Federation House, Station Road, Stoke-on-Trent. ST4 2SA
Tel: (01782) 744631 Fax: (01782) 744102
E-mail: bcc@ceramfed.co.uk
www.ceramfed.co.uk

7th December 2018

Email to: communications@theccc.gsi.gov.uk Committee on Climate Change
From: British Ceramic Confederation

BCC RESPONSE TO COMMITTEE ON CLIMATE CHANGE CALL FOR EVIDENCE: A ZERO-CARBON ECONOMY

The British Ceramic Confederation (BCC) is the trade association for the UK ceramic manufacturing industry, representing the collective interests of all ceramic sectors. Our 90 plus member companies cover the full spectrum of ceramic products and comprise over 90% of the industry's UK manufacturing capacity. Membership of BCC is diverse including manufacturers in the following industry sectors:

- Bricks
- Clay Roof Tiles
- Clay Pipes
- Gift and Tableware
- Floor and Wall Tiles
- Sanitaryware
- Refractories
- Industrial Ceramics
- Material Suppliers

In the UK our sector (including suppliers to the industry) employs over 20,000 direct full-time employees, generates £2bn in annual sales and is an active exporter, with over £0.5bn in export sales. Our membership comprises a range of mostly SMEs operating single manufacturing sites (~75%), through to larger UK-based and multi-national organisations operating multiple manufacturing sites. Many technical ceramics and refractories also contribute to the energy efficiency of other sectors and are solution providers for low carbon energy generation and electricity distribution[1].

A lot of our members' production processes are based on high temperature and continuous production processes. The industry is energy-intensive (but not energy-inefficient); with energy costs and taxes making up to 30-35% of total production costs. By virtue of the importance of energy to their overall costs, our members (and energy-intensive industries in general) have been driven to maximise the efficiency of their operations over several decades.

The industry as a whole is gas-intensive, with an energy mix of around 85% gas and 15% electricity. The use of gas is effective for high-temperature firing from around 1,000°C to 1,750°C; although some companies (including some technical ceramic and refractory producers) use electric arc / induction firing to achieve the higher firing temperatures required; which can be up to 2,750°C.

In the ceramic sector, there are three sources of carbon dioxide emissions: the combustion of fuels, indirect emissions from electricity and process emissions (resulting from unavoidable chemical changes in the raw materials during firing).

All UK ceramic businesses compete in fiercely competitive global markets and are at high risk of carbon, job and investment leakage. By their very nature, the international success of energy intensive industries (EIIs) is reliant on competitive energy and carbon prices and requires strong Government policies to achieve this. Divergence in these costs relative to competitor countries has already led to some relocation of production, loss of jobs / skills, financial costs to Government and the potential for net increases in global emissions. Our members are impacted, to varying degrees, by EU policies, including the EU Emissions Trading Scheme, Energy Efficiency Directive, Renewable Energy Directive and the Industrial Emissions Directive and their transposition into domestic legislation. This is in addition to domestic legislation and schemes such as the Climate Change Act, Climate Change Levy / Agreements, Carbon Reduction Commitment and Carbon Price Floor.

[1] Materials Roadmap Enabling Low Carbon Energy Technologies
https://setis.ec.europa.eu/system/files/Materials_Roadmap_EN.pdf

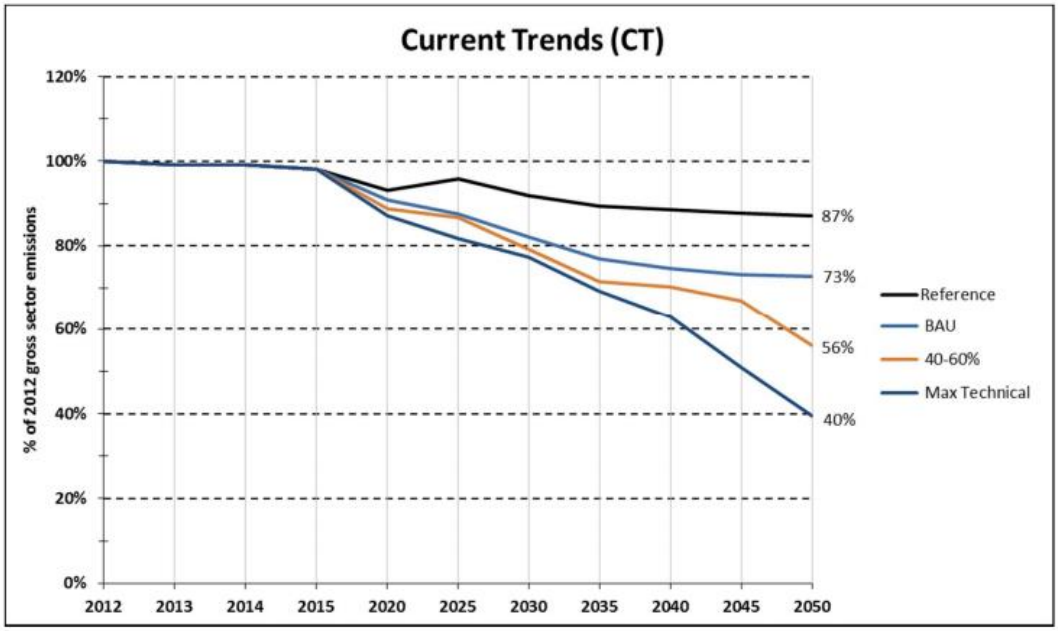
Consultation Response

In summary we think the Committee on Climate Change (CCC) must consider the international competitiveness and potential carbon leakage of manufacturing (especially the impact on sectors, such as ceramics, where the products contribute to decarbonisation), how imported goods are treated and the technical potential of cost-effective reductions in their assessment.

The achievement of the Government's current 80% 2050 target will be extremely challenging for all sections of society. It is crucial the Government acknowledges the impact of exporting emissions to other countries through the relocation of industry to countries with lower environmental targets or standards (carbon leakage).

We urge the CCC to consider two documents which highlight the opportunities and challenges to decarbonisation and energy efficiency in the ceramics industry. Cerame-Unie's 2050 roadmap[2] and the UK industrial decarbonisation roadmap[3] and action plan[4], which was a joint piece of work between BEIS and the ceramics sector.

The two documents highlight the various technologies which could help to decarbonise the UK ceramics industry, with consideration in four scenarios. In the UK study the maximum technical scenario would achieve a reduction of sector emissions of 60% compared to 2012 emissions (see chart below). However, this scenario assumes full technological development with no financial limitations. It is therefore vital the CCC acknowledge the government support required and long-investment cycles in manufacturing industries such as ceramics.



In the Scottish Government's consultation[5] on the proposed changes to their targets it was stated the increase in cost of changing the target from 80% to 90% was: "*a 90% target could be achieved for an estimated cost equivalent to just under 3% of cumulative Scottish GDP. In comparison, the current 80% target could be achieved for around 2% cumulative Scottish GDP*."

Thus there is a 50% cost increase to achieving an additional 10% reduction in carbon emissions. We think this is a significant increase, especially if figures were similar for the UK. There should be renewed

[2] Ceramic Industry Roadmap: Paving the way to 2050, Cerame-Unie
http://cerameunie.eu/topics/cerame-unie-sectors/cerame-unie/ceramic-industry-roadmap-paving-the-way-to-2050/
[3] Industrial Decarbonisation and Energy Efficiency Roadmaps to 2050, BEIS
https://www.gov.uk/government/publications/industrial-decarbonisation-and-energy-efficiency-roadmaps-to-2050
[4] Industrial decarbonisation and energy efficiency action plans, BEIS
https://www.gov.uk/government/publications/industrial-decarbonisation-and-energy-efficiency-action-plans
[5] Scottish Government Climate Change Bill: consultation
https://www.gov.scot/publications/climate-change-bill-consultation-paper/

focus by Government on providing support to industry to achieve, while remaining internationally competitive, the already challenging 80% target before considering a revision to the target towards a net-zero greenhouse gas emission target.

We also think the Government should consider measuring total emissions such that imported carbon emissions are included, i.e. emissions are based on a consumption or 'footprint' basis rather than on a 'production' only basis. This is important given that the impact of carbon emissions is the same regardless of source or international boundary. There is little to be gained, in fact emissions could increase, if decarbonisation is achieved through deindustrialisation to countries with less strict carbon and environmental regulations. Defra figures (Figures 1 and 2 of the report are shown below)[6] show UK embedded emissions from imports increased between 1997 and 2015 by 31%.

As a further example in National Grid's Future Energy Scenarios imported electricity is treated as zero carbon, regardless of its source. Although this is correct from a UK perspective, on a global basis it is incorrect. We think the CCC and Government could show genuine carbon reduction leadership by accounting for imported greenhouse gas emissions in its figures and targets.

Figure 1 Greenhouse gas emissions associated with UK consumption 1997 to 2015

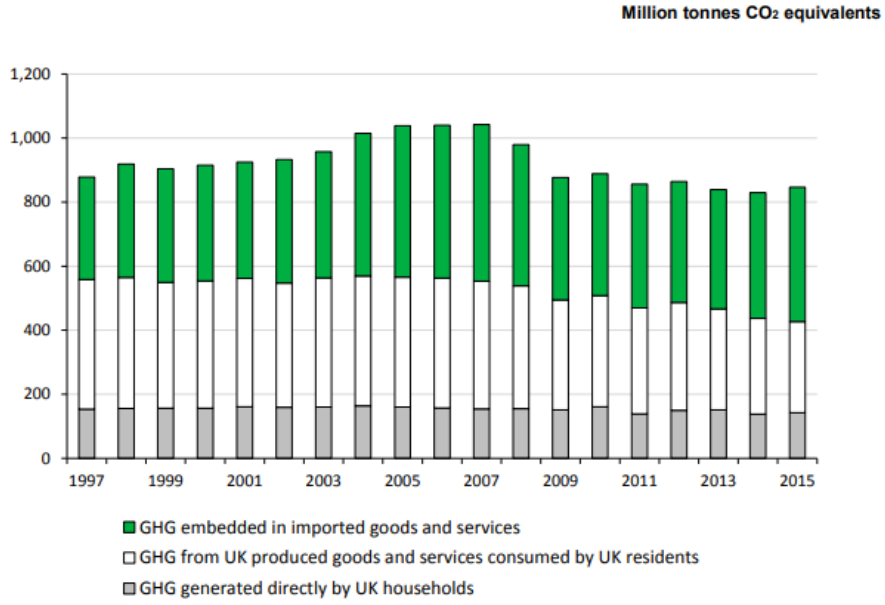
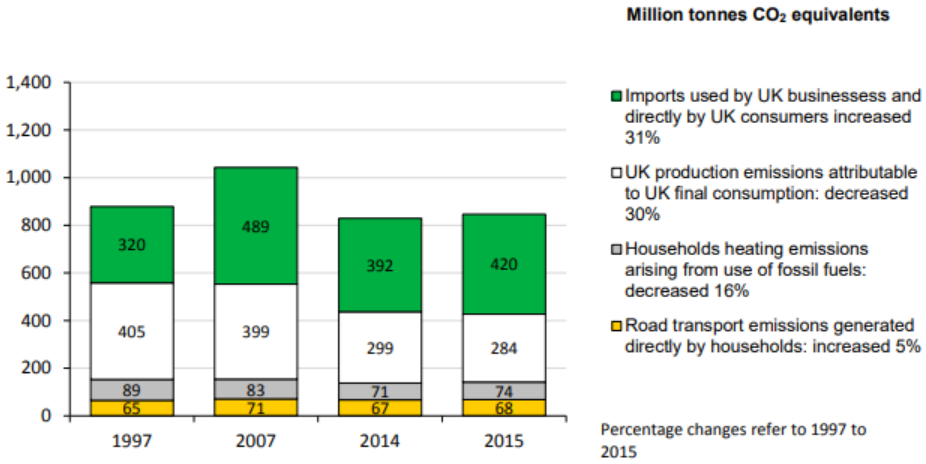


Figure 2 Greenhouse gas emissions associated with UK consumption 1997, 2007, 2014 and 2015



[6] Defra, Official Statistics, UK's Carbon Footprint
https://www.gov.uk/government/statistics/uks-carbon-footprint

We think there are potential opportunities for the economy if the UK focuses on products, such as ceramics, which have low lifetime carbon and energy consumption rather than just focusing on a product's initial energy consumption during its manufacture.

We urge the CCC and Government to consider and mitigate the impact of both current and future energy, particularly electricity, costs on all aspects of the UK economy but especially energy intensive industries such as ceramics.

We ask the CCC, where possible, to encourage similar targets across the UK rather than divergence across the devolved administrations. This is to minimise within UK competitive distortions which can result from different targets across the UK.

In November one of your CCC colleagues visited three ceramic manufacturing sites in Stoke-on-Trent through our day of site visits. We would welcome further CCC officers and senior staff to future visits to discuss the energy and emission topics associated with the ceramics industry.

Please feel free to contact us if you require any more information.

Yours faithfully,

Dr Andrew McDermott
Technical Director

Jon Flitney
Technical Policy Officer