

Written evidence from the Environmental Investigation Agency (EIA UK) (MET0015)

The Environmental Investigation Agency (EIA) is a UK-based non-profit organisation investigating and campaigning against environmental crime and abuse. EIA's climate programme seeks to meet the climate challenge through rapid, sustained reductions in emissions of all greenhouse gases, including methane, ozone-depleting substances and fluorinated gases, by developing and enforcing ambitious national, regional, global and sectoral obligations, reinforced by strong governance frameworks ensuring corporate accountability and sustainable financing for a just and fair transition for all.

EIA welcomes the opportunity to respond to the call for evidence of the Environment and Climate Committee of the House of Lords. This submission will highlight steps that can be taken, both domestically and internationally, to improve methane monitoring and mitigation efforts.

Methane is the second most important greenhouse gas (GHG). It is over 80 times more potent than carbon dioxide (CO₂) over a 20-year period and is responsible for approximately one-third of the warming experienced today.¹ Emissions of methane have increased by 29% since 1990 and have already contributed 0.5°C of warming relative to 1850-1900.² In pathways that limit warming to 1.5°C, with no or limited overshoot, global methane emissions must be reduced by 34% below 2019 levels by 2030, and 44% below 2019 levels by 2040.³ If the United Kingdom intends to uphold its commitment to achieve net zero emissions by 2050, fast action on methane must be prioritised.

According to the Global Methane Assessment (GMA), 30% of the methane emission reductions needed can be achieved by readily available measures.⁴ This is particularly true in the energy sector where existing technology can prevent more than 70% of current methane emissions, about 45% at no net cost.⁵ Methane mitigation also offers various co-benefits that extend beyond its climate impact. For example, reducing ground-level ozone formation could avert hundreds of thousands of premature deaths and asthma-related hospital visits, along with preventing approximately 26 million tonnes of crop losses annually.⁶ When considering the overall advantages, which include both market and non-market effects, the monetised benefits amount to approximately \$4,300 for every tonne of reduced methane.⁷

COP26 in Glasgow marked a pivotal moment for methane action. The launch of the Global Methane Pledge (GMP) represented a significant milestone, and for the first time, methane received explicit reference in a COP outcome in the Glasgow Climate Pact. As a GMP signatory and COP26 host, the UK has a privileged position to showcase leadership on methane mitigation and to pave the way for ambitious regulations, by advancing policies and commitments on the domestic front, matching and exceeding the policies and commitments in peer countries such as the United States, Canada and the European Union – and, in so doing, solidify its role as a leader on methane.

In November 2022, the UK unveiled its methane memorandum, outlining progress since 1990 and its plans for further methane emission reductions.⁸ However, this memorandum falls short of incorporating essential elements for comprehensive methane monitoring and mitigation.

First, the UK needs to implement a methane mitigation target, to be integrated in the next Nationally Determined Contribution (NDC). A target sets the baseline for any mitigation action plan, providing a clear objective to guide the measures adopted, as well as assess financial needs and establish a reference point to track progress.

Second, there is a critical need to enhance monitoring, reporting, and verification (MRV) mechanisms. Methane emissions are widely underreported. The International Energy Agency (IEA) found that methane emissions from the energy sector were 70% greater than estimated emissions provided by national governments.⁹ This is because governments tend to rely on default emission factors and the most basic and least disaggregated activity data.¹⁰ The UK is not an outlier; a 2023 research collaboration between the University of Colorado and Princeton University revealed that the current methodology for estimating methane emissions from offshore oil and gas production systematically and significantly underestimates emissions, finding that methane emissions from UK oil and gas production are approximately five times higher than officially reported by the government.¹¹ In London alone, a recent study by the Imperial College found that methane emissions are up to a third higher than reported estimates suggested when comparing the bottom-up approach currently used for reporting, where emissions were calculated based on emission factors, against a “top-down” approach based on atmospheric sampling in the city.¹² To address this challenge, the UK needs to significantly improve its methane monitoring, reporting and verification by using Tier 3 of the UNFCCC reporting guidelines, as committed to under the GMP, which should include incorporating new aerial, satellite and ground-based technologies to dramatically increase the quantity and accuracy of methane emissions data.

Third, the UK should develop a robust methane mitigation action plan. EIA’s expertise is primarily in the energy sector, therefore this submission focuses on emissions from the oil, gas and coal sector. However, mitigation will also be important in the agriculture and waste sectors. In the energy sector, the UK should develop a regulation to reduce methane emissions, containing at least the following measures:

- **Leak Detection and Repair.** Leak detection and repair (LDAR) subject to minimum requirements on frequency of checks, repair timelines and resurveying obligations, eventually moving to continuous monitoring;
- **Venting and Flaring.** Limits on routine venting and flaring with clearly defined exceptions and criteria and updated flaring-efficiency standards. The UK aims to achieve zero routine venting and flaring by 2030 or sooner, although this should be accelerated to take place more quickly.¹³ For example, Norway adopted a ban on flaring in 1971,¹⁴ the EU in its recent Regulation has prohibited routine venting and flaring,¹⁵ as has

Nigeria.¹⁶ There is no reason for the UK to continue venting and flaring until 2030;

- **Unused and Abandoned Wells.** Obligations to cap and seal or capture and use leaking methane from unused and abandoned wells to eliminate legacy methane emissions;
- **Technology Standards.** Technology standards to reduce emissions associated with the normal operation of certain equipment;
- **Inactive coal Mines.** Measures on inactive coal mine methane, including limits on venting and flaring in ventilation shafts, drainage and degasification stations.

Addressing methane emissions in the energy sector is particularly important given that even a small methane leakage rate of 0.2% can result in the net climate impact of gas being equivalent to coal in energy generation.¹⁷ On top of the climate benefit, mitigating methane emissions in the energy sector is also an opportunity to save resources without having to extract more, which is helpful in compensating for energy price increases due to shortages in supply. Research by think-tank Green Alliance has found that in the UK North Sea sites, in 2021, 250 million cubic meters of methane were vented or flared, equivalent to the consumption of nearly 250,000 average homes.¹⁸

While accelerating domestic methane mitigation, the UK should simultaneously champion international action on methane emission reductions. While the GMP has raised awareness on methane and the urgency for action, it remains a pledge without the necessary commitments, institutions, mechanisms and financial support to drive substantial change. To address these shortcomings and facilitate meaningful methane emission reductions on a global scale, the UK has an opportunity to demonstrate leadership by advocating for the development and implementation of a robust global governance framework around the GMP. In particular, the UK should seek to prioritise support for developing countries, ensuring they have access to stable and predictable funding for enabling activities, namely institutional strengthening, capacity-building and training, reporting and policy development and implementation. This can be facilitated through the creation of a methane fund dedicated to deliver on GMP objectives, based on contributions by donor countries, with well-defined timelines extending through 2030, and further supported by philanthropies and multilateral development banks. The UK has already showcased its commitment to methane finance by contributing £2 million to the methane finance sprint.¹⁹ To strengthen this commitment, the UK should take proactive steps to be among the first-mover countries in establishing this methane fund.

References

¹ IPCC (2022). *Climate Change 2022: Mitigation of Climate Change. Contribution of Working Group III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* [P.R. Shukla, J. Skea, R. Slade, A. Al Khourdajie, R. van Diemen, D. McCollum, M. Pathak, S. Some, P. Vyas, R. Fradera, M. Belkacemi, A. Hasija, G. Lisboa, S. Luz, J. Malley, (eds.)]. Cambridge University Press, Cambridge, UK and New York, NY, USA. Page 159. Available [here](#).

-
- ² IPCC (2023). *Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, H. Lee and J. Romero (eds.)].* IPCC, Geneva, Switzerland, 184 pp. Page 4. Available [here](#). IPCC (2022). *Climate Change 2022: Mitigation of Climate Change. Contribution of Working Group III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [P.R. Shukla, J. Skea, R. Slade, A. Al Khourdajie, R. van Diemen, D. McCollum, M. Pathak, S. Some, P. Vyas, R. Fradera, M. Belkacemi, A. Hasija, G. Lisboa, S. Luz, J. Malley, (eds.)].* Cambridge University Press, Cambridge, UK and New York, NY, USA. Page 59. Available [here](#).
- ³ IPCC, (2023). *Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, H. Lee and J. Romero (eds.)].* IPCC, Geneva, Switzerland. Page 184. Available [here](#).
- ⁴ UN Environment and Climate and Clean Air Coalition (May 2021). *Global Methane Assessment: Benefits and Cost of Mitigating Methane Emissions*. Pages 9. Available [here](#).
- ⁵ International Energy Agency (October 2021). *Curtailing Methane Emissions from Fossil Fuel Operations: Pathways to a 75% Cut by 2030*. Page 7. Available [here](#).
- ⁶ UN Environment and Climate and Clean Air Coalition (May 2021). *Global Methane Assessment: Benefits and Cost of Mitigating Methane Emissions*. Pages 9-10 and 13. Available [here](#).
- ⁷ UN Environment and Climate and Clean Air Coalition (May 2021). *Global Methane Assessment: Benefits and Cost of Mitigating Methane Emissions*. Pages 12 and 99-100. Available [here](#).
- ⁸ United Kingdom Government (November 2022). *United Kingdom methane memorandum*. Available [here](#).
- ⁹ International Energy Agency (February 2022). *Methane emissions from the energy sector are 70% higher than official figures*. Available [here](#).
- ¹⁰ UNFCCC. Resource Guide for preparing the national communications of non- annex I Parties. Available [here](#).
- ¹¹ Stuart N. Riddick and Denise L. Mauzerall (2023). *Likely substantial underestimation of reported methane emissions from United Kingdom upstream oil and gas activities*. Available [here](#).
- ¹² Eric Saboya, Giulia Zazzeri, Heather Graven, Alistair J. Manning, and Sylvia Englund Michel (March 2020). *Continuous CH₄ and δ¹³CH₄ measurements in London demonstrate under-reported natural gas leakage*. Available [here](#).
- ¹³ North Sea Transition Authority. *Flaring and venting*. Available [here](#).
- ¹⁴ World Bank (December 2023). *Global flaring and venting regulations- Norway*. Available [here](#).
- ¹⁵ Council of the European Union (December 2023). *Proposal for a Regulation on methane emissions reduction in the energy sector and amending Regulation (EU) 2019/942 - Analysis of the final compromise text with a view to agreement*. Page 65. Available [here](#).
- ¹⁶ Nigeria Upstream Petroleum Regulatory Commission (2022). *Gas flaring and venting (prevention of waste and pollution)*. Page 11. Available [here](#).
- ¹⁷ Deborah Gordon et al (2023). Evaluating net life-cycle greenhouse gas emissions intensities from gas and coal at varying methane leakage rates. *Environ. Res. Lett.* 18 084008. Available [here](#).
- ¹⁸ Green Alliance (November 2023). *The North Sea's super polluters: no excuse to delay action on flaring and venting*. Available [here](#).
- ¹⁹ Parallel Parliament (March 2024). *Methane: pollution control*. Available [here](#).