



Offshore Petroleum Regulator
for Environment & Decommissioning

By email only

Clerk to the Committee – House of Lords Environment and
Climate Change Select Committee

**Offshore Petroleum Regulator for
Environment & Decommissioning**

**Department for Energy Security and
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Dear Sir/Madam

We understand that the window for written evidence to the House of Lords Environment and Climate Change Select Committee methane enquiry has closed. That said, in advance of Ministers and senior officials giving evidence to the Committee this week, we believe it may be helpful to provide additional supporting information following recent evidence sessions and would be happy to engage further if it would be of assistance to the Committee and the Clerks.

The Offshore Petroleum Regulator for Environment and Decommissioning (OPRED) is a Directorate of the Department for Energy Security and Net Zero (DESNZ). It has no operational or legal independence from DESNZ and regulates based on Secretary of State powers.

OPRED works closely with all relevant regulators to deliver against our environmental remit for offshore oil, gas and carbon storage. The North Sea Transition Authority (NSTA) is one of our closest partners and there are many areas where we work together, in line with our distinct legal powers, to deliver an overall outcome.

An example of this partnership is the regulation of emissions from offshore oil and gas activity, where the NSTA is responsible for regulation of flaring and venting which represents about 79% of reported methane emissions in the sector, with OPRED regulating methane associated with combustion activities (representing about 12%).

Table 1 below provides a further, detailed breakdown of the types of methane emissions associated with the industry and how they are currently regulated. Below the table is some further explanation of the systems for reporting emissions from the offshore oil and gas industry and of the potential for UK ETS scope expansion.

Yours sincerely,

Tom Child - Director, OPRED



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Table 1 Methane Emission Sources, Regulators and Recording Regimes. Details of methane emission types in the upstream oil and gas sector. The final column shows what is included Environmental emissions monitoring system (EEMS) % Methane of all UK offshore O&G reported methane emissions to EEMS (2023) (unverified)

Type	Regulator	Regulation	What is measured, and reported	How is methane measured and reported?	EEMS database % methane O&G UKCS
Flaring	NSTA regulates the flare consent, which is based on total hydrocarbon gas to be flared but not directly on methane itself.	Flare consent, regulated by the NSTA under the Energy Act 1976 and Petroleum Act 1998, limits the quantity of hydrocarbon to be flared. Please see: - <i>NSTA Flaring and Venting Guidance (June 2023)</i>. NOTE: OPRED regulates CO₂ emissions from flaring under the UK Emissions Trading Scheme (ETS), including flare activity data (flow), which is independently verified.	Total mass flow rate is measured and a gas composition applied to this measurement. Which is reported into: - Petroleum Production Reporting System (PPRS) - environmental Emissions Monitoring System (EEMS) - Manage your UK Emissions Trading Scheme reporting service (METS)	PPRS: Hydrocarbon mass of flared gas is submitted to the NSTA's Petroleum Production Reporting System (PPRS) by operators. EEMS: Methane is not directly measured but is determined indirectly from the hydrocarbon mass flow and using methane standard emission factors. METS: Installations that fall under the UK ETS monitor and report Hydrocarbon sent to flare in OPRED's 'Manage Emissions Trading System (METS) which calculates the CO₂ assuming 98% combusted leaving 2% methane. Hydrocarbon sent to flare is verified independently by the operator, to ETS verification regulations.	~32%



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Type	Regulator	Regulation	What is measured, and reported	How is methane measured and reported?	EEMS database % methane O&G UKCS
Venting	NSTA regulates the vent consent which is based on total hydrocarbon to be vented and not directly on methane itself.	Vent consent is regulated by the NSTA under the Energy Act 1976 and Petroleum Act 1998, limiting the quantity of hydrocarbons to be vented. Please see: <i>NSTA Flaring and Venting Guidance (June 2023)</i> Venting of hydrocarbons from production installations are not covered by regulations under OPRED's remit, such as UK ETS and Offshore PPC.	Energy Portal consents section - Hydrocarbons vented (including periods of unlit flares) are entered to NSTA's PPRS by operators and into the Energy Portal consents section.	PPRS: Vent consent is based on reported hydrocarbon emissions to the NSTA PPRS database. EEMS: Methane is not directly measured but is determined indirectly from the hydrocarbon mass flow and using methane standard emission factors. There is currently no verification of vented mass data in regulations.	~47%
Methane slip (combustion plant)	OPRED	Permits approved under The Offshore Combustion Installations (Pollution Prevention and Control) Regulations 2013.	Unburnt hydrocarbons (mostly methane) from fuel combustion inefficiency in turbines, engines and heaters/boilers is calculated using standard emission factors.	Two alternative methods may be used and entered into EEMS. Methane can be measured directly by exhaust stack testing or alternatively standard equipment specific emission factors can be used.	~12%
Fugitives	Not regulated	No specific direct regulatory requirement for Methane.	Emissions data entered into EEMS voluntarily	In the absence of data from a verified system EEMS provides default emission factors for operators to estimate fugitive emissions from process plant and pipework.	~7%
Oil Tanker Loading	Not regulated	No specific direct regulatory requirement for Methane.	Emissions data entered into EEMS voluntarily. Volumes of oil reported into PPRS	PPRS data on oil loading volumes is used in conjunction with EEMs for NAEI reporting.	~1%



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Type	Regulator	Regulation	What is measured, and reported	How is methane measured and reported?	EEMS database % methane O&G UKCS
Mobile Drilling Units	NSTA issue consents	Flare and Vent consents regulated by NSTA Well activity consents regulated by NSTA.	Volumes of flared gas entered into NSTA's PPRS. Emissions data entered into EEMS	In the absence of data from a verified system, EEMS provides default emission factors for operators to use for drilling operations.	~2%
Decommissioning at cessation of production – flaring and venting	OPRED	Flaring and Venting of hydrocarbons approved by OPRED under the Energy Act 1976.	Methane emissions are not included in Decommissioning Plans.	Methane emissions are not reported post Cessation of Production.	Not reported into EEMS
Gas release	HSE regulate release	Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR)	Safety perspective HSE	Currently no mechanism for reporting Could only report an offence under OPPC to OPRED if it was condensate that went to sea.	Not reported into EEMS



Further information

Both OPRED and NSTA sit on the working group of Offshore Energies UK Methane Action Plan, which provides a framework for industry to reduce methane emissions from their assets on the UK Continental Shelf (UKCS). In addition, there are other organisations and stakeholders that OPRED and the NSTA engage with in pursuit of continuous improvement in measurement, monitoring, reporting and verification (MMRV) techniques within the sector.

UK Emissions Trading Scheme scope expansion

In July 2023, the ETS Authority announced that expanding UK ETS coverage to the upstream oil and gas sector could provide an additional driver for methane emission reduction. The Authority are reviewing this policy and will consult in due course.

The expansion of UK Emissions Trading Scheme (ETS) scope to include methane from the upstream oil and gas sector is being considered by DESNZ. The method of its inclusion is still to be determined. OPRED is supporting the wider DESNZ ETS team's policy development concerning methane emissions from the upstream oil and gas sector, in the context of the UK Emissions Trading Scheme.

Systems for reporting emissions

The Environmental and Emissions Monitoring System (EEMS)

Emissions are reported by Offshore Oil & Gas Operators to the Environmental and Emissions Monitoring System (EEMS). EEMS is the environmental database of the UK upstream oil and gas industry that records data relating to emissions and discharges from upstream oil and gas installations. This includes the permitted offshore production installations and mobile drilling units. The system is maintained by OPRED (DESNZ) and is only accessible to offshore oil and gas operators. However, the data reported is utilised by various bodies, including OEUK and the NSTA. It is also used to feed into the National Atmospheric Emissions Inventory.

Petroleum Production Reporting System

The NSTA have their own hydrocarbon petroleum production reporting system (PPRS) which collects monthly data from the reporting of hydrocarbon production from both onshore and offshore fields and terminals in the UK Continental Shelf (UKCS). This data is submitted by operators to PPRS via the Energy Portal and then placed in the public domain on the OGA's website after two months.



Manage your UK Emissions Trading Scheme reporting service (METS)

The UK ETS is managed through an online platform for permitting and reporting referred to as METS. All the UK ETS regulators use this platform but is managed by the UK ETS policy team in

DESNZ. Installations that fall under the UK ETS are required to monitor, verify and report hydrocarbon gases that are flared. For flaring this assumes that 98% of the flared gas is combusted leaving 2% methane and other gases un-combusted. This data is also independently verified by an accredited verifier prior to submission to OPRED by the operator.

The UK Pollutant Release and Transfer Register (PRTR)

The UK Pollutant Release and Transfer Register (PRTR) is a publicly accessible database that provides detailed information about pollution emissions from industrial sites across the United Kingdom. Offshore Oil and Gas Operators are required to report methane emissions over 100,000 kg (100 tonnes) per year. Data is extracted from EEMS (i.e. the wider database) on an annual basis by OPRED and reported. PRTR is maintained by the Department for Environment, Food & Rural Affairs (DEFRA). PRTR only collates data on installations that exceed the prescribed threshold.