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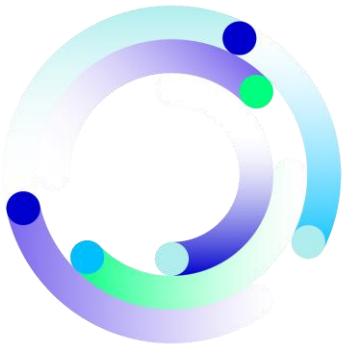

Response from the Grantham Institute at Imperial College London to DESNZ consultation on draft supplementary guidance for assessing the effects of scope 3 emissions on climate from offshore oil and gas projects

15.1.25

About us

This response has been prepared by the policy and translation team at the Grantham Institute – Climate Change and the Environment, Imperial College London.

Imperial is a global university with a world-class reputation in science, engineering, business and medicine, and excellence in teaching and research. Consistently rated amongst the world's best universities, Imperial is committed to developing the next generation of researchers, innovators and leaders through collaboration across disciplines.

The Grantham Institute[1] is Imperial's hub for climate change and the environment, and one of seven Global Institutes established to promote inter-disciplinary working and to meet some of the greatest challenges faced by society. We drive forward discovery, convert innovations into applications, train future leaders and communicate academic knowledge to businesses, industry and policymakers to help shape their decisions.

We welcome the opportunity to respond to this consultation. This response has been informed by, and draws heavily on, work published by Prof Joeri Rogelj, the Grantham Institute's Research Director. Prof Rogelj has particular expertise on the subject of climate change modelling and mitigation. He was one of the coordinating lead authors on the Intergovernmental Panel on Climate Change's (IPCC) Special Report on Global Warming of 1.5°C (SR1.5) and was a lead author on the IPCC's latest, sixth assessment report. He is active in providing scientific evidence for climate change litigation.

Introduction

A robust regulatory framework at national government level in relation to emissions from oil and gas production is an essential step towards delivering both the UK's domestic climate commitments and to align with the commitments made by the

international community at COP28 to "transition away from fossil fuels". Translating those commitments into robust policy and regulation is vital for the UK to deliver at home and set the example for the international community as, while many governments acknowledge the need to reduce fossil fuel demand and expand clean energy alternatives, notes a 2023 paper in Nature Communications by Achakulwisut et al[2], "When it comes to fossil fuel supply … governments' plans and projections remain vastly misaligned with pathways consistent with limiting warming to 1.5 °C or 2°C ".

In terms of the scientific context for any consideration of the scope 3 emissions of new oil and gas developments it should be noted that:

- The UK is a signatory to the Paris Agreement, a legally binding international treaty with the goal to hold the increase in the global average temperature to well below 2°C above pre-industrial levels and pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels.
- IPCC analysis suggests that the emissions from existing oil and gas production facilities already exceed the maximum emissions level for a 50% likelihood of holding the global temperature rise to no more than 1.5 degrees, and that emissions from existing and planned facilities will be close to the maximum level consistent with limiting temperature rises to 2 degrees, even on the assumption of no new production facilities being opened anywhere in the world.[3]
- The latest Emissions Gap report[4] meanwhile from the United Nations Environment Programme (published in October 2024) provides clear evidence that total global net anthropogenic GHG emissions are continuing to rise – the carbon budget, in other words, is shrinking.

In this context, there should be a presumption against new oil and gas developments in the UK. The approach to appraising scope 3 emissions from oil and gas developments should include a rigorous assessment of whether additional emissions associated with the project can be compatible with the achievement of the Paris Agreement, and scope 3 emissions should by default be considered to be 'significant' given the limits of global carbon budgets.

Defining baseline scenario for assessing scope 3 emissions

Question 1: Do you agree with the advice in the draft supplementary EIA guidance on how the baseline scenario should be set out in an ES? Question 1(a): If not, please outline what else should be considered or done differently.

We welcome the clarification in the draft guidance that any claimed 'substitution' effect (whereby emissions associated with a new development are matched by a

reduction in emissions from facilities elsewhere) does not represent a relevant factor in determining whether scope 3 emissions from a project's downstream activities need to be assessed. With this in mind, we suggest that it is essential for the baseline to be defined as a hypothetical scenario in which no new development takes place, with any scope 3 emissions from new production capacity being assumed to be additional to this baseline scenario.

As outlined above, there is strong evidence that currently existing and planned production capacity for oil and gas globally is at levels that pose challenges to the achievement of the Paris Agreement climate goals. This Agreement has been agreed by 194 states and the European Union, covering over 98% of global anthropogenic greenhouse gas emissions, and requiring states that signed and ratified it to put forward national greenhouse gas emissions reduction pledges known as Nationally Determined Contributions (or NDCs). The progress these NDCs collectively make towards the achievement of the Paris Agreement's long-term temperature goal is assessed under the Global Stocktake. It is therefore reasonable to assume that all countries will need to grapple with the need to constrain fossil fuel production, lending weight to the adoption of a baseline scenario for comparison in which the development does not take place, and there is no substitution elsewhere.

Assessing significant effects

Question 3: To what extent do you agree with the advice given in the draft supplementary EIA guidance for evaluating the likely significant effects of scope 3 emissions on climate is helpful when it comes to preparing an ES?

Question 3(a): Do you have any other suggestions that could be considered?

We would like to see a strengthening of the guidance on how to evaluate whether an identified effect is or is not significant. The draft guidance is too general in our view to be able to ensure meaningful and robust analysis of significance, which therefore remains an essentially subjective judgment. The emissions from any individual project will always appear small if expressed as a percentage of the emissions of a country or sector, and this kind of assessment has limited value to decision-makers in judging the acceptability or otherwise of the emissions.

We also consider that the guidance should make clear that the impact of scope 3 emissions will not be limited to the UK and that the question of whether or not the emissions are likely to occur in the UK is *not* a relevant factor for consideration, as the UK, in addition to the commitment to reduce territorial emissions under the Climate Change Act, is also committed to keeping global temperatures in line with the Paris

Agreement temperature goal, the achievement of which is unaffected by where in the world greenhouse gas emissions are generated.

Assessing significance in the context of global carbon budgets

The Glasgow Climate Pact, adopted in 2021, strengthened nations' commitment to the 1.5 °C target by agreeing to work to reduce the gap between existing emission reduction plans and what is required to cut emissions. Since the remaining carbon budget for limiting warming below 1.5°C is extremely small, any additional emissions are likely to cause harm and should therefore be regarded as significant.

The guidance should specify what would constitute an appropriate pathway or pathways aligned with the climate goals of the Paris Agreement[5] (and of the Glasgow Climate Pact), both for global greenhouse gas emissions and sector-specific transformations of the oil and gas sector. These pathways should be used by applicants to provide context for assessing the significance of the scope 3 emissions of the project. The pathway or pathways identified should take into account both global equity (considering the principle of Common but Differentiated Responsibilities and Respective Capabilities (CBDR-RC)) and likely technical and legal limits to the availability of permanent Carbon Dioxide Removal (CDR)[6], as set out below.

The most recent, updated 'Net Zero Emissions by 2050' scenario by the International Energy Agency (IEA NZE) can serve as a technically sound and authoritative illustration of what it means for an equitable approach to scenario design to be taken. Compared to other scenarios, this assumes relatively slower decline in coal emissions in emerging markets and developing economies, while firm and ambitious action in advanced economies leads to greenhouse gas emissions from oil and gas to fall faster than would otherwise be the case for scenarios aiming for the same temperature goal[7]. Assuming scenarios that build in an equity concern would thus be likely to impact on the appraisal of what constitutes significant emissions from oil and gas production.

Many of the IPCC scenarios meanwhile rely heavily on Carbon Dioxide Removal or CDR, which can be understood as any measure that results in an active removal of carbon dioxide (CO2) from the atmosphere followed by durable storage of this CO2 so that it remains out of the atmosphere. Many if not all technology-based CDR methods are still speculative or at the early stages of innovation, currently not deployed at large scale and associated with high costs[8]. The deployment of CDR measures also comes with risks for sustainability, as the land required for bioenergy production or afforestation can compete with other uses, including food production and biodiversity protection[9].

Given all the challenges and risks with the assumption of extensive CDR deployment in mitigation scenarios, scholars have argued that pursuing strategies that rely heavily on

large amounts of CDR may contravene norms and principles of international law[10]. Scenarios selected for delivering sector-wide emissions reductions from the oil and gas sectors should therefore have their reliance on CDR technologies cross-checked against legal and sustainability limits.

Having identified appropriate scenarios, the question of judging significance of a particular application needs to be considered. As we have set out, the evidence from climate science suggests that there should be a presumption of significance in relation to the scope 3 emissions from any new oil and gas development.

Assessing the impacts of the additional warming resulting from the development

Likely significant effects of the scope 3 emissions of a given project could also be expressed in terms of their impacts for human health. Prof Dr Wim Thiery has, for example, provided evidence in relation to proposals for new fossil fuel extraction, including at Neptun Deep in Romania[11], in the Barents Sea in Norway[12], and for UK proposals for Jackdaw and Rosebank[13] and for the offshore oil and gas project Penguins[14]. Prof Thiery provided estimates of the numbers of children expected to experience additional heatwaves, other climate extremes, and heat-related deaths as a result of the estimated scope 3 emissions from these specific projects.

This suggests a potentially useful approach to develop alongside a consideration of global carbon budgets for the appraisal of significant impacts, which could be incorporated into the guidance for applicants.

Consideration of cumulative effects

Question 4: To what extent does the overview provided for assessing cumulative effects help convey the expectation on what other relevant projects (existing or planned) should form part of an assessment? Question 4(a): Do you have any other suggestions that could be considered?

As set out in response to questions 1 and 3, additional greenhouse gas emissions generated by a given project need to be understood in the context of global carbon budgets. By definition, this suggests that the cumulative impact must be understood with reference to all other sources of greenhouse gas emissions, and not just those of oil and gas projects to which the proposal would be tied back. The guidance should make clear how to approach this cumulative appraisal.

Mitigation measures

Question 5: To what extent does the draft supplementary EIA guidance provide clarity on how to approach identifying suitable mitigation measures and subsequently implementing those measures?

Question 5(a): Do you have any other suggestions that could be considered?

Offsetting should not be considered an appropriate mitigation for scope 3 emissions. This point emerged strongly from a set of workshops for academics and other experts that we helped to organise in summer 2024[15].

Following a publication by Prof Rogelj and others in the journal 'Science' in April last year on the topic of corporate net zero targets[16] the Grantham institute at Imperial collaborated with Oxford Net Zero to organise a series of academic workshops on the topic of scope 3 emissions and how they should be appropriately taken into account in voluntary standards (notably the Science Based Targets Initiative). The project aimed partly to respond to the suggestion from the Board of the Science-Based Targets Initiative (SBTi) to allow the use of carbon credits for addressing Scope 3 emissions. Participants were experts in fields including carbon accounting, supply-chain decarbonisation, voluntary carbon markets, sectoral decarbonisation, climate policy, governance and justice, and decarbonisation pathways, and were primarily academics from universities in the UK, Europe and the US. Participants were unanimous in ruling out offsets as an approach to mitigation of scope 3 emissions.

The impact on the climate of the release of CO2 from combustion of fossil fuel cannot be avoided, prevented or reduced through any actions taken by a project developer with the exception of permanent Carbon Dioxide Removal. Offsetting is not a credible approach for emissions mitigation if it relies on emissions avoidance in other sectors, since all sectors need to be on a pathway to rapidly achieving net zero emissions. There is a large volume of academic evidence suggesting that the availability of CDR will be limited and that it should not be relied on as a future measure without taking account of these limits.

The only way a developer could effectively mitigate the CO2 emissions from a project would be to deliver permanent and simultaneous carbon dioxide removal equivalent to the emissions from combusting all fuel it produced, with the carbon removal being additional, specific to the project and subject to robust MRV.

Environmental Protection Objectives

Question 6: Are the expectations on environmental protection objectives clear?
Question 6(a): Do you have any other suggestions that could be considered?

The draft guidance states that "Scope 3 emissions will impact the UK's carbon budgets to the extent that any resulting emissions take place in the UK." It should also be noted that these emissions may affect the carbon budget indirectly when they take place outside the UK. National carbon budgets derive from global carbon budgets, and as these are depleted in time or space outside the UK, this would also mean the carbon budget of the UK could become smaller.

References

[1] www.imperial.ac.uk/grantham

[2] Achakulwisut, P., Erickson, P., Guivarch, C. *et al.* "Global fossil fuel reduction pathways under different climate mitigation strategies and ambitions" *Nat Commun* 14, 5425 (2023). https://doi.org/10.1038/s41467-023-41105-z

[3] See Figure 3-5 Figure AR6 WG2, IPCC, 2023: *Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to Sixth Assessment Report of the Intergovernmental Panel on Climate Change* [Core Writing Team, H. Lee and J. Romero (eds.)]. IPCC, Geneva, Switzerland, 184 pp., doi: 10.59327/IPCC/AR6-9789291691647

[4] Emissions Gap Report 2024 | UNEP - UN Environment Programme, see figure 2.1

[5] The Paris Agreement defines the target as aiming "to strengthen the global response to the threat of climate change, in the context of sustainable development and efforts to eradicate poverty, including by: (a) Holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change". ADOPTION OF THE PARIS AGREEMENT - Paris Agreement text English

[6] See Stuart-Smith, R.F., Rajamani, L., Rogelj, J., Wetzer, T., 2023. Legal limits to the use of CO2 removal. Science 382, 772–774. https://doi.org/10.1126/science.adi9332

[7] See the Expert Statement of Joeri Rogelj, March 2024, in the appeal against Shell by Milieu Defensie, paragraph 58 Expert statement Joeri Rogelj — Milieudefensie

[8] See the Expert Statement of Joeri Rogelj, March 2024, in the appeal against Shell by Milieu Defensie, paragraphs 41-42 Expert statement Joeri Rogelj — Milieudefensie; also https://www.stateofcdr.org/

[9] See IPCC AR6 WG3 Climate Change 2022: Mitigation of Climate Change; also Deprez, A., Leadley, P., Dooley, K., Williamson, P., Cramer, W., Gattuso, J.-P., Rankovic, A., Carlson, E.L., Creutzig, F., 2024. Sustainability limits needed for CO2 removal. Science 383, 484–486.https://doi.org/10.1126/science.adj6171

[10] See the Expert Statement of Joeri Rogelj, March 2024, in the appeal against Shell by Milieu Defensie, paragraph 48 Expert statement Joeri Rogelj — Milieudefensie

[11] Wim Thiery December 2024 "Expert report related to selected consequences of Neptun Deep emissions", Expert_report_Wim_Thiery_NeptunDeep_20241219.pdf

[12] Wim Thiery August 2024 "Expert opinion related to case number 34068/21", Expert_opinion_Wim_Thiery_20240814.pdf

[13] Wim Thiery October 2024 Expert report related to selected consequences of Jackdaw and Rosebank Scope 3 emissions Expert_report_Wim_Thiery_Rosebank-Jackdaw_20241015.pdf

[14] Wim Thiery October 2024 Expert report related to selected consequences of Penguins Scope 3 emissions Expert_report_Wim_Thiery_Penguins_20241015.pdf

[15] See the briefing paper Addressing the Scope 3 Challenge - A workshop briefing from researchers working on corporate climate action and governance | Grantham Institute – Climate Change and the Environment | Imperial College London

[16] Yann Robiou du Pont *et al.* Corporate emissions targets and the neglect of future innovators. *Science* 384, 388-390(2024). DOI:10.1126/science.adl5081