



Exploring the pathway to value-based emissions management – moving beyond reporting and compliance

The Norwegian Offshore Directorate is partnering with Capgemini's Emissions Experience Centre to explore a more sustainable trajectory with a national emissions database

Client: Norwegian Offshore Directorate

Region: Norway

Industry: Energy and utilities

Client challenge:

The Norwegian Offshore Directorate was determined to explore the systems and methodology needed to enable oil and gas companies to act on data in order to lower emissions.

Solution:

Capgemini has developed the assets, methodology, and technology that could enable the creation of a national database that would inspire greater trust and provide more access to essential insights.

Supporting emissions action with data

In Norway, companies in the oil and gas industry must comply with a number of regulatory standards related to emission management and reporting. However, doing so required having reliable access to high-quality data that met the standard needed to achieve reasonable assurance. As a result, addressing these business challenges required a significant amount of manual effort gathering, structuring, and submitting data. And, given that the industry lacked universal standards, definitions, and factors, Norwegian companies struggled to avoid inconsistent and incomparable data between themselves and operators.

To better enable oil and gas companies to comply with emissions data requirements, Sjøkkeldirektoratet, otherwise known as the Norwegian Offshore Directorate, decided to develop a database. This would serve as a foundation for insights and support emissions reductions while creating new value based on innovative business models. In addition, the Directorate wanted to ensure that this database could be adjusted to support international corporations based on user and business needs.

Recognizing the complexity of such a project, the operators and governmental entities partnered with Capgemini, which offered extensive knowledge of the industry, data transformation, and emissions-related sustainability practices.

Building a foundation for national data

To advance the foundation work, the Norwegian Offshore Directorate (NOD) and Capgemini established a joint project team combining technical specialists and key industry stakeholders.

Through more than 33 interviews with Norwegian and international participants – including Equinor, Shell, Open Group, Petoro, and others – the team examined existing emissions-management practices, systems, and pain points for operators, partners, and regulators. These insights, combined with a broader understanding of industry practices and emerging technological opportunities, provided the foundation for a shared approach to developing the methodologies, assets, and technology. All of this together was necessary for the development of a future National Emissions Database (NED).

With this foundation, NOD and Capgemini explored the technical and methodological feasibility of such a solution, focusing on improving data quality, traceability, and reliability. Standardized processes, aligned emission factors, and harmonized data formats were identified as essential enablers, as they reducing manual work, increased comparability, and strengthened trust across operators and partners

These improvements are expected to significantly reduce validation effort and make achieving target assurance levels more attainable. The resulting proof of concept demonstrates how the NED can support innovation by enabling deeper insights, more

robust benchmarking, and earlier identification of improvement opportunities. In parallel, increased automation opens the door to near-real-time data flows, ensuring more up-to-date information for reporting, decision-making, and regulatory compliance.

A starting point for lowering emissions

A national data store will be a hallmark in the Norwegian oil and gas industry. Better access to data and the related insights will support multiple business roles and their respective needs. Standardization will reduce costs and inefficiencies for the Norwegian Offshore Directorate and support the reduction of emissions.

The national database will provide a blueprint for a corporate and global emissions approach to emissions data and thus support regulatory compliance for operators with global portfolios. Moreover, integration with other systems can expand the ability of users to learn from all available information, supporting broader collaboration.

In June 2025, the Norwegian Offshore Directorate and Capgemini completed a feasibility study that covered a variety of topics, including:

- Centralized emissions management governance structures
- Voice of the industry – based on 33 interviews with key stakeholders
- Lessons Learned from other databases
- Business cases, reference cases, and risk assessment
- Architecture, standards, and the use of existing database components
- Partnerships and key stakeholders

Following the completion of this phase, the NOD will assess the results and determine whether to progress from the MVP to a fully operational and interoperable national emissions database. This decision will be grounded in a focused “one-asset play,” wherein the MVP is tested on a single real asset to validate data flows, interoperability, assurance readiness, and operator adoption under real operational conditions.

This targeted pilot will serve as the critical proving ground for scaling from concept to national implementation, demonstrating how a shared data foundation can reduce manual effort, increase trust, and unlock operational insight for operators and partners.



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