Question on notice no. 6

Portfolio question number: SQ25-000209

2024-25 Additional estimates

Environment and Communications Committee, Climate Change, Energy, the Environment and Water Portfolio

Senator Louise Pratt: asked the Clean Energy Regulator on 6 March 2025—

Modeling and analysis, from Cornell University in a report entitled "The greenhouse gas footprint of liquefied natural gas (LNG) exported from the United States," has found that:
Overall, the greenhouse gas footprint for LNG as a fuel source is 33% greater than that for coal when analyzed using GWP20 (160 g CO2-equivalent/MJ vs. 120 g CO2-equivalent/MJ) . Even considered on the time frame of 100 years after emission (GWP100) , which severely understates the climatic damage of methane, the LNG footprint equals or exceeds that of coal.
Reference: How to cite this article: Howarth RW. The greenhouse gas footprint of liquefied natural gas (LNG) exported from the United States. Energy Sci Eng. 2024;1-17. doi:10.1002/ese3.1934
I understand that the clean energy regulator has benchmarked emissions targets for major emitters within the safeguard mechanism.
I also understand that the current emissions profiles for fugitive emissions for areas regulated by NOPSEMA were modelled by CSIRO - for use in the mechanism.
1.Can you advise if this is correct?
2.Where did the data for CSIRO's modelled data for fugitive emissions in this sector come from?
3.How do you collect data around fugitive emissions, and variations from estimates and how is this included inside the safeguard mechanism?
4.How do you ensure that these are properly reported?
5.How are emissions from incidents reported to NOPSEMA captured by the clean energy regulator
6.Is there an obligation to capture fugitive emissions from transport sources?
7.Does the CER undertake incident reporting or track fugitive emissions from transport? (Don't seem to be covered by the safeguard mechanism)
8.What fugitive emissions from areas regulated by NOPSEMA are documented for the 22-23 and 23-24 reporting periods.
9.Have these varied from estimates?
10.Have they been adjusted for any specific incidents, or are they just based on what has been modelled under the CER laws and regulations?
Answer —
Please see attached answer.

Environment and Communications
Answers to questions on notice
Climate Change, Energy, the Environment and Water Portfolio

Question No: SQ25-000209

Hearing: Additional Estimates

Outcome: Agency

Division/Agency: Clean Energy Regulator

Topic: Greenhouse gas footprint of liquefied natural gas

Question Date: 06 March 2025

Question Type: Written

Senator Pratt asked:

Modeling and analysis, from Cornell University in a report entitled “The greenhouse gas footprint of liquefied natural gas (LNG) exported from the United States,” has found that: Overall, the greenhouse gas footprint for LNG as a fuel source is 33% greater than that for coal when analyzed using GWP20 (160 g CO2-equivalent/MJ vs. 120 g CO2- equivalent/MJ). Even considered on the time frame of 100 years after emission (GWP100), which severely understates the climatic damage of methane, the LNG footprint equals or exceeds that of coal. Reference: How to cite this article: Howarth RW. The greenhouse gas footprint of liquefied natural gas (LNG) exported from the United States. Energy Sci Eng. 2024;1-17. doi:10.1002/ese3.1934
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1. Can you advise if this is correct?
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8. What fugitive emissions from areas regulated by NOPSEMA are documented for the 22-23 and 23-24 reporting periods.
9. Have these varied from estimates?
10. Have they been adjusted for any specific incidents, or are they just based on what has been modelled under the CER laws and regulations?

Answer:

1. The Department of Climate Change, Energy, the Environment and Water developed industry average and best practice emissions intensity values that are used to set baselines in the Safeguard Mechanism. These values were developed using data from a variety of sources.

2. This question should be directed to the Commonwealth Scientific and Industrial Research Organisation.

3. Fugitive emissions are included in reports submitted under the *National Greenhouse and Energy Reporting Act 2007* (NGER Act). Each year, Australia's largest companies are required to report on their greenhouse gas emissions, energy production and energy consumption. The NGER legislation sets out what data must be reported and the methods that must be used to estimate emissions and energy, including reporting on fugitive emissions.

   Facilities whose covered emissions exceed 100,000 tCO_2-e in a reporting year are covered by the Safeguard Mechanism. The Clean Energy Regulator (CER) uses the NGER dataset to identify which facilities are covered in a given financial year.

4. Each year, the CER undertakes a detailed program of work designed to provide quality assurance over reported NGER data to maximise its accuracy and quality. The CER interrogates reported data to identify anomalies such as unexplained variances or trends in reporting that may indicate potential non-compliance. Where possible, reported NGER data is compared with other datasets to test for accuracy and consistency. Each year the CER will prioritise key areas for particular attention as part of its quality assurance program. These priority areas are published as part of the CER's annual Compliance and Enforcement priorities.

   Additionally, the NGER legislation creates a framework for independent auditors with specific knowledge, skills and experience to be registered as Greenhouse and Energy Auditors. These auditors are used to provide assurance over the NGER dataset.

   Where non-compliance is identified, enforcement measures available to the CER include the acceptance of enforceable undertakings, the issuance of infringement notices, and the commencement of civil or criminal proceedings.

5. The CER does not expressly track incidents that are reported to NOPSEMA. However, the NGER legislation does cover sources of fugitive emissions which occur within offshore oil and gas operations. Sources are listed within section 1.10 of the NGER Measurement Determination, with fugitive emissions listed from Item 2D to 2ZH.

   To the extent that the NGER reporting framework covers facilities that are also reported to NOPSEMA, the CER collects data from those facilities, in accordance with the NGER legislation.

6. Fugitive emissions must be reported in accordance with the methods available within the NGER legislation. Exactly what is required to be reported depends on the activity being undertaken and the fuel type involved and does cover transportation in some circumstances. For example, fugitive emissions from the transportation of natural gas in a pipeline are reportable.

7. As above, the CER collects emissions data through the reporting requirements outlined within the NGER legislation. The NGER reporting framework establishes the sources of reportable emissions, including transportation in certain circumstances, and the methods available to calculate those emissions.

   Where total covered emissions for a facility, as reported in accordance with the NGER legislation, exceed the Safeguard threshold of 100,000 tonnes CO_2-e, the facility will be covered by the Safeguard Mechanism for that reporting period.

8. The NGER legislation covers sources from offshore oil and gas operations as part of its reporting requirements. These are listed from Item 2D to 2ZH within section 1.10 of the NGER Determination. There were no changes to these obligations for the 2022–23 or 2023–24 reporting years.

9. The CER collects data, including data on fugitive emissions, that is reported in accordance with the methods available under the NGER legislation.

10. The CER does not make adjustments to reported NGER data. All NGER data, including fugitive emissions, must be reported in accordance with the methods available under the NGER legislation.