



wintershall dea

NORWAY

WINTERSHALL DEA

LONG-TERM COMMITMENT AND CLOSE PARTNERSHIP

Gas and oil production for Europe's energy supply

After Russia, Norway is Europe's most important supplier of natural gas and oil. Every year, Germany imports almost every third cubic metre of its natural gas from Norway. Wintershall Dea, Germany's largest internationally active producer of natural gas and crude oil, has been active in Norway for almost 50 years. Wintershall Dea is among the largest gas producers on the Norwegian Continental Shelf (NCS). Today it has about 100 licenses – around a third of them as operator – and a production volume of 159,000 barrels of oil equivalent per day (2021). At the same time Wintershall Dea continues to work on transferring new discoveries on the shelf into the development and production phase.

The company operates the offshore production platform Brage as well as the subsea Vega and Maria fields, which are tied back to existing topside facilities on the shelf. Additionally, the company is developing its operated field Nova in the North Sea and securing gas from the Dvalin field. The company also has interest in producing fields and developments as a license partner, including, Skarv, Njord, Aasta Hansteen, Snorre, Gjøa and Snøhvit.



Norway is one of the core regions for Wintershall Dea. The company is exploring and producing in the North Sea, Norwegian Sea and Barents Sea

EXPLORATION

The search for gas and oil

Wintershall Dea holds more than 50 promising exploration licenses on the entire Norwegian Continental Shelf. Most of them are located in the Norwegian Sea and the North Sea. In the 2021 APA round (Awards in Predefined Areas) Wintershall Dea in Norway was awarded seven licenses, four as operator, which will be effective as of March 2022. The majority of the licenses are situated in core areas for Wintershall Dea, most within tie-back distance of existing infrastructure allowing

A template for subsea production is loaded onto a vessel.

for a quick value creation with potential discoveries.



Wintershall Dea made the largest discovery on the Norwegian Continental Shelf in 2021 with Dvalin North. It is estimated to hold resources of between 70 million and 140 million barrels of oil equivalent. Located just twelve kilometres north of the operated Dvalin field, the field is likely to be developed as tie-back.

DEVELOPMENTS

Subsea installation made in Norway

The Nova field, close to Gjøa in the northern North Sea is own-operated and currently being developed by Wintershall Dea and its license partners. The development consists of two four-slot subsea templates tied back to the Gjøa host platform wherefrom Nova will be provided with green power from shore as well. This will enable the existing infrastructure to be utilised and the full potential of the field to be developed. The last part of the drilling campaign has begun in November 2021. Field production start is planned in the second half of 2022. The production volume is estimated at around 80 million barrels of oil equivalent.

Dvalin: Subsea production of natural gas

The heavy lifting vessel Saipem 7000 lifts the Dvalin gas treatment module onto the Heidrun platform.



The Dvalin gas field in the Norwegian Sea, about 15 kilometres northwest of the Heidrun field, is operated by Wintershall Dea. As planned, first gas flow was achieved in late 2020. However, during the commissioning phase, measurements showed that gas flow contained a level of mercury that exceeded the maximum amount in the system. An onshore technical solution is being executed and start-

up is expected by late 2022. The Dvalin recoverable reserves, which amount to 113 million boe, remain unaffected by the mercury issue. The field has been developed using a subsea production system including a template on the seabed with four wells, connected to the Heidrun platform. The gas will be exported via the Polarled pipeline from the Heidrun platform and transported to the Nyhamna gas terminal, before being exported to customers in Europe.

Njord: Restarting for more yield

Production on the Equinor-operated Njord oil field, which is 50 per cent owned by Wintershall Dea, started in 1997. Njord Future is a major re-development project that aims to add an additional 20 years of production from the field. The field has been shut in since 2016 for extensive onshore upgrades and consists of Njord A, a floating integrated steel platform, and Njord B, a floating storage vessel (FSU). Once back in production, Njord will be the host for one existing third-party field, Hyme, and two new tieback fields, Bauge and Fenja. The project is expected to be commissioned in the fourth quarter of 2022.

PRODUCTION

Maria: Subsea installation in the Norwegian Sea

Maria is the first field that Wintershall Dea has brought from discovery to production as operator in Norway. Having been discovered by Wintershall Dea in 2010, the PDO was approved in 2015 and the field came into production in December 2017. Two infill wells were delivered in 2020 as a measure to improve pressure support and recovery.

The field is located in the Haltenbanken area in the southern Norwegian Sea, about 200 kilometres off the coast of Kristiansund. The field was developed with two subsea templates at a depth of 300 metres tied back to the nearby Kristin, Heidrun and Åsgard B platforms. With this development concept, Wintershall Dea is using existing infrastructure to produce hydrocarbons from Maria, while also extending the lifetime of the surrounding fields. It is expected, that further development activities are being matured.

Brage: Wintershall Dea's first own production platform

The Brage platform has been producing crude oil at the Brage field since 1993. Wintershall Dea became operator of Brage in 2013 as part of an asset swap with Equinor. Wintershall Dea has since carried out extensive modernisation measures on the platform. New wells continue to be drilled, extending the commercial lifetime of the field. Wintershall Dea Norge is currently conducting a feasibility study to investigate using injected CO₂ for enhanced oil recovery (EOR) on the field. It assesses how a mature field like Brage can be used for permanent CO₂ storage after the production period is completed. In the study, it is assumed that CO₂ will be transported by ship for direct injection into the reservoir.

One of the milestones in each offshore production: drilling the production wells.



Vega: Pioneering Subsea Field

Vega is an own-operated gas and condensate field located in the northern part of the North Sea, 28 kilometres west of the Gjøa facility and was Wintershall Dea's first Norwegian subsea field in production. The field is developed with three subsea templates tied back to a single host. The production is transported to and processed at Gjøa. In order to increase production and recovery from the field, Wintershall Dea prepared a three well infill campaign in 2021 that commenced late August and will be finalised during the first half of 2022. The first well was successfully drilled and completed in October 2021.

Aasta Hansteen: Norway's largest floating SPAR platform

With the production start of the Equinor-operated Aasta Hansteen gas field at the end of 2018, Wintershall Dea further strengthened its position as one of the largest producers in Norway. Aasta Hansteen is the deepest field in Norway, and one of the most technically advanced projects on the shelf. The operator together with the license partners successfully developed the first floating SPAR platform in Norway – the largest of its kind in the world.

The field is making a significant contribution to Norway's overall annual gas production – further securing Europe's energy supply. The recoverable reserves in the Aasta Hansteen and Snefrid Nord fields, which are being developed jointly with the main Aasta Hansteen field, are expected to amount to 51.1 billion standard cubic metres (Sm³) of natural gas and 0.6 million Sm³ of condensate (353 million barrels of oil equivalent). Wintershall Dea is the second largest shareholder in Aasta Hansteen with 24 per cent.

Skarv: Major production from the Norwegian Sea

The Skarv field was discovered in 1998 and is located just south of the polar circle, 210 kilometres off the coast of Sandnessjøen. Wintershall Dea is one of the main owners of the field, and production from Skarv and the nearby reservoirs plays

an important part of the company's diversified portfolio. The Skarv FPSO serves as a hub for other developments in the area, and the final two wells of Ærfugl Phase 2 came on stream in 2021, completing the development, and adding significant gas volumes to the Skarv area.



Wintershall Dea in Norway: at a glance

- **Country entry:** 1973
- **Operated fields:** Brage, Maria, Vega, Dvalin, Nova
- **Key partner operated:** Aasta Hansteen, Skarv, Gjøa, Edvard Grieg, Njord
- **Production (2021):** 159 mboe per day
- **Licences:** about 100
- **Norway's hydrocarbon recoverable resources*:** 8.3 billion Sm³
- **Norway's total recoverable resources*:** 15.7 billion Sm³, including quantities already produced
- Roughly half the total resources in the discovery portfolio lie in the North Sea, just under a third in the Norwegian Sea and about a fifth in the Barents Sea

* Source: The Norwegian Petroleum Directorate Resource Report 2020 (<https://www.npd.no/globalassets/1-npd/publikasjoner/rapporter/ressursrapporter/2020/en/resource-report-exploration-2020-final.pdf>)

Wintershall Dea AG
Corporate Communications
Friedrich-Ebert-Str. 160
34119 Kassel
Germany

Questions?
Please get in contact with us!
Phone +49 561 301-3301
press@wintershalldea.com
wintershalldea.com

