

Environment, Climate Change and Land Reform Committee

Climate Change (Emissions Reduction Targets) (Scotland) Bill

SUBMISSION FROM Mineral Products Association Scotland/ Mineral Products Association

Executive Summary

1. Scotland is a relatively small geographical area when considering the global issue of climate change and the Mineral Products Association Scotland (MPA) and Mineral Products Association (MPA) agree with the CCC advice that a 90% target would require actions that are currently at the very limit of feasibility.
2. It must be noted that by going above and beyond the rest of the UK, it is not just international competition that the Scottish cement sector is exposed to but competition from businesses in the rest of the UK that face less stringent climate targets.
3. The key to delivering a 90% target, whilst ensuring industry remains competitive, will be in how that target is shared across different sectors of the economy.
4. A clear and robust plan for how the 90% target will be achieved is required, taking into account the various sector contributions based on action taken to date and technologies available today and which need to be developed in the period to 2050.
5. MPA/MPAS have set out 5 key criteria that must be considered when developing climate change plans for delivering a 90% target by 2050. These include; the availability of cost effective technology, economic circumstances, energy and climate change policy, fuel availability and interaction with Scotland's industrial strategy.
6. Low carbon concrete can be a key material in helping to deliver a 90% target across a number of different areas of the economy. It is locally produced, which limits emissions from transport, it can help to decarbonise buildings and homes by reducing energy needs and it absorbs carbon dioxide (CO₂) from the atmosphere over the course of its lifetime and at end of life.

Introduction

7. The Mineral Products Association (MPA) is the trade association for the aggregates, asphalt, cement, concrete, dimension stone, lime, mortar and silica sand industries. With the affiliation of British Precast, the British Association of Reinforcement (BAR), Eurobitume, QPA Northern Ireland, MPA Scotland and the British Calcium Carbonate Federation, it has a growing membership of 480 companies and is the sectoral voice for mineral products.
8. MPA membership is made up of the vast majority of independent SME quarrying companies throughout the UK, as well as the 9 major international and global companies. It covers 100% of UK cement production, 90% of GB aggregates production, 95% of asphalt and over 70% of ready-mixed concrete and precast concrete production. Each year the industry supplies £20 billion worth of materials and services to

the Economy and is the largest supplier to the construction industry, which had annual output valued at £151 billion in 2016. Industry production represents the largest materials flow in the UK economy and is also one of the largest manufacturing sectors. For more information visit: www.mineralproducts.org.

9. Cement production is one of the most carbon intensive manufacturing processes within the MPA membership. There is a single manufacturing site in Scotland. Around 70% of the carbon dioxide (CO₂) emission from cement plants is from the breakdown of raw materials (process emissions), the remaining 30% is from the combustion of fuels.
10. MPA Cement producers take greenhouse gas emissions reduction very seriously and in 2013 MPA published a greenhouse gas reduction strategy¹ that set out how the UK sector could reduce emissions by 81% or 62% depending on whether Carbon Capture and Utilisation and/or Storage (CCUS) is widely deployed in the sector or not respectively. The strategy set out what actions are required by industry, Government and others to achieve deep levels of decarbonisation. MPA also worked with UK government to produce the 2015 roadmap² for the sector and Tarmac, who own the cement plant in Scotland, have worked with Scottish officials on a roadmap for the Scottish cement sector.
11. The roadmaps highlighted three key technologies to decarbonise the cement sector:
 - a. Fuel Switching to Biomass
 - b. Clinker substitution (where clinker, the carbon intensive intermediary in cement production, is substituted for other materials with similar properties such as ground granulated blastfurnace slag, a by-product from steel manufacture, and Pulverised Fuel Ash, from coal fired power generation.
 - c. CCUS

MPAS/MPA View on the Climate Change (Emissions Reduction Targets) (Scotland) Bill

12. Scotland is a relatively small geographical area when considering the global issue of climate change and MPAS/MPA agree with the CCC advice that a 90% target would require actions that are currently at the very limit of feasibility. From the point of view of business competitiveness, ideally Scotland would not go above and beyond the ambition of the rest of the UK. It must be noted that by going above and beyond the rest of the UK, it is not just international competition that the Scottish cement sector is exposed to but competition from businesses in the rest of the UK that face less stringent climate targets.
13. However, Scotland is acting on its decarbonisation ambitions and the key to delivering a 90% target, whilst ensuring industry remains competitive, will be in how that target is shared across different sectors of the economy.

¹ MPA Cement, "Greenhouse Gas Reduction Strategy, 2013, http://cement.mineralproducts.org/documents/MPA_Cement_2050_Strategy.pdf

² BIS and DECC (now BEIS), Industrial Decarbonisation & Energy Efficiency Roadmaps to 2050:Cement, 2015, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/416674/Cement_Report.pdf

14. A clear and robust plan is required that sets out how the target will be achieved, taking into account the various sector contributions based on action taken to date and technologies available today and which need to be developed in the period to 2050. The latest climate change plan set out key proposals and policies to 2032 but it is not yet clear how the deeper reductions between 2033 and 2050 will be achieved. In terms of developing future plans the following key criteria must be considered:
- a. The availability of cost-effective technology relevant to emissions reduction delivery. There is no point setting targets that are technologically impossible to achieve within the required timeframes.
 - b. Economic circumstances: It is vital that climate change ambitions do not jeopardise the competitiveness of Scottish businesses as this could lead to de-industrialisation and will require Scotland to import the goods and skills it requires for a low carbon economy. Ultimately, this could have a detrimental effect on global climate change if goods are imported from countries with considerably lower carbon reduction ambitions. This would be contrary to policy objectives.
 - c. Energy and climate change policy: Consideration must be given to incentivising emissions reductions and energy efficiency improvements to meet the targets set. Consideration must also be given to the cumulative burden of policy costs, particularly on energy intensive industries.
 - d. Fuel availability and energy security: What biomass fuel resources are available in Scotland and where can their use be incentivised to achieve the best value for money in terms of decarbonisation?
 - e. Interaction with the Scottish industrial strategy: How can GHG's be mitigated whilst ensuring there is a strong manufacturing foundation in Scotland?
15. The Scottish Cement sector can play a key role in reducing emissions across the economy:
- a. In terms of cement production, huge investments have been made to reduce emissions wherever possible. The cement plant in Scotland consumes a number of waste biomass fuels. When used in cement manufacture, not only is the energy content of these fuels utilised but the metal and mineral content is recycled into the cement product. The use of waste in this way, moves it up the waste hierarchy, ensuring that greater benefits are gained from its use than just energy recovery.
 - b. Using energy efficiently is vital to maintaining the competitiveness of the energy intensive cement sector. Almost all available technologies to improve energy efficiency have been adopted, so further step change in energy efficiency is unlikely. However further incremental improvements may be possible if these can be made cost effectively. It is important that Scottish Government provide support for Energy intensive Industries, like the cement sector, to help them take advantage of these remaining opportunities
 - c. Cement is one of the ingredients in concrete and although the embodied carbon of cement is relatively high, actually concrete/masonry is a low carbon product (containing only around 15% cement) that is locally produced. 100% of UK cement is responsibly sourced and independently certified to standard BES 6001.

Local production helps the local economy and ensures emissions from its transportation are kept at a minimum.

- d. Buildings and homes can be designed and constructed using concrete and masonry to utilise the high thermal mass properties of these heavy weight building materials. High thermal mass can be used to even out temperature fluctuations so that a home remains at a comfortable temperature all year round. This can considerably reduce the energy required to heat homes in winter and cool homes in summer. Concrete is therefore a key low carbon material which will help to decarbonise the residential sector, one of the most difficult sectors for emissions reduction because decarbonisation often requires behavioural change.
- e. Concrete absorbs CO₂ from the atmosphere while in use, and even more so when it is crushed at the end of its life and recycled. A methodology is currently being produced to measure this recarbonation and countries are being sought to test the methodology. This little known CO₂ sink could help Scotland achieve the 90% target.
- f. Finally, CCUS is a key technology to achieving substantial reductions in CO₂ from cement manufacture and MPAS/MPA and MPA members want to work with Scottish Government on developing this technology.