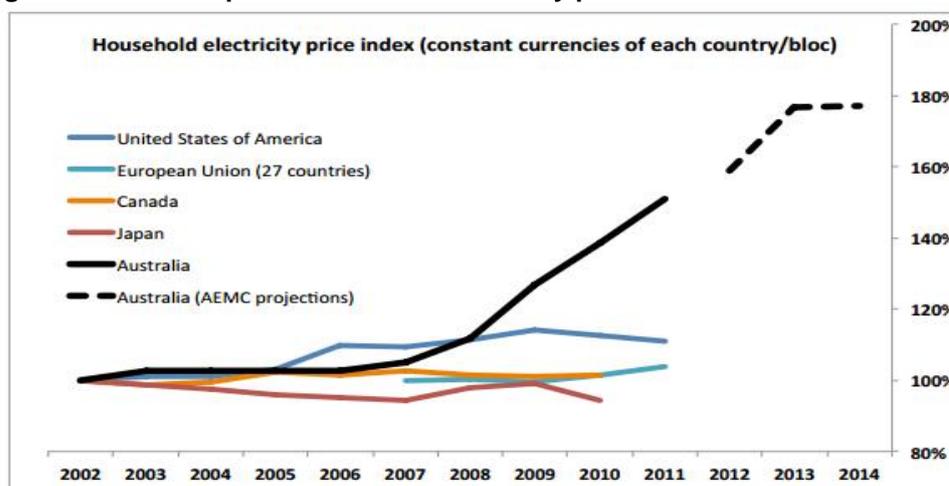
Australia's cement industry is energy intensive and trade exposed (import-competing) and, as with many Australian manufacturers, has been subjected to pressure from a range of sources including the high Australian dollar, increasing shipping costs, increasing energy costs and a new carbon price.

2.1 Australian Energy Context

Historically Australia has been a source of reliable and competitively priced energy supplies, and our manufacturing base developed and prospered on the back of our vast resources. However, in recent years energy costs have been increasing – from both an electrical and thermal energy perspective.

For example, electricity prices in Australia have been rising at a faster rate than many of our international competitors (Figure 1). This is mainly due to a number of key factors such as: electricity network 'gold plating', the carbon price and the Renewable Energy Target (RET).

Figure 1 – An example of Australian electricity price increases



Source: Electricity Prices in Australia: An International Comparison ²

² Electricity Prices in Australia: An International Comparison (<http://www.euaa.com.au/wp-content/uploads/2012/04/FINAL-INTERNATIONAL-PRICE-COMPARISON-FOR-PUBLIC-RELEASE-19-MARCH-2012.pdf>)

Domestic gas prices have also been increasing. Western Australian producers have been exposed to higher gas costs for a number of years now, where prices have risen from around the \$2-3 a gigajoule range to \$8-10 per gigajoule on the back of the LNG export market to Asia.

A similar situation is now occurring on the east coast of Australia as large LNG export hubs are scheduled to come online over the next few years, diverting gas from the region. Not only does this situation have ramifications for the supply of gas to domestic markets, but also pricing as the market moves to match the export price.

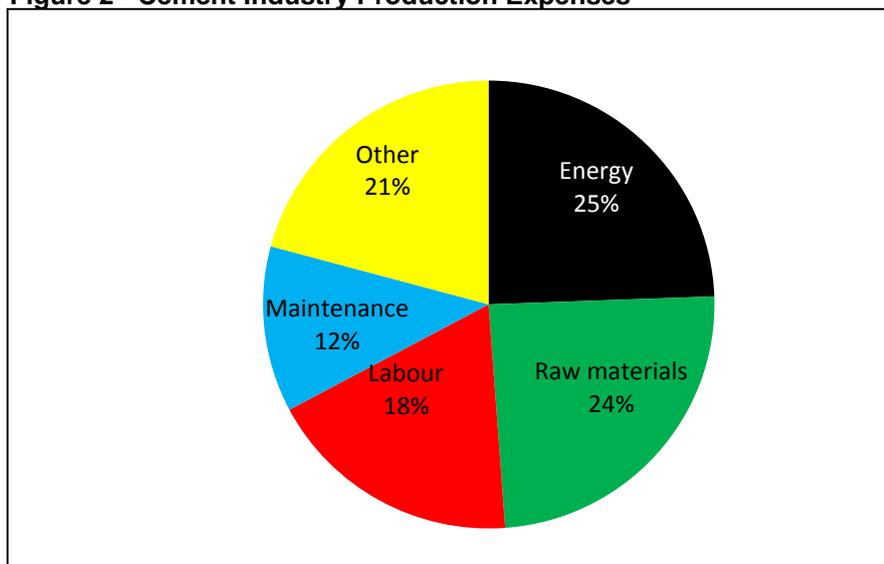
As an import competing industry, it is difficult for our members to pass on the costs associated with energy-related price increases – be it for electricity, gas or any other fuel - thus significantly affecting our international competitiveness.

The CIF is therefore fully supportive of measures that put downward pressure on energy prices and reduce the regulatory burden on business.

2.2 Australian Cement Industry Energy Profile

Energy is a key component of cement manufacturing in Australia, representing approximately 25 per cent of total costs (Figure 2). This includes thermal energy for the cement kiln and electricity for the cement grinding plant.

Figure 2 - Cement Industry Production Expenses



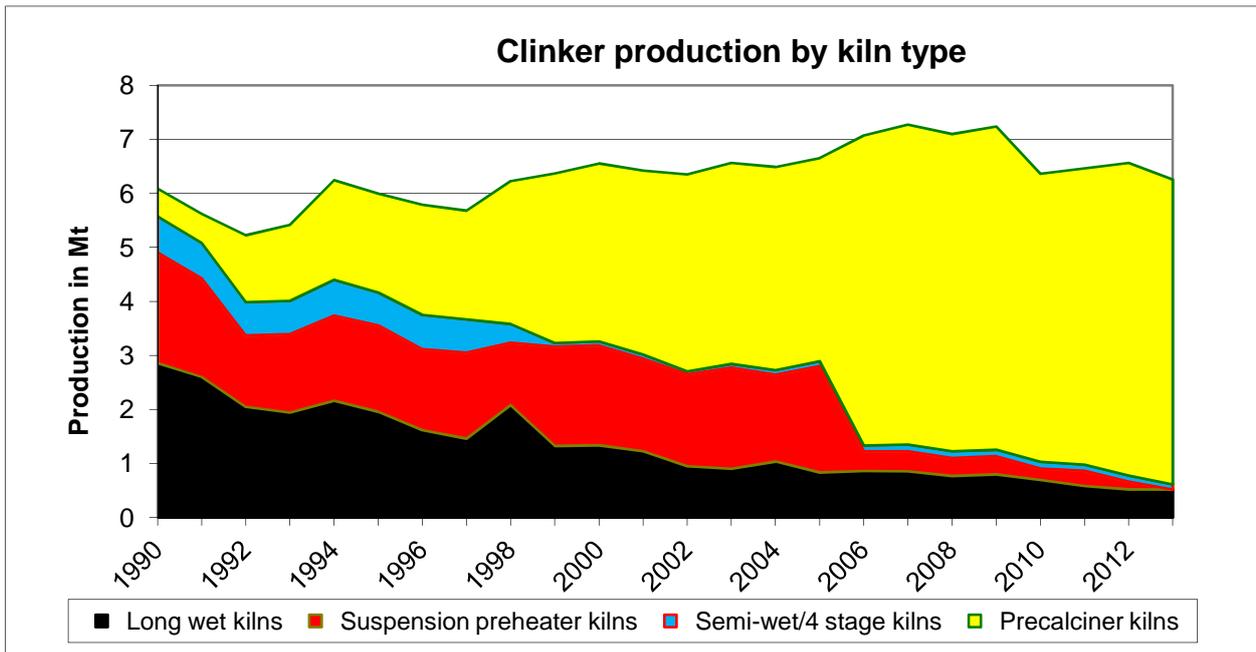
Source: CIF Survey 2013

With energy representing such a large portion of production costs, cement producers are continuously investigating and, where economically feasible to do so, adopting more energy efficient technologies to improve productivity and competitiveness.

Since 1990 the industry has moved towards more energy efficiency clinker production techniques through the increased use of precalciner kilns and a reduction of clinker production using less efficient long wet kilns.

In 2013, precalciner kilns accounted for 90 per cent of total clinker production in the Australian cement industry.

Figure 3 – Changes in Australian cement industry kiln technology – per cent of installed capacity 1990 & 2013.



Source: CIF Survey 2013

Australian cement kilns are predominantly fuelled by coal (61 per cent) and natural gas (31 per cent). The remainder is made up of various other traditional and alternative fuels such as wood waste, coke, diesel oil, used oil, solvents, spent pot liner, carbon powders and animal fat.

Further opportunities exist to reduce our industry's reliance on coal and gas through the increased use of alternative fuels.

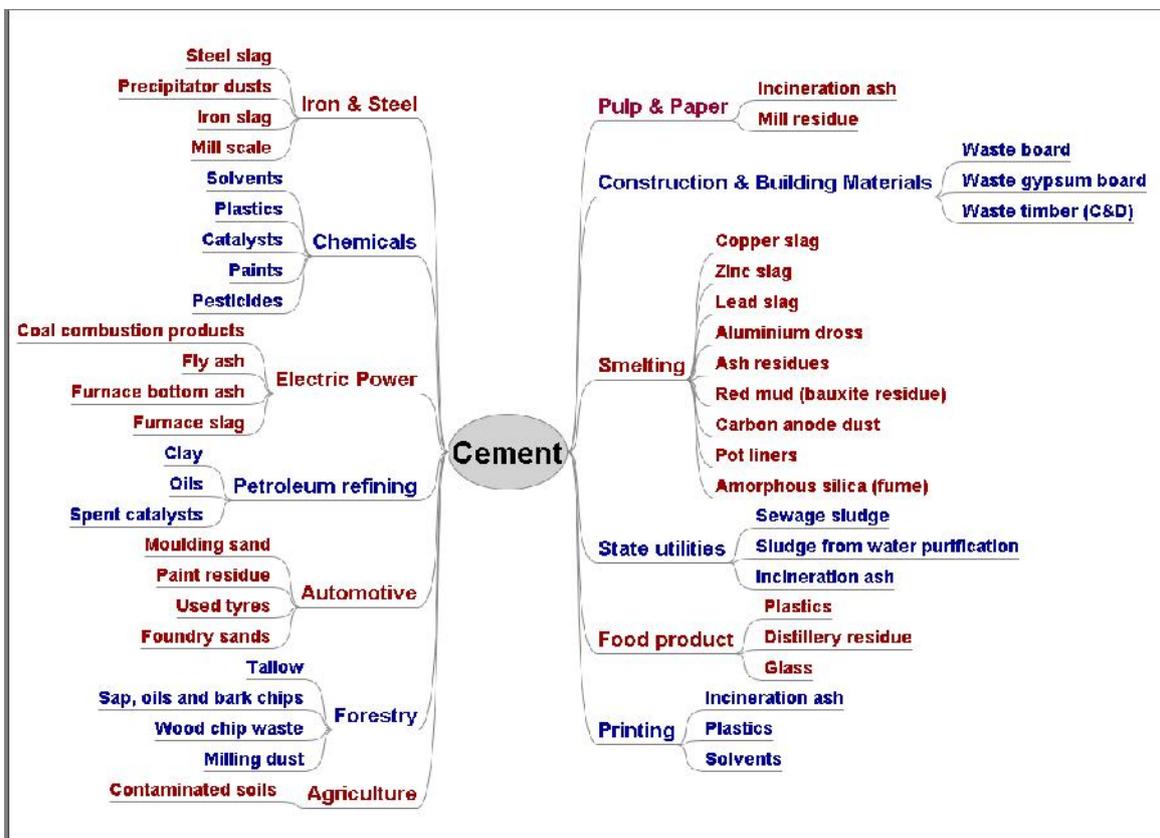
3. The Australian Cement Industry and Resource Recovery

3.1 Alternative Fuels and Raw Materials Use

The cement industry's viability is dependent upon minimising costs, advancing the industry towards greater sustainability and maintaining a social licence to operate. To this end our industry has been innovative in reducing its reliance on traditional fossil fuels via the uptake of alternative fuels, raw materials and supplementary cementitious materials (SCMs) – predominantly sourced from secondary materials/by-products.

Cement kilns are ideally suited to the safe recovery of energy and co-processing of a range of waste materials – including certain types of hazardous waste (Figure 4). This is due to the burning conditions within the kilns (high temperatures, long residence time and oxidising atmosphere) and a naturally alkaline environment.

Figure 4 – Secondary/By-Product Material Opportunities for the Cement Industry



These actions not only conserve natural resources (such as coal, gas, limestone, iron ore, sands and shales) and reduce landfill, but in many cases also reduce our overall greenhouse gas emissions.

For the year 2012-13, approximately 106,000 tonnes of solid and liquid alternative fuels (around 8 per cent of our total thermal requirements) were safely converted to energy and product materials, and nearly 1.6 million tonnes of supplementary cementitious materials (in a total market of around 10 Mt of cement and cement materials) were used in the process.

Examples of fuels and materials currently used in Australian cement kilns include granulated blast furnace slag, fly ash, used oil, tyres, solvents, spent cell/pot liner, carbon powders, waste wood/sawdust and animal fat.

3.2 Barriers to Alternative Fuel/Material Use

There are a number of factors that determine what alternative materials can be used in a cement plant including:

- suitability (calorific value and/or alternative material substitution potential),
- long-term availability;
- capital investment (storage, pre-processing, feed systems etc.).

The Australian cement industry currently derives around 8 per cent of its thermal energy needs from alternative fuels. As a comparison cement plants in the European Union derive an average of around 18 per cent of their thermal energy needs from alternative fuels. The Netherlands cement industry derives approximately 83 per cent.

Barriers to the uptake of alternative fuels/materials in Australia include:

- the abundant opportunities and low cost of land filling in certain jurisdictions which has diminished the market incentive to establish resource recovery;
- outdated and inconsistent waste and recycling legislation within State and Federal jurisdiction which results in regulatory uncertainty and disincentivises the drive to resource recovery;

Such barriers do not exist to the same extent in other countries, which goes some way to explaining the higher average substitution rates seen in areas such as the European Union.

The EWP process represents a unique opportunity to analyse and assess the barriers that currently exist to utilising alternative fuels more extensively, and to explore possible solutions.

The CIF recommends that the role of alternative fuels be examined during the EWP process, with the objective of finding a pathway forward that both clearly identifies regulatory barriers and policies at all levels of governments and explores possible solutions that will encourage an increased uptake of alternative fuel usage in Australia.

4. Government Reforms

The CIF recognises that the EWP is being developed in parallel with a broader package of reforms. The CIF supports the integration of the relevant outcomes of these reviews into the EWP with the aim of reducing the costs of energy in Australia.

In addition, these reviews provide an opportunity to identify 'red and green tape' issues that are currently reducing our competitiveness. This is in line with the Government's stated policy to reduce the regulatory burden on industry.

4.1 Climate Change Policy

The CIF supports the principle that all countries, including Australia, should contribute equitably in reducing global greenhouse gas emissions and in adapting to impacts of climate change.

In developing policies to address climate change (and policies they may link to), it is important that the following principles be considered:

It should be consistent with the Government's broader economic policy objectives to building a stronger, more productive and diverse economy;

Investment in cement manufacturing is a long-term commitment and new investment is encouraged when there is a level of certainty and longevity around domestic climate change policies.

It should not disadvantage the competitiveness of Australian industry;

It is critical not to expose Australian export and import competing industry to costs not faced by competitors in other countries (including Asia).

Australia is committed to reduce its emissions by 5 per cent below 2000 levels by 2020. However, more than 85 per cent of international emissions have not been ratified under the current Kyoto Protocol period of 2013-2020, including China, the United States and New Zealand.

Emissions included in Australian climate change policy should be as broad as possible

Australian climate change policy should ensure abatement opportunities apply to all emitters. This principle was not addressed under the *Clean Energy Act 2011*, where coverage of the carbon tax incorporated less than 60 per cent of Australian emissions.

Australian climate change policy should encourage cooperation across sectors, industries and companies

It is through cooperation within and across sectors that abatement opportunities will be maximised. For example, the cement industry has the ability to reduce emissions through increasing alternative fuel usage in kilns to replace fossil fuels.

4.2 Renewable Energy Target (RET)

The Renewable Energy Target was established in 2000, originally with a modest target of 9,500 GWh by 2010 and then significantly expanded to 45,000 GWh by 2020 before being split into the Large-scale renewable Energy Target (LRET) and Small-scale Renewable Energy Scheme (SRET).

As a government intervention RET is a policy that taxes electricity users in order to provide subsidies to renewable producers – predominantly wind and solar. The justifications put forward for the renewable energy target range from reducing greenhouse emissions (at a high cost) through to providing production subsidies to encourage the uptake of renewable technology.

Whatever the motivation, one point is clear – the RET in its current form has been an underlying factor in energy price rises across Australia. This increase in cost has been estimated at around 9 billion by 2030-31, or the equivalent of a 6 per cent increase in total energy resource costs³. RET costs to business customers are estimated to increase by around 5 per cent.

The current debate around the continuation of RET revolves around a number of possible scenarios: 1) cessation of the RET, with relevant measures to protect the interests of those who have invested in line with the policy to-date; 2) for the RET target to be set at a true 20 per cent, rather than a fixed target that does not account for changes in energy demand; 3) for the RET to be broadened and allowed to work in concert with Direct Action⁴.

The CIF, in the first instance, supports the cessation of RET both due to the distortionary costs of the scheme to businesses and consumers as well as the relatively high cost of abatement from an emissions perspective. Failing that outcome our industry would support a move away from a fixed target to one that represents a true 20 per cent.

The CIF would be unlikely to support a revamping of the RET and subsequent expansion of the target (for example out to 25 per cent), unless it could be demonstrated that the subsequent costs to business of the scheme would be significantly reduced.

Opportunities for RET to work in concert with Direct Action would need to be closely examined against these criteria.

4.3 Energy Efficiency

4.3.1 Energy Efficiency Opportunities Program (EEO)

The administrative and implementation costs associated with the EEO program have been a significant burden on CIF member companies since its inception, both in terms of the human and financial resources required for compliance.

With energy representing such a large portion (around 25 per cent) of production costs cement producers are strongly motivated towards actively managing their energy efficiency on a day-to-day basis.

³ *The Renewable Energy Target – How it works and what it costs*, CIE, Nov 2013

⁴ *Price pushes RET revamp plan* – AFR, 31 January 2014

Decisions on whether to implement identified energy efficiency measures are made within the constraints of the normal business environment and take into account the combined cost of all inputs – not just energy efficiency.

The requirement for mandatory reporting under EEO does nothing other than burden industry with yet another reporting requirement. In this context the CIF supports the Government's decision to terminate EEO funding from 1 July 2014.

The EWP development process provides a unique opportunity to consider the removal of ineffective programs such as EEO, in favour of less intrusive approaches to addressing energy efficiency issues across the economy.

At the very least, removing the mandatory reporting requirements under EEO for large energy users would fit well with the Government's policy objective of boosting productivity and reducing red tape.

4.3.2 National Emissions Savings Initiative

The Australian Government has in the past investigated the merits of a National Energy Savings Initiative (NESI). A NESI is promoted as being a market-based tool for driving economy-wide improvements in energy efficiency. It would place a requirement on obligated parties (typically energy retailers) to find and implement energy savings in households and businesses.

This type of intervention has the potential to drive up energy prices unnecessarily and is a high cost abatement tool.

In this context the CIF does not support the development of a NESI.

5. Conclusion

Australian industry has developed and prospered on the back of reliable, low-cost energy sources. The Australian cement industry therefore supports measures that put downward pressure on energy prices and reduce the regulatory burden on business.

There are significant opportunities for the Australian cement industry to increase the uptake of alternative fuels and materials, provided inconsistent and unnecessary regulatory barriers can be overcome.

The EWP process provides an opportunity to examine the role of alternative fuels in Australia's energy market and identify pathway forward that will encourage the safe uptake of alternative fuel usage in Australia.

The CIF does not support programs and measures that lead to an increase in energy prices or add to the already significant regulatory burden faced by Australian large manufacturing industry. Existing programs such as RET and EEO need to be re-examined in this context, as do any future programs.