

The Sixth Carbon Budget and Welsh emissions targets – Call for Evidence

Background to the UK's sixth carbon budget

The UK Government and Parliament have adopted the Committee on Climate Change's (CCC) [recommendation](#) to target net-zero emissions of greenhouse gases (GHGs) in the UK by 2050 (i.e. at least a 100% reduction in emissions from 1990).

[The Climate Change Act](#) (2008, 'the Act') requires the Committee to provide advice to the Government about the appropriate level for each carbon budget (sequential five-year caps on GHGs) on the path to the long-term target. To date, in line with advice from the Committee, five carbon budgets have been legislated covering the period out to 2032.

The Committee must provide advice on the level of the sixth carbon budget (covering the period from 2033-37) before the end of 2020. The Committee intends to publish its advice early, in September 2020. This advice will set the path to net-zero GHG emissions for the UK, as the first time a carbon budget is set in law following that commitment.

Both the 2050 target and the carbon budgets guide the setting of policies to cut emissions across the economy (for example, as set out most recently in the 2017 [Clean Growth Strategy](#)).

The Act also specifies other factors the Committee must consider in our advice on carbon budgets – the advice should be based on the path to the UK's long-term target objective, consistent with international commitments and take into account considerations such as social circumstances (including fuel poverty), competitiveness, energy security and the Government's fiscal position.

The CCC will advise based on these considerations and a thorough assessment of the relevant evidence. This Call for Evidence will contribute to that advice.

Background to the Welsh third carbon budget and interim targets

Under the Environment (Wales) Act 2016, there is a duty on Welsh Ministers to set a maximum total amount for net Welsh greenhouse gas emissions (Welsh carbon budgets). The first budgetary period is 2016-20, and the remaining budgetary periods are each succeeding period of five years, ending with 2046-50.

The Committee is due to provide advice to the Welsh Government on the level of the third Welsh carbon budget (covering 2026-30) in 2020, and to provide updated advice on the levels of the second carbon budget (2021-25) and the interim targets for 2030 and 2040. Section D of this Call for Evidence (covering questions on Scotland, Wales and Northern Ireland) includes a set of questions to inform the Committee's advice to the Welsh Government.

Question and answer form

When responding, please provide answers that are as specific and evidence-based as possible, providing data and references to the extent possible.

Please limit your answers to 400 words per question and provide supporting evidence (e.g. academic literature, market assessments, policy reports, etc.) along with your responses.

A. Climate science and international circumstances

Question 1: The climate science considered in the CCC's 2019 Net Zero report, based on the IPCC Special Report on Global Warming of 1.5°C, will form the basis of this advice. What additional evidence on climate science, aside from the most recent IPCC Special Reports on Land and the Oceans and Cryosphere, should the CCC consider in setting the level of the sixth carbon budget?

ANSWER: Every year, UNEP's Emissions Gap Report (EGR) draws attention to the alarming discrepancy between global temperature goals and countries' emission reduction plans. As discussed in a recent Production Gap Report (PGR) [1], this emissions gap is related to—and widened by—an equally concerning "production gap". Countries continue to expand the production of fossil fuels, creating a significant gap between that expansion and what is possible to use within the limits of the Paris Agreement's carbon budgets. This gap stymies climate ambitions by locking in fossil fuel infrastructure that will make emission reductions harder and more costly to achieve.

The PGR's key findings include:

- The world is on track to produce about 50% more fossil fuels in 2030 than would be consistent with limiting warming to 2°C and 120% more than would be consistent with limiting warming to 1.5°C.
- This production gap is largest for coal. Countries plan to produce 150% more coal in 2030 than would be consistent with limiting warming to 2°C, and 280% more than would be consistent with limiting warming to 1.5°C.
- Oil and gas are also on track to exceed carbon budgets, with continued investment and infrastructure locking in use of these fuels, until countries are producing between 40% and 50% more oil and gas by 2040 than would be consistent with limiting warming to 2°C.
- National projections suggest that countries are planning on 17% more coal, 10% more oil and 5% more gas production in 2030 than consistent with NDC implementation (which itself is not enough to limit warming to 1.5°C or 2°C).

The report also details a range of policy options that can help governments align their fossil fuel development plans and policies with climate goals, thereby enhancing their climate mitigation ambition and action.

In our view, the report's findings suggest that UK climate leadership could be enhanced through efforts to wind down the production of fossil fuels, and related support (see Q3). In addition to the IPCC's latest reports and UNEP's EGR series, we therefore recommend the CCC considers the latest evidence presented in the 2019 PGR and subsequent updates.

[1] SEI, IISD, ODI, Climate Analytics, CICERO, & UNEP. (2019). The Production Gap. <http://productiongap.org/>

Question 2: How relevant are estimates of the remaining global cumulative CO₂ budgets (consistent with the Paris Agreement long-term temperature goal) for constraining UK cumulative emissions on the pathway to reaching net-zero GHGs by 2050?

ANSWER: n/a

Question 3: How should emerging updated international commitments to reduce emissions by 2030 impact on the level of the sixth carbon budget for the UK? Are there other actions the UK should be taking alongside setting the sixth carbon budget, and taking the actions necessary to meet it, to support the global effort to implement the Paris Agreement?

ANSWER: In line with Q.1, UK climate leadership could be enhanced through steps towards a managed phase-out of oil and gas extraction. Priority actions may include:

- Improving transparency and accounting: In addition to territorial emissions accounting, the UK could consider implementing a parallel extraction-based accounting system that reflects the emissions associated with the coal, oil, and gas produced in the country and ultimately released into the atmosphere as CO₂ [1]. This would allow the UK to set targets and assess how it is progressing in aligning its fossil fuel production with Paris Agreement goals.
- Reforming the 2015 Infrastructure Act, which currently places a duty on the BEIS Secretary of State to produce one or more strategies for enabling the Principal Objective of “maximising the economic recovery (MER) of UK petroleum” from UK waters. MER could be replaced with legislation that restricts oil and gas recovery to levels that are aligned with Paris targets.
- A phase out of subsidies for oil and gas extraction: Though the UK government states that it does not provide any subsidies for fossil fuels under its own definition, a recent report by the European Commission found that the UK has the largest fossil fuel subsidies in the EU [2]. In the tax years 2015–16 and 2016–17, the oil and gas industry received an average of GBP 176 million more per year in government support than it paid back in taxes [3].
- Moratoria or bans on issuing licences to explore for new oil and gas fields or further develop existing ones, which the UK currently issues annually.
- Ending support to fossil fuel projects internationally. The Prime Minister’s recently-announced a ban on support for coal projects could be extended to oil and gas projects, with the UK providing an annual average of GBP 432 million in international public finance for upstream oil and gas in 2013 and 2014 through UK Export Finance [4].

[1] SEI, IISD, ODI, Climate Analytics, CICERO, & UNEP. (2019). The Production Gap. <http://productiongap.org/>. Box 3.1, p.23.

[2] <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=COM:2019:1:FIN&from=EN>

[3] <http://priceofoil.org/2019/05/15/sea-change-report/>

[4] The Production Gap Report [n1 above], p.31.

Question 4: What is the international signalling value of a revised and strengthened UK NDC (for the period around 2030) as part of a package of action which includes setting the level of the sixth carbon budget?

ANSWER: UNEP estimates that current climate pledges will only limit global warming to about 3°C above preindustrial levels, by the end of the century. Countries need to triple

their emission reduction pledges to limit warming to the Paris goal of well-below 2°C and increase reductions fivefold for a 1.5°C scenario [1]. The submission of new and updated NDCs in 2020 provides a vital opportunity to scale up international climate action globally. However, the outcomes of the 2019 UN Climate Action Summit and COP 25 in Madrid suggest that several major emitters are unwilling to take the needed action.

Against this backdrop, the international signalling value of a new and ambitious UK NDC would be very strong. As reflected in the UN climate regime's principles of common but differentiated responsibilities and equity, wealthy, industrialised nations such as the UK, which is among the countries with the largest cumulative CO₂ emissions, should take the lead in combatting climate change, including by supporting climate change mitigation and adaptation in developing countries. Less-well-resourced countries that bear far less responsibility for climate change cannot reasonably be expected to take ambitious action without such leadership.

As COP 26 host, the UK can play a key role in leading by example and galvanising climate action globally. Here, we focus on priority actions that can support the wind-down of fossil fuel production. These could include:

- Setting an example by incorporating supply-side policies into its NDC and long-term low GHG emission development strategy under the UNFCCC process.
- Ending support for fossil fuel infrastructure abroad; and, conversely, providing financial support to enable developing countries to realise a just and equitable transition away from fossil fuels.
- Advocating internationally for actions that restrain fossil fuel production. The UK's involvement in the Powering Past Coal Alliance sends an important signal about the need to move beyond coal-fired power. The Alliance could strengthen its effectiveness and long-term relevance by addressing coal production in addition to consumption.
- Beyond the UNFCCC process, delivering on its pledges under the G7 and G20 to phase out fossil fuel subsidies, including to fossil fuel production (and prioritising such action as the G7's 2021 host).

[1] <https://www.unenvironment.org/resources/emissions-gap-report-2019>

B. The path to the 2050 target

Question 5: How big a role can consumer, individual or household behaviour play in delivering emissions reductions? How can this be credibly assessed and incentivised?

ANSWER: n/a

Question 6: What are the most important uncertainties that policy needs to take into account in thinking about achieving Net Zero? How can government develop a strategy that helps to retain robustness to those uncertainties, for example low-regrets options and approaches that maintain optionality?

ANSWER: n/a

Question 7: The fourth and fifth carbon budgets (covering the periods of 2023-27 and 2028-32 respectively) have been set on the basis of the previous long-term target (at least 80% reduction in GHGs by 2050, relative to 1990 levels). Should the CCC revisit the level of these budgets in light of the net-zero target?

ANSWER: n/a

Question 8: What evidence do you have of the co-benefits of acting on climate change compatible with achieving Net Zero by 2050? What do these co-benefits mean for which emissions abatement should be prioritised and why?

ANSWER: n/a

C. Delivering carbon budgets

Question 9: Carbon targets are only credible if they are accompanied by policy action. We set out a range of delivery challenges/priorities for the 2050 net-zero target in our Net Zero advice. What else is important for the period out to 2030/2035?

ANSWER: In addition to possible priority areas outlined under Q3, the Production Gap Report [1] provides an overview of other policy options that policymakers may consider in order to wind down fossil fuel supply.

Some governments have already begun to enact such policies, providing models for the rest of the world to learn from and emulate. The governments of Belize, Costa Rica, France, Denmark, and New Zealand, for instance, have all enacted partial or total bans or moratoria on oil and gas exploration and extraction. Germany and Spain are phasing out coal extraction, and working with workers and communities to plan for an economic future without mining. And more than 40 countries have endorsed the need to reform fossil fuel subsidies.

These actions represent a growing momentum to limit fossil fuel supply for climate and related sustainable development reasons. Most of these policies and commitments have been enacted in the last five years, signalling policymakers' new focus on fossil fuel production.

Indeed, broadening the climate policy toolkit to include policies to limit fossil fuel production can bring several benefits, including:

- increasing the scale of emission reductions available at a given marginal cost;
- helping to avoid "carbon lock in" by limiting investment in long-lived infrastructure;
- decreasing the risks and costs associated with stranded assets;
- lowering administrative burdens;
- attracting stronger support for climate action;
- reducing pollution around extraction, processing, and transportation sites.

That said, supply-side constraints may encounter opposition from industry, communities and regions economically dependent on fossil fuel extraction. Careful design of policies, including supporting measures for affected communities and industries, can increase the political viability of supply-side policy (Q24).

[1] SEI, IISD, ODI, Climate Analytics, CICERO, & UNEP. (2019). The Production Gap.

<http://productiongap.org/>. Table 5.1, p.42.
[2] Ibid, online Appendix C.
[3] Ibid, Chapter 5.

Question 10: How should the Committee take into account targets/ambitions of UK local areas, cities, etc. in its advice on the sixth carbon budget?

ANSWER: n/a

Question 11: Can impacts on competitiveness, the fiscal balance, fuel poverty and security of supply be managed regardless of the level of a budget, depending on how policy is designed and funded? What are the critical elements of policy design (including funding and delivery) which can help to manage these impacts?

ANSWER: n/a

Question 12: How can a just transition to Net Zero be delivered that fairly shares the costs and benefits between different income groups, industries and parts of the UK, and protects vulnerable workers and consumers?

ANSWER: n/a

D. Scotland, Wales and Northern Ireland

Question 13: What specific circumstances need to be considered when recommending an emissions pathway or emissions reduction targets for Scotland, Wales and/or Northern Ireland, and how could these be reflected in our advice on the UK-wide sixth carbon budget?

ANSWER: n/a

Question 14: The Environment (Wales) Act 2016 includes a requirement that its targets and carbon budgets are set with regard to:

- The most recent report under section 8 on the State of Natural Resources in relation to Wales;
- The most recent Future Trends report under section 11 of the Well-Being of Future Generations (Wales) Act 2015;
- The most recent report (if any) under section 23 of that Act (Future Generations report).

- a) 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?
- b) What evidence do you have of the impact of acting on climate change on well-being? What are the opportunities to improve people's well-being, or potential risks, associated with activities to reduce emissions in Wales?
- c) 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?
- d) Question 12 asks how a just transition to Net Zero can be achieved across the UK. Do you have any evidence on how delivery mechanisms to help meet the UK and Welsh targets may affect workers and consumers in Wales, and how to ensure the costs and benefits of this transition are fairly distributed?

ANSWER: n/a

Question 15: Do you have any further evidence on the appropriate level of Wales' third carbon budget (2026-30) and interim targets for 2030 and 2040, on the path to a reduction of at least 95% by 2050?

ANSWER: n/a

Question 16: Do you have any evidence on the appropriate level of Scotland's interim emissions reduction targets in 2030 and 2040?

ANSWER: n/a

Question 17: In what particular respects do devolved and UK decision making need to be coordinated? How can devolved and UK decision making be coordinated effectively to achieve the best outcomes for the UK as a whole?

ANSWER: n/a

E. Sector-specific questions

Question 18 (Surface transport): As laid out in Chapter 5 of the Net Zero Technical Report (see page 149), the CCC's Further Ambition scenario for transport assumed 10% of car miles could be shifted to walking, cycling and public transport by 2050 (corresponding to over 30% of trips in total):

- a) What percentage of trips nationwide could be avoided (e.g. through car sharing, working from home etc.) or shifted to walking, cycling (including e-bikes) and public transport by 2030/35 and by 2050? What proportion of total UK car mileage does this correspond to?
- b) What policies, measures or investment could incentivise this transition?

ANSWER: n/a

Question 19 (Surface transport): What could the potential impact of autonomous vehicles be on transport demand?

ANSWER: n/a

Question 20 (Surface transport): The CCC recommended in our Net Zero advice that the phase out of conventional car sales should occur by 2035 at the latest. What are the barriers to phasing out sales of conventional vehicles by 2030? How could these be addressed? Are the supply chains well placed to scale up? What might be the adverse consequences of a phase-out of conventional vehicles by 2030 and how could these be mitigated?

ANSWER: n/a

Question 21 (Surface transport): In our Net Zero advice, the CCC identified three potential options to switch to zero emission HGVs – hydrogen, electrification with very fast chargers and electrification with overhead wires on motorways. What evidence and steps would be required to enable an operator to switch their fleets to one of these options? How could this transition be facilitated?

ANSWER: n/a

Question 22 (Industry): What policy mechanisms should be implemented to support decarbonisation of the sectors below? Please provide evidence to support this over alternative mechanisms.

- a) Manufacturing sectors at risk of carbon leakage
- b) Manufacturing sectors not at risk of carbon leakage
- c) Fossil fuel production sectors
- d) Off-road mobile machinery

ANSWER: On c), decarbonisation of fossil fuel production sectors, we would like to note that while efforts to reduce emissions from production are important, the highest priority should be creating transition plans to support a managed decline in overall production.

Question 23 (Industry): What would you highlight as international examples of good policy/practice on decarbonisation of manufacturing and fossil fuel supply emissions? Is there evidence to suggest that these policies or practices created economic opportunities (e.g. increased market shares, job creation) for the manufacturing and fossil fuel supply sectors?

ANSWER: n/a

Question 24 (Industry): How can the UK achieve a just transition in the fossil fuel supply sectors?

ANSWER: All governments, as signatories to the Paris Agreement, have recognised the need to “[take] into account the imperatives of a just transition” and the impacts of response measures; this implies the need to plan to minimise disruption for workers, communities, and consumers who may be disproportionately affected by a shift to a low-carbon economy.

Data suggests that, compared to many other countries, the UK has both a high capacity to fund a just transition, and, given oil’s relatively low share of government revenue, that it can expect a less difficult transition than many other countries [1]. This creates a strong rationale for the UK to be a first-mover in planning a just transition from fossil fuel extraction.

While transitions away from fossil fuels will affect many across society, two groups are typically the focus of transition planning efforts in the fossil fuel production sector: workers and fossil-fuel-dependent communities and regions. Both workers and communities want to be consulted on the transition and want meaningful social dialogue to take place concerning their future. Once dialogue takes place and workers’ concerns are heard, a range of solutions can be negotiated to facilitate a transition that different parties perceive as fair. Commonly employed transition provisions include: facilitating local development planning; ensuring workers’ existing legal entitlements (e.g. to pensions) are maintained; ensuring social protection and insurance measures for workers; supplementing local government revenues; creating job training programs; restoring industrial sites; and investing in new community facilities to revitalise social and economic development [2].

Providing assistance to those impacted by a transition away from fossil fuels is almost certainly a necessary precondition for ambitious climate policy. Absent a clear plan to support those affected by a low-carbon transition, governments are likely to face social and political resistance to any efforts to limit fossil fuel production or use. Conversely, if done well, transition planning can build consensus for more ambitious climate policy.

[1] Muttitt, G., & Kartha, S. (forthcoming). Equity, Climate Justice and Fossil Fuel Extraction: Principles for a managed phaseout. *Climate Policy*.

[2] doi:10.1080/14693062.2019.1657379

Question 25 (Industry): In our Net Zero advice, the CCC identified a range of resource efficiency measures that can reduce emissions (see Chapter 4 of the Net Zero Technical Report, page 115), but found little evidence relating to the costs/savings of these measures. What evidence is there on the costs/savings of these and other resource efficiency measures (ideally on a £/tCO₂e basis)?

ANSWER: n/a

Question 26 (Buildings): For the majority of the housing stock in the CCC's Net Zero Further Ambition scenario, 2050 is assumed to be a realistic timeframe for full roll-out of energy efficiency and low-carbon heating.

- a) What evidence can you point to about the potential for decarbonising heat in buildings more quickly?
- b) What evidence do you have about the role behaviour change could play in driving forward more extensive decarbonisation of the building stock more quickly? What are the costs/levels of abatement that might be associated with a behaviour-led transition?

ANSWER: n/a

Question 27 (Buildings): Do we currently have the right skills in place to enable widespread retrofit and build of low-carbon buildings? If not, where are skills lacking and what are the gaps in the current training framework? To what extent are existing skill sets readily transferable to low-carbon skills requirements?

ANSWER: n/a

Question 28 (Buildings): How can local/regional and national decision making be coordinated effectively to achieve the best outcomes for the UK as a whole? Can you point to any case studies which illustrate successful local or regional governance models for decision making in heat decarbonisation?

ANSWER: n/a

Question 29 (Power): Think of a possible future power system without Government backed Contracts-for-Difference. What business models and/or policy instruments could be used to continue to decarbonise UK power emissions to close to zero by 2050, whilst minimising costs?

ANSWER: n/a

Question 30 (Power): In Chapter 2 of the Net Zero Technical Report we presented an illustrative power scenario for 2050 (see pages 40-41 in particular):

- a) Which low-carbon technologies could play a greater/lesser role in the 2050 generation mix? What about in a generation mix in 2030/35?
- b) Power from weather-dependent renewables is highly variable on both daily and seasonal scales. Modelling by Imperial College which informed the illustrative 2050 scenario suggested an important role for interconnection, battery storage and flexible demand in a future low-carbon power system:
 - i. What other technologies could play a role here?
 - ii. What evidence do you have for how much demand side flexibility might be realised?

ANSWER: n/a

Question 31 (Hydrogen): The Committee has recommended the Government support the delivery of at least one large-scale low-carbon hydrogen production facility in the 2020s. Beyond this initial facility, what mechanisms can be used to efficiently incentivise the production and use of low-carbon hydrogen? What are the most likely early applications for hydrogen?

ANSWER: n/a

Question 32 (Aviation and Shipping): In September 2019 the Committee published advice to Government on international aviation and shipping and Net Zero. The Committee recognises that the primary policy approach for reducing emissions in these sectors should be set at the international level (e.g. through the International Civil Aviation Organisation and International Maritime Organisation). However, there is still a role for supplementary domestic policies to complement the international approach, provided these do not lead to concerns about competitiveness or carbon leakage. What are the domestic measures the UK could take to reduce aviation and shipping emissions over the period to 2030/35 and longer-term to 2050, which would not create significant competitiveness or carbon leakage risks? How much could these reduce emissions?

ANSWER: n/a

Question 33 (Agriculture and Land use): In Chapter 7 of the Net Zero Technical Report we presented our Further Ambition scenario for agriculture and land use (see page 199). The scenario requires measures to release land currently used for food production for other uses, whilst maintaining current per-capita food production. This is achieved through:

- A 20% reduction in consumption of red meat and dairy
- A 20% reduction in food waste by 2025
- Moving 10% of horticulture indoors
- An increase in agriculture productivity:
 - Crop yields rising from the current average of 8 tonnes/hectare for wheat (and equivalent rates for other crops) to 10 tonnes/hectare
 - Livestock stocking density increasing from just over 1 livestock unit (LU)/hectare to 1.5 LU/hectare

Can this increase in productivity be delivered in a sustainable manner?

Do you agree that these are the right measures and with the broad level of ambition indicated? Are there additional measures you would suggest?

ANSWER: n/a

Question 34 (Agriculture and Land use): Land spared through the measures set out in question 33 is used in our Further Ambition scenario for: afforestation (30,000

hectares/year), bioenergy crops (23,000 hectares/year), agro-forestry and hedgerows (~10% of agricultural land) and peatland restoration (50% of upland peat, 25% lowland peat). We also assume the take-up of low-carbon farming practices for soils and livestock. Do you agree that these are the key measures and with the broad level of ambition of each? Are there additional measures you would suggest?

ANSWER: n/a

Question 35 (Greenhouse gas removals): What relevant evidence exists regarding constraints on the rate at which the deployment of engineered GHG removals in the UK (such as bioenergy with carbon capture and storage or direct air capture) could scale-up by 2035?

ANSWER: Using carbon dioxide removal (CDR) can make it possible to exceed the carbon budget in the near-term and make up for it by later removing CO₂ from the atmosphere. It can allow for a slower and more orderly winding down of fossil fuel production, while taking pressure off sectors, such as aviation, where mitigation is particularly costly or otherwise challenging. Reflecting these potential benefits, Integrated Assessment Models (IAMs) have introduced CDR technologies as mitigation options, along with assumptions about future cost competitiveness. Practically all IAMs rely heavily upon carbon dioxide removal to achieve net negative CO₂ emissions in the second half of the century.

Nonetheless, we emphasise that the IPCC Special Report on Global Warming of 1.5°C underscores that “CDR deployed at scale is unproven, and reliance on such technology is a major risk in the ability to limit warming to 1.5°C” owing to “multiple feasibility and sustainability concerns”. Risks include [see 1]:

- Negative emission options may not ultimately prove technically or biophysically achievable or affordable. Scenarios rely most heavily on bio-energy with carbon capture and storage (BECCS) for power plants, which has not yet been demonstrated.
- The large-scale deployment of CDR may involve unacceptable ecological and social impacts. CDR could, for example, compete with food production or habitat areas for available land, with the potential for adverse impacts on biodiversity, food security, water resources, and human rights. BECCS is inherently land-intensive: IAM scenarios assembled for the IPCC Fifth Assessment Report assumed that between 245 million hectares and about 1.5 billion hectares of agricultural land would be dedicated to bioenergy crops, compared to the approximately 1.5 billion hectares currently devoted to agriculture.
- Negative emissions activities could prove less effective than hoped. Land-based carbon stocks are vulnerable to release through human action or natural forces. And as noted in the Special Report, “carbon cycle and climate system understanding is still limited about the effectiveness of net negative emissions to reduce temperatures after they peak”.

[1] SEI, IISD, ODI, Climate Analytics, CICERO, & UNEP. (2019). The Production Gap. <http://productiongap.org/>. Box 2.1., p.16.

Question 36 (Greenhouse gas removals): Is there evidence regarding near-term expected learning curves for the cost of engineered GHG removal through technologies such as bioenergy with carbon capture and storage or direct air capture of CO₂?

ANSWER: n/a

Question 37 (Infrastructure): What will be the key factors that will determine whether decarbonisation of heat in a particular area will require investment in the electricity distribution network, the gas distribution network or a heat network?

ANSWER: n/a

Question 38 (Infrastructure): What scale of carbon capture and storage development is needed and what does that mean for development of CO₂ transport and storage infrastructure over the period to 2030?

ANSWER: n/a