

Welsh Carbon Budgets – Call for Evidence Response

Organisation

Mineral Products Association

Question 1: Does the Paris Agreement mean that Welsh emissions targets should keep open a deeper reduction in emissions than 80% by 2050? Are there implications for nearer-term targets?

MPA understand that in future there may be a desire to increase the decarbonisation ambition and therefore the option to revise the ambition should be kept open. In considering changing the ambition, the Welsh Government must fully set out the burden sharing of that ambition based on evidence of what is technically and financially feasible in each sector, without damaging competitiveness. Furthermore, MPA would like the ambition level to be harmonised across the UK. Increasing the Welsh ambition from 80% to e.g. 90% if the rest of the UK, EU and the world keep to the 80% ambition could result in serious damage to the Welsh economy as industry relocates to areas with lower carbon costs. It is important that businesses in Wales are not expected to go above and beyond that of their closest competitors and what is scientifically possible in the immediate and foreseeable future.

Industry require long term certainty of climate policy and any change to the ambition must be clearly signalled well in advance. It must also be noted that changing the 2050 ambition might not necessarily require interim targets to be adjusted. Some technologies for reducing emissions e.g. carbon capture and storage/use (CCS/U) may not be available until closer to 2050. For sectors, such as the cement sector, with a high proportion of unavoidable process emissions, deeper carbon reductions will only be possible when CCS/U is commercially available at competitive prices. In other words the rate of decarbonisation is unlikely to be linear but take place in step changes.

Question 2: Do you think that leaving the EU has an impact on the targets or how they can be met?

Leaving the EU should not have an impact on targets or how they can be met. The EU in its policies placed the highest burden on the traded sector and as such the EU relies heavily on the EU ETS as a policy to deliver decarbonisation. However, the UK has many other policies in place covering a broader range of sectors (e.g. CCA and CRC) as well as EU ETS.

EU ETS sectors must not be burdened with all the effort of reductions as many of these sectors have taken early action to reduce emissions. Other sectors must take on the burden, particularly where there are cost effective reductions to be made.

Loss of access to Horizon 2020 funding for research into decarbonisation projects may affect emissions reductions later on. For example, CCS/U is required to bring about a step change in emissions reductions in the cement sector but much research and funding for this technology is required for it to become a commercial reality.

Question 3: In the area(s) of your expertise, what are the opportunities and challenges in reducing Welsh emissions in the nearer term (e.g. to 2030)?

The challenge for Wales is that a high proportion of carbon emissions arise from a few large energy intensive point sources. Achieving targets, or not, could be the result of increases or decreases in production from these point sources. Such changes could be triggered by events outside of Wales' control e.g. greater cement consumption in England. Furthermore, most energy intensive industries, and particularly the two cement plants in Wales, have already taken early action in terms of reducing carbon emissions. The remaining reductions will come at a high cost and in some cases will require technology that is not currently available (CCS/U). The challenge in terms of reducing Welsh emissions in the near term is therefore to look realistically at what the large point sources can achieve and accept that it may be other sectors of the economy that now have to invest in reductions. The challenge for industry is to try and decarbonise whilst remaining competitive until there is a globally harmonised carbon price.

There is an opportunity for Welsh Government to acknowledge the long term benefits of using heavy weight building materials like concrete, to reduce the energy required to heat and cool homes. Housing is a sector that is notoriously difficult to decarbonise due to the required change in behaviour of the occupants. By designing the solution into the house, energy reductions can be achieved without the requirement of behaviour change. If a house doesn't feel too cold on entry it is less likely that the first thing to be switched on is the heating. Using the fabric of the building to maintain a level of comfort therefore has both environmental and practical advantages.

Question 4: What is required by 2030 to prepare for the 2050 target for an emissions reduction of at least 80% on 1990 levels, recognising that this may require that emissions in some areas are reduced close to zero? Is there any impact of the need to go beyond 80%, either in 2050 or subsequently?

The carbon budgets need to take account of decarbonisation not necessarily happening linearly. Industry in particular will often decarbonise in a series of steps as technologies become commercially available and financially viable.

Many of the 'quick wins' have already been implemented to decarbonise the cement sector. 70% of the remaining

emissions are unavoidable process emissions that will require a technology such as CCS/U to reduce. If an 80% target is to be reached by 2050 more support is required now for research to make technologies like CCS/U commercially available. The UK is falling behind the rest of the world in such research when we have all the resources to be a world leader.

The UK has already shown leadership in committing its carbon budgets to legislation. To maintain this leadership the UK now has to demonstrate that it can maintain its course to decarbonise by 80% by 2050 without this decarbonisation being met, in part, by offshoring production or an increased reliance on imported goods which both increase the climate change demands of overseas territories and are environmentally undesirable. So the impact of going beyond 80% in the UK could result in more, not less, environmental damage.

Question 5: What are the respective roles of UK Government, Welsh Government, the wider public sector, business, third sector and individual or household behaviour in delivering emissions reductions between now and 2030? And, separately, between 2030 and 2050?

The UK Government must produce a clear strategy of how each sector can decarbonise. To date the burden sharing on the various sectors of the economy has been unequal with by far the greatest burden being placed on the 'traded sector' (industry and power). The power sector has a much greater ability to pass the cost of decarbonisation onto its consumers, whereas industry is often vulnerable to carbon pricing due to import risk, loss of market share or investment reduction reducing competitiveness. The strategy must be based on solid evidence of the technological, financial and social issues for each sector. What can realistically be achieved by 2050 and how are the Government going to support that decarbonisation. The strategy must ensure that the UK decarbonises cost effectively. The Welsh Government can then implement that strategy in Wales in a way that suits Welsh business and other Welsh sectors.

Other considerations that should be taken into account in the strategy include availability and use of biomass fuels. Currently there are a number of incentives that just move biomass away from one sector towards another. They don't consider where best value for money can be achieved to result in the greatest carbon reductions.

The strategy must also look at how reductions from sectors such as residential can be achieved. As set out in the answer to question 3 there are significant benefits to designing houses that remove the need for behavioural change i.e. designing houses that don't get too cold in winter or too hot in summer. This will remove the need for heating and cooling. Concrete is a low carbon material with an embodied carbon of around 80 kgCO₂/tonne ("Concrete Industry Sustainability Performance Report", 9th report: 2015 performance data). The high thermal mass properties of concrete, when used in a well-designed building, can reduce the need for heating and cooling. These in use CO₂ savings can offset the additional embodied carbon of concrete compared to a building constructed with lightweight materials, after just 11 years. Furthermore, this property of concrete can be utilised as a thermal energy store which can provide flexibility to the electricity grid and help to balance demand in a system where there are more renewables contributing to electricity generation (more information on this is available in a report by 3E, "Structural Thermal Energy Storage in Heavy Weight Buildings", published October 2016).

Question 6: As a business, as a Public Sector Body, or as a citizen, how do emissions targets affect your planning and decision-making?

For energy intensive industries, such as cement, the cost of meeting targets will be the greatest factor in planning and decision-making. This includes the cumulative cost of climate change policies, which can add up to £millions. Sites owned by multinational businesses need to show that investing in decarbonising their site is more cost effective than investing in a sister site elsewhere and importing the product to Wales/the UK. Targets that cannot be cost effectively achieved will not attract investment in Wales in energy intensive manufacturing.

Question 7: In your area(s) of expertise, what specific circumstances need to be considered when setting targets and budgets for Wales and how could these be reflected in the targets?

In terms of mineral products businesses, the following are important considerations in setting targets and budgets for Wales:

- What action has already been taken in Wales? It is vital that Welsh targets and budgets do not just take evidence from the UK and apply it to Wales. For example BEIS produced a decarbonisation roadmap for the UK cement sector. It is not possible to take the outcome of that roadmap and pro-rate it to the two cement plants in Wales. This is because the roadmap represents the average UK situation across 11 plants in terms of age of plants and investments already made. The average situation in Wales will be very different to this with only 2 plants.
- What can be achieved cost effectively going forward? CCS/U is vital for the cement sector to decarbonise but when will this become cost effective to implement?
- What are the financial and technological barriers? Will CCS/U be possible in South Wales? Is there an alternative option e.g. to ship CO₂ rather than use pipelines?
- What will ensure that businesses operating in Wales are not put at a disadvantage to the rest of the UK/world?
- What growth might there be, how will this affect meeting targets and how can growth still be incentivised? Both cement plants in Wales have made considerable investments in recent years to improve their energy and carbon efficiency. As a result it is possible that they will produce more cement and supply other parts of the UK. This needs to be considered in setting targets and budgets.

- Measurement of consumption emissions: This is the only accounting method that will provide a true picture of the Welsh carbon footprint. It will also help take account of situations like that outlined in the point above where Wales becomes a manufacturing hub that supplies the rest of the UK.

Question 8: The power and industry sectors in Wales are dominated by a small number of large emitters. What are the key challenges and opportunities that this presents in setting the levels of carbon budgets and how should the process of setting them reflect these?

The power and industry sectors may be the largest emitters but they are also likely to be the sectors that have already invested heavily in decarbonisation. There are other sectors of the economy where there may be easier wins in terms of decarbonisation. The key challenge with these large emitters is to incentivise decarbonisation without damaging competitiveness with the rest of the UK, the EU and the world.

There are two cement plants in Wales. Both have taken early action to reduce emissions. Remaining decarbonisation is much more expensive and technologically challenging to achieve (e.g. CCS/U to reduce unavoidable process emissions). Incentives and support are required to make investments cost effective. The challenge will be to achieve decarbonisation without deindustrialisation. Cement imports to the UK have been rising steadily since 2001.

Carbon budgets should take account of the large number of schemes and policies that already drive decarbonisation in the power and industry sectors and not go beyond that already expected by such schemes (including EU ETS and CCA).

Question 9: What evidence should the Committee draw on in assessing impacts on sustainable management of natural resources, as assessed in the state of natural resources report?

Chapter 8 of the state of natural resources report highlights that natural resources are linked to a “globally responsible Wales”. This includes the impacts of activities in Wales on the globe in terms of both imports and exports. It’s not just the emissions that are produced in Wales that should be included in carbon budgets and targets but the emissions produced elsewhere from the production of goods that are imported into Wales. A consumption based target and accounting system would show the real impact of Wales in terms of climate change.

Question 10: What evidence regarding future trends as identified and analysed in the future trends report should the Committee draw on in assessing the impacts of the targets?

A population growth of 5% in Wales may require more manufacturing and therefore more emissions. This must be taken into consideration in the setting of targets.

The Future Trends report highlights the great untapped growth potential to generate energy in Wales, including from renewable sources. In setting targets, care must be taken to ensure that the renewable generation of energy doesn’t come at the detriment to industry. For example, the cement plants in Wales currently take considerable quantities of waste derived fuel (containing both biomass and non-biomass fractions). In the setting of targets this use of waste should not just be transferred to power generation as this will result in no net benefit to Wales overall and a considerable disbenefit to cement manufacturers who have invested heavily in systems to accept this waste.