

Call for Evidence - Welsh Carbon Budgets

The Environment (Wales) Act received Royal Assent in March 2016. It sets a 2050 target to reduce emissions by at least 80% and provides the legislative framework for establishing a carbon budgeting approach in Wales.

The Act requires that before the end of 2018, Welsh Ministers must set in regulation interim emissions targets for 2020, 2030 and 2040, together with 5-year carbon budgets for the periods 2016-2020 and 2021-2025.

The Committee on Climate Change has been asked by the Welsh Government to provide advice on these emissions targets and is seeking evidence to help with that task.

The Committee will provide advice in two stages:

- Stage 1: Advice on carbon accounting and design of Welsh carbon budgets/targets (March 2017)
- Stage 2: Advice on the level of ambition embodied within the targets and budgets and sectors in which there are particular opportunities to decarbonise (October 2017)

This Call for Evidence focuses on the first of these stages. Responses to this Call will help inform the Committee's advice to the Welsh Government, to be published in March 2017. This Call contains questions relevant to the Act, including the emissions accounting framework, scope of the targets and role for emissions trading.

Our subsequent advice on the level of the targets and budgets will be the focus of a second Call for Evidence later in 2017. **The deadline for responses is 12 noon on 1 February 2017.** For information about how to submit your response to this call for evidence, see: [INSERT LINK](#)

a. Form of emissions targets and carbon accounting framework

The Environment (Wales) Act requires interim targets to be set for 2020, 2030 and 2040, as a percentage reduction against baseline (essentially 1990) emissions. It also requires carbon budgets to be set as a maximum amount of emissions produced in Wales over a 5-year period (initially 2016-2020 and 2021-2025).

When targets are set, they are done so on the basis of the latest understanding of climate science and the best estimates of recent and historical emissions. However, over time methodological changes are made to how emissions under the greenhouse gas inventory are estimated, in order to improve the quality of these estimates.

The revisions to the emissions estimates reflect an updated understanding of actual levels of emissions, and therefore of their contribution to climate change. These revisions affect both recent and historical estimates of emissions, and can make targets harder or easier to meet without reflecting actual progress in reducing emissions.

Budgets set on an absolute basis, specifying the allowed quantity of emissions, retain a link to the underlying climate science regarding the extent to which they affect the climate. However, they would be more vulnerable to changes in inventory estimation practices, potentially making budgets much harder or easier to meet.

An alternative approach would be to base budgets on percentage reductions relative to the base year (1990). These would be less affected by such revisions, as estimates of current emissions and those in the base year would, in general, move in the same direction. However, budgets on a percentage basis are less strongly linked to the absolute level of emissions, which are the fundamental driver of climate change.

Question 1: Is it better for carbon budgets be set on percentage or absolute terms, given that the interim targets are set as percentages?

WWF Cymru think using absolute terms is better for setting carbon budgets. It provides a more direct link to the science underneath the emission reduction which is one of the core principles for setting the budgets within the Environment Act.

The purpose of Part 2 of the Environment (Wales) Act [hereby “The Act”], and therefore of setting budgets, is to reduce emissions of greenhouse gases from Wales - for the absolute levels to decrease. Hence we believe that they should be set on absolute terms of tonnes of carbon dioxide equivalent (tCO₂e).

Colleagues in WWF Scotland have difficulties communicating the impact of changing methodology on absolute terms to the public but it does not impact on their abilities to understand the actual emission reduction, impact of government policies and therefore are able to influence to meet reductions required. They are therefore recommending Scottish Government set a new headline target for achievement by 2020 (set on an absolute basis, in MtCO₂e). Consistency on accounting systems between devolved nations is preferable.

Also, in contrast with the situation in Scotland, there will be statutory targets for every 10 years, not annually, in Wales, and therefore less risk of changes to the inventory creating a sudden fluctuation.

During the stakeholder discussion session with Welsh Government and CCC in Cardiff the NAEI said the changes to methodology are likely to be less substantive than previous years therefore reducing negative impacts of an absolute terms system.

Question 2: What else can be done to make targets resilient to future revisions to the greenhouse gas

inventory?

The structure of our carbon reduction mechanisms in Wales should not be set in accommodate expectation of major changes to the inventory. From discussion at the recent stakeholder event we understand that large changes are rare, and such a significant global change as in 2013 is unlikely in the near future.

There is therefore no 'fix' to avoid future revisions, but we believe that the legislation sets out enough leeway to adjust targets if necessary, with the fixing of carbon budgets 2 budgets in advance and the possible adjustment of the interim and overall target in line with such considerations.

Using gross accounting would in itself help to make the budgets and targets more resilient to inventory revisions associated with the allocation of ETS allowances (e.g. backloading, imperfect knowledge of share of future caps at the time of target setting) and reflect more accurately what is happening on the ground.

b. Role for emissions trading and implications for the competitiveness of Welsh industry

There are various different ways to account for emissions under domestic climate targets. The primary questions relate to their interaction with wider frameworks for emissions reduction. In the case of Wales, this means interaction with the EU emissions trading system (EU ETS) and UK carbon budgets .

There are two main ways of accounting for emissions:

- **'Gross' basis.** Emissions could be accounted for on a 'gross' basis, with actual emissions counting towards the targets for all sectors, as with the existing target to reduce Welsh emissions by 40% by 2020. This would reward action to reduce emissions in sectors covered by the EU ETS (the 'traded sector'), for example through reducing the carbon-intensity of electricity generation or from reduced emissions at Welsh carbon-intensive industrial facilities (whether from improvements in carbon intensity or reduced output).
- **'Net' basis.** Accounting for emissions on a 'net' basis, as under the UK carbon budgets, also counts actual emissions for sectors outside the EU ETS (the 'non-traded sector'). However, the traded sector would be reflected in the Welsh Account as a cap reflecting Wales's share of the overall EU ETS cap. This means that investment in low-carbon power generation – or other emissions reduction in the traded sector – would not directly affect the level of emissions accounted within the Welsh Account. From a carbon budgeting perspective, a 'net' approach effectively fixes the EU ETS contribution to the targets and removes the variability from the EU-ETS sector.

Policy levers available to the Welsh Government currently have very limited influence on the level of emissions from EU ETS installations.

Emissions in Wales (on a gross basis) have fallen 18% since 1990. However, since 2009 they have risen 1% per year largely due to average rises in emissions from power and industry. Industry emissions account for a much larger share of total emissions in Wales than other areas of the UK with 34% from the sector (compared to 22% at a UK-wide level). Power emissions account for 28% of total. Both of these sectors are largely traded in the EU ETS and therefore the split between traded and non-traded emissions is significant in Wales, with 56% of total emissions covered by the EU ETS.

Depending on the future relationship with the European Union, participation in the EU Emissions Trading System (EU ETS) may or may not continue.

For those sectors where emissions are accounted for on a gross basis, there is the potential to make up shortfalls in emissions reduction by buying international 'offset credits' (i.e. resulting from overseas action to reduce emissions) to make up the difference. This could provide additional flexibility in how nearer-term targets are met. Credit purchase could imply costs to the Welsh Government and would need to be procured through a programme that meets a required standard.

However, the Committee's position is that we should plan now for the 2050 target at UK level to be met through domestic action, given that emissions credits may be unavailable or expensive.¹ Nearer-term reliance on offset credits would be inappropriate if it meant that domestic action is insufficient and is not on track to meet the 2050 target.

Question 3: What is the role of the EU ETS or other trading schemes in contributing to Welsh emission reductions and could this differ between sectors (power, industry)?

As outlined in CCC commentary a large proportion of Wales' emissions come from the industry and power sector covered by EU ETS scheme, currently accounting for 56% of Wales' emissions. This is more than the rest of UK.

This combined with the recent low level of reduction required by EU ETS due to over allocation means that industry and power sector in Wales has not been required to reduce emissions at scale, which is negatively impacting on Wales' current overall gross territorial emissions. For example, at current rate of these sectors' performance, CCC has said unlikely Wales will meet 40% reduction by 2020.

We currently have limited devolved competence over power sector and some of the industries covered

¹ CCC (2015) *The fifth carbon budget – The next step towards a low-carbon economy*,
<https://www.theccc.org.uk/publication/the-fifth-carbon-budget-the-next-step-towards-a-low-carbon-economy/>

under EU ETS which does throw up some questions of agency of Welsh Government to make changes in these sectors and hence concerns over including them in our accounting system. It would be really useful to know what % and actual emissions in Wales have devolved competence (especially in these impactful sectors). We would appreciate CCC providing this information in their analysis and advice for Welsh Government.

It is hard to say if the carbon accounting system did not include the EU ETS what the likely action would be on Wales' industry and power sector. It was discussed at the stakeholder event that being covered by a budget accounting system (e.g. gross territorial) does not necessarily mean that action is required on that sector.

What using a gross territorial system does provide is a clearer and more transparent system on which Welsh Government and stakeholders can understand where the emissions are coming from. It also provides consistency with existing policy target for 2020 which is important as discussed below. The idea that setting a new accounting system could lead to lower emission reduction requirements for Wales is problematic.

Based on our colleagues experience in WWF Scotland the inclusion of EU ETS in an accounting system causes multiple problems. These include the challenge of setting targets and preparing RPPs to meet them with imperfect knowledge about future ETS allocation, which is becoming worse as new elements are introduced such as 'backloading allowances.' There is a disconnect between Scotland's notional share of the ETS cap and actual emissions from Scotland's ETS sector, which has been significant in several years and will get more pronounced with the closure of Longannet and ongoing renewables deployment. This is likely to be the opposite for Wales with our lack of emission reduction from the power and industry sector. Moving to net accounting would therefore mean we have LESS ambitious reduction than our current 40% by 2020 of gross territorial. To move to system which is a regressive for emission reduction in Wales would counter the whole point of introducing legislation to accelerate emission reduction in Wales.

An accounting system that does not use EU ETS is more in line with the Wellbeing of Future Generations Act which requires Wales to take action to contribute to global emissions reduction. If the largest producing sectors in our country were omitted from Wales' carbon account it would mean that Wales' climate targets and budgets would not reflect the action necessary to contribute our fair share of reduction in global emissions, and thereby suggest that no action to reduce emissions would be necessary in the major emitting sectors responsible for over half of our emissions.

The changes anticipated through leaving EU and questions over our involvement in EU ETS in the medium term, it would future proof our accounting system not be included in EU ETS.

Question 4: Given that UK carbon budgets cover all of Wales's emissions and are set on a net basis, does this influence how accounting should be approached for Welsh climate targets?

If Wales' accounting system was set on a net basis it wouldn't cover all of our emissions as many industry sector and power sector is captured by EU ETS scheme. This is the problem highlighted in Q3

We should be looking at is a system which is right for Wales and which does not have a negative impact on UK Budget and legislation. Scotland is also covered by UK Act but is seeking to move to a different accounting system which suggests its legally and technically possible. There is significant and growing unhappiness UK net system and there have been attempts to change the situation in law and on advice of the Climate Change Committee, and its future remains uncertain. Devolved nations moving to gross territorial could therefore support the need to shift the UK Act accounting method.

As outlined in Q3 WWF Cymru believes that Wales should have a gross territorial accounting system.

Question 5: Given the UK context, should the design of welsh targets and budgets reflect devolved competence?

This question relates to the ability of Welsh Government to influence the emissions under its territory. As highlighted we have limited power currently over many of the emission generation from power and industry sector. As discussed this does create some issues around agency for change however there are a number of other variables which mean this should not be the 1st principle on which to base the approach.

This issue was discussed during the development of the Welsh Government's Climate Change Strategy in 2010 and a solution was having both targets for territorial emissions and one for areas covered by Welsh Government powers. Is there an option for this within the Environment Act? For example there could however be a useful role for data to be measured and monitored in devolved and non-devolved areas / sectors to be able to assess whether competency might be a problem or blockage to achieving progress in emission reduction in future assessments. In recent years not having agency over the power sector has been an excuse used by Welsh Government to not take transparent progressive action on emission reduction in Wales both in the power sector and more widely.

For the sake of certainty, and in order to influence emission reduction in the greatest number of areas, we strongly recommend that all Wales' emissions are included, not dependant on devolved competence. There are also a range of soft and hard levers that the Welsh Government utilises in areas that are not

devolved, for example support for economic development and regeneration in non-devolved sectors, which means that areas of influence do not necessarily correlate with devolved powers.

Powers which are covered by devolved competence fluxuates. They have changed regularly since the Assembly was established in the 1998 Government of Wales Act, the latest development being the Wales Act 2017 which received Royal Assent at the end of January. This includes devolving power over energy generation projects up to 350MW for example, and the direction of travel is to increase devolved competences. Brexit is likely to change this situation yet again. It would be helpful for stakeholders if CCC could provide analysis of how much of the emissions will be devolved with new powers over 350MW.

Question 6: Are there any competitiveness implications for current traded sector business (e.g. industry) in having gross emissions targets in Wales, and if so how could they be minimised?

Moving to gross targets is a more flexible approach that does not *per se* require the traded sector to reduce emissions faster than the current ETS trajectory. The pace of decarbonisation for different sectors would become a policy decision for the Welsh Government within the overall target. Should the Welsh Government require more effort from industry it could choose to mitigate competitiveness concerns by incentivising this effort rather than increasing taxation or regulation. For example we notice that a recent Welsh Government support package to Tata as included requirement for emission reduction.

Of course, the traded sector will continue to participate in the EU-ETS, as long as the UK remains in the EU-ETS, but this would be accounted for in parallel rather than counting towards Wales' targets.

It would helpful for stakeholders in Wales to know what rate the current traded sector in Wales has reduced emissions compared to other parts of UK. If CCC has this information we would like to see it shared.

The National Indicators for Wales include measurements of emissions of greenhouse gases attributed to the consumption of global goods and services in Wales (Wales' carbon footprint) as well as emissions of greenhouse gases within Wales. The indicators are the main measure of progress towards the achievement of Wales' well-being goals and will be reported on annually. The consumption indicator will help give a more complete picture of emissions for which Wales is responsible, for example the embedded emissions of importing steel or other materials as opposed to producing them in Wales. Taking this indicator into account could help reduce competitiveness implications for industry in particular.

Question 7: What is the role for purchase of international offset credits to supplement action to meet Welsh emissions targets?

ANSWER:

n/A

c. Scope of emissions targets

The Welsh Government has asked the Committee whether or not emissions from Wales's share of international aviation and international shipping (IAS) emissions should be included within the targets and budgets.

Under the Climate Change Act at UK level, IAS emissions are currently outside the scope of the 5-year carbon budgets, but are taken into account in their setting. The Committee's approach has been to include IAS emissions within the scope of the target to reduce emissions by at least 80% by 2050, and examine what levels of reductions are required in the other sectors in order to meet this target. This has been part of the analytical work that has gone into recommending the first five UK carbon budgets, which to date have all been legislated in line with CCC advice.

The Committee has previously set out a principle that IAS emissions should be included within the scope of UK carbon budgets if it is practical to do so. On this basis, alongside our recommendation on the level of the fifth carbon budget, the Committee recommended that the scope of UK carbon budgets be expanded to include international shipping.² However, the UK Government rejected this aspect of our recommendations.

Inclusion of international aviation within carbon budgets is complicated by carbon accounting regulations relating to their inclusion with the European emissions trading system. As UK carbon budgets are accounted for on a net basis and the EU ETS covers flights within Europe but not those outside (i.e. only a subset of international flights), we recommended that inclusion of international aviation is not currently practical. However, it could be included were the basis of carbon accounting to be gross (i.e. actual) emissions, by using estimates of fuel sales.

Question 8: In principle, should international shipping be included within Welsh emissions targets, and if so are there any practical difficulties with doing so?

We think international shipping must be included in Welsh emissions targets and budgets from the start. This gives a more accurate picture of the emissions from Wales that need to be cut, and avoids the ambiguity of the UK position.

As a starting point this could be calculated using a similar formulae to that used in Scotland, with a view to reviewing this when there is clarity on an international level.

Impact on competitiveness of Wales as a result of this inclusion were discussed during the stakeholder

² CCC (2015) *The fifth carbon budget – The next step towards a low-carbon economy*,
<https://www.theccc.org.uk/publication/the-fifth-carbon-budget-the-next-step-towards-a-low-carbon-economy/>

workshop as it was raised that as with current situation with Scotland, having them covered does not mean they will be used for reduction policy.

Question 9: In principle, should international aviation be included within Welsh emissions targets, and if so are there any practical difficulties with doing so?

We believe that international aviation should be included in Welsh emissions targets and budgets from the start.

As a minimum initial step, and recognition of the principle, this could be done, as in Scotland, by estimating fuel sales in Wales. This does remain problematic however as Wales has only one international airport for scheduled flights, Cardiff Airport, and the vast majority of passengers from Wales travel internationally from airports in England. If Wales is to be responsible for its carbon footprint passengers from Wales flying abroad could be better basis for data in future.

In addition to including these in order to have a clear and accurate picture of emissions in Wales, Cardiff Airport is in public ownership, having been purchased by the Welsh Government in 2013. As a publicly owned asset, reducing emissions associated with its operations must be part of the strategy for the airport and its operations.