

The Rt Hon Kwasi Kwarteng MP
Secretary of State, Department for Business, Energy & Industrial Strategy
1 Victoria Street SW1H 0ET

Climate Change Committee
151 Buckingham Palace Road
London SW1W 9SZ

Dear Kwasi,

w theccc.org.uk

Under the Climate Change Act the Government must set a limit on the quantity of international emissions credits¹ allowed to contribute to a carbon budget, at least 18 months prior to that budget commencing. That point is approaching for the Fourth Carbon Budget period, which starts in January 2023.

As required by the Act, this letter provides the Climate Change Committee's advice on the use of international emissions credits (and related mechanisms) to meet carbon budgets, as well as providing an assessment of whether they may be necessary to meet the Fourth Carbon Budget.

Use of international credits and related mechanisms to meet carbon budgets

The carbon budgets recommended by the Committee are intended to drive UK action on the path to the legislated 2050 target. Since 2019, this means achieving Net Zero on a territorial basis by 2050.

In our advice on the Sixth Carbon Budget, the Committee set out clearly how Net Zero can be achieving in the UK by 2050. Use of mechanisms that allow nearer-term targets to be met without taking the necessary action will undermine this clarity, and the role of carbon budgets as waypoints to the Net Zero target:

- **International emissions credits.** The use of international carbon credits in place of domestic action poses several risks including that the use of credits would detract from UK climate leadership and reduce clarity on the steps required in the UK to meet Net Zero:
 - Substituting domestic effort with purchased emissions reductions from outside the UK could make it more difficult to achieve the necessary domestic transitions needed to reach Net Zero by 2050.
 - Use of credits could impair the clarity of the sectoral actions required to meet the budget by suggesting misleading flexibility in the need to deliver emissions reductions. This weakened signal could make it harder to deliver low-carbon investment in the UK.

¹ Known formally under the Act as 'carbon units'.

- The UK has an internationally influential record of domestic emissions reductions. The use of international carbon credits to substitute for emissions reductions that can be achieved domestically would undermine this influence and legitimise other countries to weaken their commitments to domestic actions.
- **Carry forward of surpluses.** The Climate Change Act also allows for the 'carry forward' of outperformance of carbon budgets to help meet the subsequent budget. Our clear advice is that such carry forward of outperformance should not occur. It would lead to worse climate outcomes and jeopardises the achievement of later targets, given the stretching nature of the Net Zero target:
 - Carrying forward outperformance to subsequent budget periods would allow an increased level of emissions in that later period and would be contrary to the principle of 'highest possible ambition' under the Paris Agreement.
 - Given the importance of cumulative emissions in determining climate outcomes, permitting increased emissions in later periods should be avoided. Regarding the fourth carbon budget, we note that the potential carry forward from earlier carbon budgets is largely 'hot air' resulting from the global financial crisis, rather than any policy outperformance.
 - As well as increasing cumulative emissions, any loosening of later carbon budgets that enables effort to be reduced is likely to increase risks in meeting subsequent carbon budgets and Net Zero, given the stretching nature of these targets.

Augmenting domestic action with international credits

The Committee would, however, support the purchase of international carbon credits as an additional lever to support climate mitigation action internationally, *in addition* to domestic delivery of the legislated carbon budgets. There is also significant corporate interest in credit purchase, including from firms acting strongly to tackle their own emissions. However, any use of international credits (whether purchased by the Government or UK companies) should be additional to the domestic effort under the carbon budgets, to support the global effort to reduce emissions.

We recognise that international credit markets and the UK's role in them could develop in unexpected ways, particularly as the final rules for Article 6 of the Paris Agreement are agreed, and as new technologies, including for CO₂ removal from the atmosphere scale up. In particular, if credits can be applied to sustainable, verified, permanent CO₂ removal in a clearly additional way, their role in meeting UK targets could be revisited at that time. Sections 26-28 of the Climate Change Act allow for changes in the treatment of international carbon units and require further advice from the Committee before any could be used to contribute to UK carbon budgets.

Meeting the Fourth Carbon Budget

The Committee's recent advice on the Sixth Carbon Budget assessed the path for emissions over the next three decades, in the context of the raised 2050 ambition of Net Zero. It also considered whether existing carbon budgets have been set at appropriate levels.

Recent and forthcoming changes to the methods for estimating UK emissions will substantively increase estimated UK emissions in the future and historically. These changes, and their implication for the Fourth Carbon Budget, are discussed in detail in the annex to this letter.

The implication of these inventory changes is that a steeper rate of emissions reduction to Net Zero is required. Our recommended path to Net Zero passes through the Fourth Carbon Budget at the level at which it is currently set.

It is our recommendation that it feasibly can, and should, be met entirely through UK action.



We therefore recommend that international emissions credits are not allowed to contribute to meeting the Fourth Carbon Budget (i.e. that a limit of zero is set on their use). We also reiterate our advice in the strongest terms that the expected large outperformance of the Third Carbon Budget should not be carried forward to help meet the fourth and subsequent budgets.

Yours

A handwritten signature in black ink, appearing to read "Deben", with a horizontal line underneath.

Lord Deben
Chairman

Recent and forthcoming changes to the methods for estimating UK emissions will substantively increase estimated UK emissions in the future and historically. The implication of these inventory changes is that a steeper rate of emissions reduction to Net Zero is required. Our recommended path to Net Zero passes through the Fourth Carbon Budget at the level at which it is currently set:

- Changes to the way greenhouse gas emissions are estimated, aimed at reflecting the best available scientific knowledge, can push estimates of UK emissions up or down. Not all future changes can be known now, but in our analysis for the advice on the Sixth Carbon Budget we anticipated two significant changes that had not yet been made, on inclusion of all sources of peatland emissions and on future changes to global warming potentials (Box 1). At the time of our Sixth Carbon Budget advice, we allowed for an increase of 35 MtCO₂e in annual emissions from future changes to the inventory during the Fourth Carbon Budget period. The subsequently published update to the emissions inventory methodology means that we would have allowed for a lower adjustment of 29 MtCO₂e for each year in the Fourth Carbon Budget period.
- The Committee's assessment in the advice on the Sixth Carbon Budget is that a steeper path for emissions is required through the Fourth Carbon Budget period towards Net Zero by 2050, compared to that required on the path to the previous 2050 target for an 80% reduction in emissions on 1990 levels (as was required when the budget was set). However, given lead-times in bringing forward and implementing new policies, the Committee estimates that this potential may be relatively small. Our estimate for the faster reduction in emissions approximately counteracts these inventory changes and means that the legislated Fourth Carbon Budget is at the right level, based on the Balanced Net Zero Pathway that underpinned the Committee's advice on the Sixth Carbon Budget and the UK's nationally determined contribution (NDC) for 2030.
- Furthermore, the Committee did not assume in its Sixth Carbon Budget advice that emissions over the Fourth Carbon Budget period (i.e. 2023-27) would be different as a result of the COVID-19 pandemic, due to lack of firm evidence on its lasting impacts. However, it is possible that lasting effects, such as a reduction in economic activity or a shift to home working, mean that emissions will be lower than our analysis assumed and that the Fourth Carbon Budget will be outperformed if the Government delivers all the actions in the Balanced Net Zero Pathway.
- The Committee therefore concludes that the Fourth Carbon Budget is achievable on a territorial basis, excluding emissions from international aviation and shipping (IAS), and without international emissions credits. The level of the Fourth Carbon Budget means reducing annual emissions by 14 MtCO₂e on average each year between 2019 and 2025, the minimum required to prepare for the significant acceleration to 25 MtCO₂e/year between 2025 and 2035 (Figure 1). Any use of international credits to meet the Fourth Carbon Budget would mean higher UK territorial emissions, thereby increasing the rate of reductions required thereafter to meet the Sixth Carbon Budget domestically. This would not be a credible path for UK emissions reduction.

Box 1

Changes to the UK greenhouse gas inventory



Changes to the UK emissions inventory that are likely to affect the fourth carbon budget period include the addition of emissions from peatland and revision of the Global Warming Potentials (GWPs) used to aggregate greenhouse gas emissions:

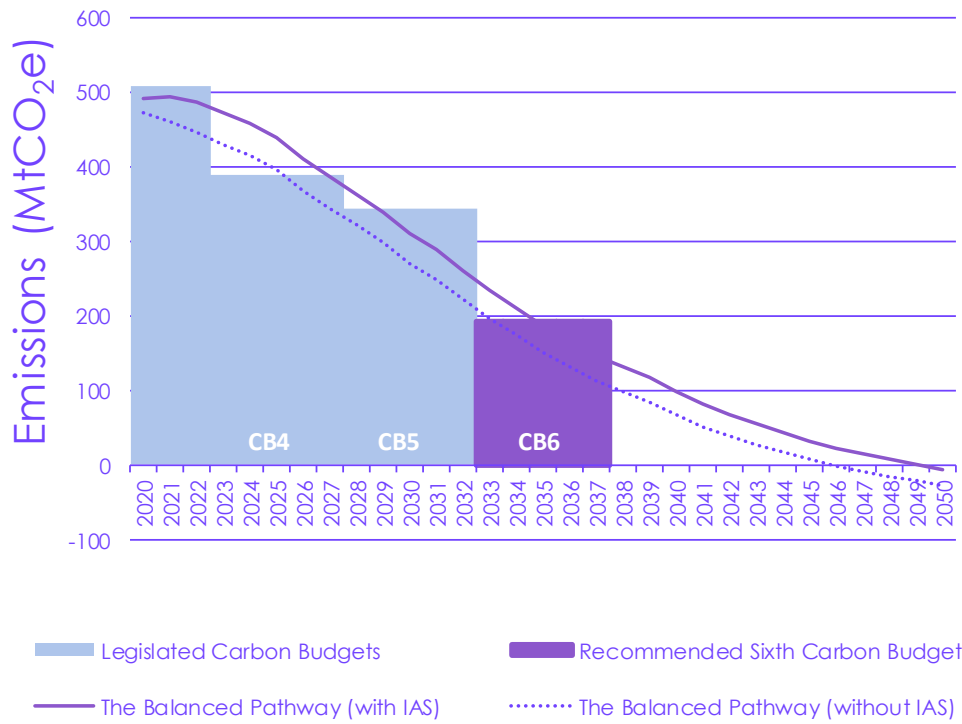
- **Peatlands (now included in the UK inventory).²** The most recent publication of UK emissions data included large revisions to the Land Use, Land Use Change and Forestry (LULUCF) sector as a result of the new estimates for peatlands emissions consistent with the 2013 IPCC Wetlands Supplement:
 - Previously, the inventory only captured around 1.3 MtCO_{2e} of total emissions from the UK's peatlands.
 - The estimate of emissions in the LULUCF sector in 2018 (the most recent year for which data are comparable) increased by 16 MtCO_{2e} due to the inclusion of new estimates for peatland emissions consistent with the 2013 IPCC Wetlands Supplement.
 - Prior to the 2021 publication of the UK inventory, there was significant uncertainty around the impacts of implementing the Wetlands Supplement on UK emissions. The 'high' range of the possible impacts would have added around 21 MtCO_{2e} to the inventory in 2018. This is the basis upon which targets in the 2020 Sixth Carbon Budget report were recommended.
 - As with all inventory changes, there is potential for further revisions that could either increase or decrease the estimate of emissions from the UK's peatlands.
- **Global Warming Potentials (expected to be updated in the UK inventory by 2024).** These are used to aggregate different greenhouse gases together into a common metric, showing their equivalence to carbon dioxide. At COP24 in December 2018 the international community decided to standardise reporting under the Paris Agreement transparency framework using the GWP₁₀₀ metric.³ The values to be used are those from the IPCC Fifth Assessment Report (AR5). There are two methodologies, and it is not yet clear which will be used. Both are different from the values used in the current emissions inventory and will lead to an increase in the estimate of UK emissions:
 - The 'high' estimate of GWPs include climate-carbon feedbacks. Under this methodology, the size of the existing inventory would increase by around 19 MtCO_{2e} while the 1990 baseline would increase by nearly 47 MtCO_{2e}. This is almost entirely due to a 36% increase in the estimated global warming impact of methane (CH₄) emissions. This is the basis upon which targets in this report are recommended.
 - The 'low' GWPs do not include climate-carbon feedbacks, and would lead to a smaller increase in the size of the UK emissions inventory. The estimate of the existing inventory would increase by around 5 MtCO_{2e} while the 1990 baseline would increase by 10 MtCO_{2e}. Under this methodology CH₄ methane emissions have a 12% higher warming impact than the current estimate, while the warming impact of N₂O emissions is 11% lower.

The two changes overlap because peatlands are a source of both CH₄ and N₂O emissions. The higher range of the total combined impact of the updated peatland estimates and the more uncertain GWP changes is around an additional 29 MtCO_{2e} in 2025 compared to the current inventory.

² BEIS (2021) *2019 UK Greenhouse Gas Emissions, Final Figures*.

³ Myhre, G., D. Shindell, F.-M. Bréon, W. Collins, J. Fuglestedt, J. Huang, D. Koch, J.-F. Lamarque, D. Lee, B. Mendoza, T. Nakajima, A. Robock, G. Stephens, T. Takemura and H. Zhang, 2013: Anthropogenic and Natural Radiative Forcing. In: *Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* [Stocker, T.F., D. Qin, G.-K. Plattner, M. Tignor, S.K. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex and P.M. Midgley (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.

Figure 1 Carbon budgets compared to the Committee's recommended Balanced Net Zero Pathway



Source: CCC analysis.

Notes: The fourth and fifth carbon budgets (CB4 and CB5) currently exclude emissions from the UK's share of international aviation and interaional shipping (IAS), while the recommended Sixth Carbon Budget (CB6) includes IAS. Emissions shown assuming use of global warming potentials from the IPCC Fifth Assessment Report, and including emissions from peatlands with estimates adjusted for consistency with BEIS (2021) 2019 UK Greenhouse Gas Emissions, Final Figures.