

Rt Hon Ed Miliband MP
Department for Energy Security and Net Zero
55 Whitehall
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21 January 2026

Dear Secretary of State,

The Climate Change Committee (CCC) is required by the Infrastructure Act 2015 to provide advice to the UK Government on the likely impact of onshore petroleum extraction in England on the ability to meet UK-wide carbon budgets and Net Zero. This advice is due every five years. Our last letter was issued in 2021. This letter sets out our advice for the current reporting period.

Developments since our previous advice

Onshore petroleum in England comprises both conventional and shale resources.* Since our previous advice, the Government has committed to a ban on new onshore oil and gas licences.¹ The existing moratorium on hydraulic fracturing (shale gas fracking) also remains in place. These commitments have been re-iterated in the Government's North Sea Future Plan, published in November 2025.² As a result, we have focused this advice on practically extractable production from the existing conventional onshore oil and gas fields in England and have assumed no contributions from shale gas fracking.

Assessment of conventional onshore production

Onshore oil and gas production in England remains small relative to total UK onshore and offshore production, and relative to UK demand.^{†;3;4}

- Onshore production in England accounted for 0.6% of UK gas production and 4% of UK oil production in 2024.
- Onshore gas production in England was equivalent to 0.3% of UK gas demand and onshore oil production equivalent to 2% of UK oil demand in 2024.

* As defined by the Petroleum Act 1998, 'petroleum includes any mineral oil or relative hydrocarbon and natural gas existing in its natural condition in strata but does not include coal or bituminous shales or other stratified deposits from which oil can be extracted by destructive distillation.' The Infrastructure Act 2015 refers to this definition, which we interpret as including all existing conventional oil and gas production and potential future shale gas production.

† According to the North Sea Transition Authority (NSTA)'s data, all current UK onshore oil and gas production occurs in England, with the final Scottish site, Airth Coal Bed Methane Development, ceasing gas production in 2020.

UK onshore oil and gas production has declined over time, with oil production in 2024 at 34% of 2000 levels. Existing domestic fields are mature and in decline from previous resource extraction.

Likely impact on carbon budgets and Net Zero

The Committee's Seventh Carbon Budget Balanced Pathway to Net Zero sees the primary demand for oil and gas in the UK fall from 1,476 TWh to 286 TWh by 2050. This is driven by the increased use of more energy-efficient electric alternatives to fossil fuel technologies, including electric vehicles (EVs), heat pumps, and industrial electrification. As the costs of low-carbon alternatives decrease, demand for oil and gas is expected to decline substantially.

Combustion emissions

The CCC's Seventh Carbon Budget Balanced Pathway projects a fall in the direct emissions associated with total UK oil and gas combustion from 303 MtCO₂e in 2025 to 141 MtCO₂e in 2035 and 29 MtCO₂e in 2050. Any combustion of oil and gas, regardless of source, would need to remain in line with this (or be offset by reductions in other sources of emissions or by additional greenhouse gas removals) if carbon budgets and Net Zero are to be met.

Combustion emissions form a significant part of the CCC's carbon budgets, as shown in Table 1, with production-related emissions being much less significant.

Production emissions

Direct emissions in oil and gas production are largely driven by fossil-fuelled upstream facilities (such as compressors and generators), flaring, venting, and methane leakage.

There is limited publicly available information regarding emissions related to conventional onshore petroleum production in England. However, point source emissions data shows much lower absolute emissions relative to the larger offshore industry.⁵ We have determined an onshore production emissions baseline (a 'business as usual' scenario that does not include further climate action) based on the National Atmospheric Emissions Inventory greenhouse gas emissions and point source data.⁶

As shown in Table 1, we estimate emissions from onshore fields in England in 2025 to be 0.09 MtCO₂e/yr. Within the baseline scenario, these emissions are estimated to reduce to around 0.03 MtCO₂e/yr in 2050. This reduction is driven by the closure of onshore sites as they mature and reach end-of-life.

The CCC's Seventh Carbon Budget Balanced Pathway considered emissions reduction measures across the UK oil and gas platforms sector (including both onshore and offshore sites). That advice estimated production emissions savings which could be achieved across UK oil and gas platforms within the pathway:

- Emissions reductions of 1.6 MtCO₂e (24% of baseline emissions) in 2035 and 0.25 MtCO₂e (29% of baseline emissions) in 2050 are achieved in the Seventh Carbon Budget Balanced Pathway relative to the baseline pathway.
- Emissions savings are driven mainly by electrification and reduced flaring and venting.

The most economical option faced by site operators will vary depending on field-specific technical, commercial, and regulatory factors. The commercial and technical feasibility of adopting decarbonisation measures may be substantially different for onshore sites when compared to offshore platforms.

| Table 1 UK carbon budgets, oil and gas combustion and production emissions | | | | | |
|--|--------------------|--------------------|--------------------|--------------------|------------------------------------|
| Period | CB4 (2023–2027) | CB5 (2028–2032) | CB6 (2033–2037) | Net Zero (2050) | Data source |
| Net emissions [MtCO ₂ e/yr] | 390 * | 345 * | 193 + | 0 + | Legislation. |
| Net emissions in Balanced Pathway (incl. IAS) [MtCO ₂ e/yr] | 414 | 300 | 189 | -1 | CB7 Balanced Pathway. |
| Gross emissions in Balanced Pathway (incl. IAS) [MtCO ₂ e/yr] | 443 | 331 | 227 | 83 | |
| Oil and gas combustion emissions (incl. IAS) [MtCO ₂ e/yr] | 303 | 220 | 143 | 29 | CB7 Balanced Pathway. |
| Combustion emissions (incl. IAS) [% of gross emissions] | 68% | 67% | 63% | 34% | |
| Onshore production emissions baseline [MtCO ₂ e/yr] | 0.09 | 0.09 | 0.09 | 0.03 | CCC analysis of CB7 baseline. |
| Onshore production emissions baseline [% of gross emissions] | 0.02% | 0.03% | 0.04% | 0.04% | CB7 Balanced Pathway and baseline. |
| Onshore production emissions with abatement [MtCO ₂ e/yr] | 0.09 | 0.07 | 0.07 | 0.02 | |
| Onshore production emissions with abatement [% of gross emissions] | 0.02% | 0.02% | 0.03% | 0.03% | |
| Source: Department for Energy Security and Net Zero (2025), <i>National Atmospheric Emissions Inventory</i> (2024), CCC analysis. | | | | | |
| Notes: (1) 'CB' refers to the UK's carbon budget. 'CB4' refers to the Fourth Carbon Budget; subsequent numbers refer to subsequent carbon budgets. (2) † indicates legislated carbon budget level, Net Zero includes international aviation and shipping (IAS); * indicates carbon budget level excluding IAS. (3) Emissions presented within the table refer to annual average emissions for the period except | | | | | |

Balanced Pathway net emissions, Balanced Pathway gross emissions and combustion emissions for the CB4 period which are mid-point values (i.e. 2025). (4) Gross emissions from our Seventh Carbon Budget Balanced Pathway refer to total emissions before any reductions from land use sinks and engineered removals have been accounted for, while net emissions reflect the emissions after sequestration and removal. (5) Combustion and production emissions are presented to reflect the scope of interest set out in the Infrastructure Act 2015. For ease of comparison, combustion emissions deriving from oil and gas production (such as flaring) have been excluded from the combustion emissions totals presented. (6) Current onshore production emissions have been estimated by reviewing the greenhouse gas inventory categories and point source data. In the absence of publicly available information on site closure dates, or anticipated new production, for the purposes of the baseline we have assumed that the largest single emitter, Wytch Farm, ceases production between the end of CB6 and 2050 with remaining emissions staying constant. (7) The onshore production emissions abatement presented sets out an illustrative abatement pathway for onshore production assuming savings proportional to the abatement modelled for the UK oil and gas platform subsector. However the precise cost-effective mix of decarbonisation measures are likely to differ between onshore and offshore sites. On this basis we are not able to recommend the specific levels of abatement that could be achieved onshore versus offshore, or on a site-by-site basis.

Shale gas fracking

Regarding shale gas fracking, our 2021 advice considered the implications of exploiting UK shale resources to address the potential case in which concerns over seismicity are overcome at a future date. In the absence of further exploration activity, we have not been able to identify any substantive developments in the evidence base regarding production levels or emissions intensity.* Therefore, our previous advice remains valid. The restrictions on fracking should not be lifted without an in-depth, independent review of the evidence on climate impacts and other factors, underpinned by new research.

Conclusions

As shown in Table 1, emissions associated with fossil fuel combustion are the most significant factor in the delivery of carbon budgets. The Committee gave detailed advice on reducing emissions from fossil fuel consumption across the energy system in our [Seventh Carbon Budget advice](#).

Emissions related to conventional onshore petroleum production in England are a small contributor to carbon budgets and Net Zero. There is scope for emissions reduction through measures such as reduced methane leakage, reduced flaring and venting, and electrification (where not already in use). Your department, working with the relevant regulatory authorities, should ensure appropriate policy to facilitate the reduction of production emissions associated with UK oil and gas fields consistent with carbon budgets and Net Zero. Government should work with communities, workers, and businesses in the oil and gas industry to develop proactive transition plans that enable access to secure employment and business opportunities.

Yours sincerely,



Nigel Topping CMG
Chair, Climate Change Committee

* We have based this assessment on a literature review supplemented with engagement with relevant stakeholders including the British Geological Survey (BGS); the North Sea Transition Authority (NSTA); and industry, academic, and civil society experts, for whose input we are grateful.

References

- ¹ UK Government (2025) *Great British Energy to extend solar scheme to military sites*.
<https://www.gov.uk/government/news/great-british-energy-to-extend-solar-scheme-to-military-sites>.
- ² UK Government (2025) *North Sea Future Plan*.
<https://assets.publishing.service.gov.uk/media/6926dede345e31ab14ecf507/north-sea-future-plan-government-response.pdf>.
- ³ Department of Energy Security and Net Zero (2025) *Digest of UK Energy Statistics (DUKES): natural gas*.
<https://www.gov.uk/government/statistics/natural-gas-chapter-4-digest-of-united-kingdom-energy-statistics-dukes>.
- ⁴ Department of Energy Security and Net Zero (2025) *Digest of UK Energy Statistics (DUKES): petroleum*.
<https://www.gov.uk/government/statistics/petroleum-chapter-3-digest-of-united-kingdom-energy-statistics-dukes>.
- ⁵ National Atmospheric Emissions Inventory (2024) *Emissions from point sources*.
<https://naei.energysecurity.gov.uk/data/maps/emissions-point-sources>.
- ⁶ National Atmospheric Emissions Inventory (2024) *Greenhouse Gas Inventories for England, Scotland, Wales & Northern Ireland: 1990-2023*. <https://naei.energysecurity.gov.uk/reports/greenhouse-gas-inventories-england-scotland-wales-northern-ireland-1990-2023>.