Incorporating Paris Agreement/Sharing NCS Best Practice

equinor

Incorporating Paris Agreement

Equinor's ambition is to reach net-zero emissions by 2050. This ambition, which includes all production and final energy consumption emissions, sets a clear strategic direction and demonstrates Equinor's continued commitment to long-term value creation in support of the Paris Agreement.

Equinor's climate ambitions:

- Net zero by 2050 – Scope 1, 2, 3 GHG emissions
- Decarbonise oil and gas production - CO_2 portfolio intensity of <8kg CO_2 per boe by 2025 (current global average: 17kg CO_2 per boe, IOGP)
- Achieve carbon neutral operations no routine flaring and near zero methane emissions intensity by 2030
- Grow in renewable energy – production capacity of 4-6GW by 2026 and towards 2035, with an ambition to increase to 12 to 16 GW, dependent on availability of attractive project opportunities.

In our oil and gas activities the priority is to reduce operated emissions through:

- Energy efficiency
- Technology implementation
- Portfolio management – CO_2 a key metric in decision making
- Industry partnerships and policy advocacy

Sharing Norwegian Continental Shelf best practice

During 2020 Equinor UK worked closely with colleagues in Norway to transfer experience and capture learnings from emissions reduction activities on the Norwegian Continental Shelf (NCS).

Following this experience transfer, key learnings were incorporated into the broader Equinor UK portfolio strategy. An emissions reduction roadmap has been developed for the operated Mariner field while on Rosebank the project team is working to reduce emissions from the point of concept. The following NCS experience/good practices have been shared in Government and Industry forums, in contribution to net zero discussions.

Key learnings:

1. **Filter CO_2 knowledge and ambitions into daily operations**
   A key enabler to support climate ambitions, is developing an organisational low carbon culture through embedding CO_2 into daily operational decision-making.

   - In Equinor the POG has been renamed EPOG (Energy and Production Optimisation Group) with the EPOG engineer's role now focused on maximising production on a daily basis in the most energy efficient way using digital technology.

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2. Business case approach key to net zero investment

The early introduction of a carbon tax in 1991 and access to stable financial support mechanisms have long supported the continuous improvement of emission reductions on the NCS.

A sustainable and enduring combination of CO_2 tax, technology development funding (Enova) and the industry administrated NOx tariff, has created large scale industrial investment and new value chains (The "NOx Fund" enables companies to apply for support for emissions reduction technology)

A specific example of Enova funding includes the Hywind Tampen project, the world's first floating wind farm, powering offshore Oil & Gas with climate and socio-economic benefits not only to Equinor and Suppliers, but a wider Norway.

3. Performance management essential to move the needle

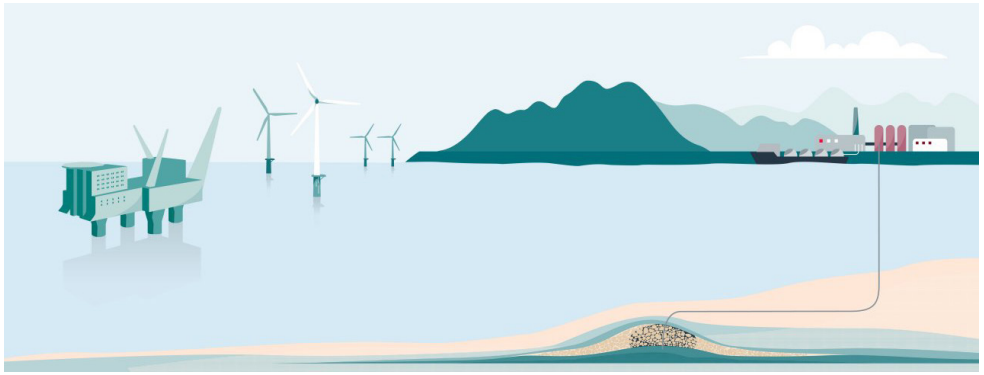
During 2019, NCS business areas implemented emission reduction measures including better-quality Energy Management Plans, with efforts to minimise methane emissions and flaring. Annual NCS CO_2 emissions have reduced by 2 million tonnes because of >400 large and small scale measures to cut emissions.

- Compressor upgrades on Gullfaks and Oseberg fields, resulting in CO_2 emission reductions of nearly 70,000te/yr.
- Supply chain and logistics operations are making important contributions to scope 3 reductions, with average annual emissions cut by approximately 90,000 tonnes since 2011. Measures include measures reducing emissions from helicopters and vessels used for supply, emergency preparedness, rigs moves and storage.
- Fuel consumption has become an evaluation criteria in the allocation of vessel contracts. In addition, requirements have been introduced regarding hybrid battery operation and the ability to connect supply vessels to onshore power for all new long-term contracts. In 2020 a new project was launched to develop the concept of carbon-free ammonia-fuelled supply vessels capable of long-distance sailing. First testing is expected in 2024.

4. Technology and innovation vital to accelerating decarbonisation

Oil & gas operations are largely powered by electricity generated on site using gas turbines. Electrification to decarbonise existing offshore fields first started on the NCS in 1996 and has accelerated more recently with the Johan Sverdrup development through a broader area approach.

- The Utsira High area solution, where reductions from power from shore are estimated at >1,000,000te/yr of CO_2.
- The Sleipner field which has been capturing, injecting and storing more than 20 million tonnes of CO_2 since 1996. Further partial electrification is planned for 2022 which will save more than 150,000 tonnes CO_2 annually.
- Investment in best available turbine technology: Dry, low emission gas turbines, supported by predictive emission monitoring, deliver maximum efficiency and minimum emissions from gas-powered offshore fields.



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