# 2 A brief history

North Sea

Norwegian Sea

Barents Sea

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In the late 1950s, very few people believed that the Norwegian continental shelf (NCS) might conceal rich oil and gas deposits. However, the discovery of gas at Groningen in the Netherlands in 1959 caused geologists to revise their thinking on the petroleum potential of the North Sea.

In the autumn of 1962, the Phillips Petroleum oil company applied for permission to conduct geological surveys off Norway and was soon followed by others.

Norway's sovereignty over the NCS in respect of exploration for and production of subsea natural resources was proclaimed on 31 May 1963.

A new statute determined that the state owns any natural resources on the continental shelf, and that the Crown alone is authorised to award licences for exploration and production. In the same year, companies were granted permission to carry out preparatory surveys and reconnaissance. These reconnaissance licences entitled the holder to perform seismic surveys, but not to drill.

Agreements on dividing the North Sea in accordance with the median line principle were reached by Norway with the UK in March 1965, and with Denmark in December of the same year. The NCS south of Stad (62°N) - which is taken as the northern limit of the North Sea - was divided into 37 quadrants, each comprising 12 blocks covering 15 minutes of latitude and 20 minutes of longitude.

Norway's first offshore licensing round was announced on 13 April 1965, and 22 production licences covering a total of 78 blocks were awarded. The first well was drilled off Norway in the summer of 1966. It proved to be dry.

Key goals for Norwegian oil and gas policies since the early 1970s have been national management and control, building a Norwegian oil community and state participation. The Storting (parliament), the government, the ministry and a new state agency – the Norwegian Petroleum Directorate (NPD) – would be responsible for administering petroleum operations. Decisions on opening new areas lay with the Storting, while licences for petroleum operations were to be awarded by the government.

Exploration in the 1970s was confined to the area south of the 62nd parallel. A phased opening of the continental shelf to exploration and restrictions on the number of blocks awarded in each licensing round were used to maintain a moderate pace. Foreign companies dominated exploration off Norway in the initial phase, and were responsible for developing the country's first oil and gas fields.

While these multinational firms were also intended to play an important long-term role, the goal of building up a Norwegian oil community was defined at an early stage. Statoil was created as a state-owned oil company, and the principle of 50 per cent state participation in each production licence was established. The Storting later decided that the level of state participation could be higher or lower than 50 per cent, depending on circumstances.

State participation in petroleum operations was reorganised on 1 January 1985. Statoil's interest in many licences was split into two components, one linked to the company's commercial participation and the other becoming part of the state's direct financial interest (SDFI) in petroleum operations.

# 2

This arrangement means that the state itself funds the exploration expenses, investment and operating costs falling to the SDFI, and receives the share of production and revenues which corresponds to its interest in each production licence. The Storting resolved in the spring of 2001 that 21.5 per cent of the SDFI's assets could be sold. Fifteen per cent was sold to Statoil that same spring, and the remaining 6.5 per cent was sold to other companies in March 2002.

The North-East Frigg gas field became the first development off Norway to cease production in May 1993. A total of 12 fields had been shut in on the NCS at January 2002.

Norwegian oil and gas production has increased substantially over the past 10 years, and the country ranks today as the world's third largest exporter of crude oil after Saudi Arabia and Russia. Petroleum operations now play a substantial role in Norway's economy, and contribute considerable revenues to the state.

## North Sea

The Balder field was discovered in 1967. Ekofisk was proven in December 1969, and it became obvious in early 1970 that this was a large discovery. Later that year, several interesting finds were made in the same area.

Norwegian North Sea oil production began in 1971 when Ekofisk at the southern end of the sector came on stream. Its oil was loaded into tankers on the field until the Norpipe oil line to the UK was completed in 1975. The Norpipe system's lean gas line from Ekofisk to Emden in Germany began operating in 1977, initiating Norwegian natural gas exports to continental Europe.

The Frigg field was discovered in May 1971 and came on stream six years later. A dry gas export pipeline was built to St Fergus in Britain.

Discovered in 1974, Statfjord is shared between Norway and the UK. All three concrete gravity base structures on this giant field stand in the Norwegian sector. The first of these platforms came on stream in November 1979. In 1985, the first North Sea gas was landed in Norway through a trunkline from Statfjord to Kårstø north of Stavanger, where condensate is removed and the lean gas piped on to continental Europe. Statfjord represented Statoil's first major assignment as operator.

Embracing Statfjord, Gullfaks, Snorre and several smaller fields, Tampen became the most important oil-producing region of the NCS during the 1980s and 1990s. Offshore loading into shuttle tankers is used to ship oil from the area.

Development of Oseberg was approved in 1984, with production starting in 1988. Oil from this field is piped to Sture near Bergen. Oseberg was the first Norwegian field to receive injection gas from another reservoir, using the Togi facility on Troll.

The Sleipner East and Troll Phase I gas developments were approved by the Storting in 1986. This reflects a trend in which gas is becoming increasingly important in overall Norwegian petroleum production.

Developing Troll ranks as one of the world's biggest energy projects. Embracing production from thin oil zones, the second phase was approved in 1992 and has put Troll among Norway's major oil

fields since it came on stream in 1995. Crude from Troll is piped to Mongstad near Bergen.

## Norwegian Sea

The first three production licences above the 62nd parallel were awarded in 1980. In the following year, petroleum was found on the Halten Bank with the discovery of Midgard (now part of the Åsgard field). A number of oil and gas accumulations have since been discovered.

Draugen became the first oil field approved for development on the Halten Bank in the autumn of 1988, and came on stream in October 1993. Heidrun, Njord, Norne and Åsgard have subsequently come on stream. Plans for development and operation (PDOs) of Kristin and Mikkel were approved in 2001.

The Storting approved construction of the Haltenpipe gas transport system from Heidrun to Tjeldbergodden in mid-Norway in February 1992. Heidrun came on stream in 1995, and associated gas from this field has provided feedstock for methanol production at Tjeldbergodden since 1997.

In connection with the Åsgard development, approval was also sought for a new gas trunkline to Kårstø. This Åsgard Transport system was given the go-ahead in 1998, and became operational in October 2000. It ranks today as the only gas export trunkline from the Halten Bank. Two small lines tied into Åsgard Transport - the Norne and Heidrun Gas Export systems - became operational in February 2001.

Deepwater areas of the Norwegian Sea were put on offer for the first time in the 15th offshore licensing round. Seven of the 18 licences awarded in this 1995 round are located in deepwater parts of the Møre and Vøring areas.

Two large discoveries made in these licences during 1997 confirmed that the area has great potential. One of these was Ormen Lange, the second-largest gas discovery on the NCS, with 400 million scm of gas. New production licences were awarded in these waters in the 16th round.

## Barents Sea

A total of 39 production licences have been awarded in the Barents Sea since 1980. A number of these have yielded a series of minor and medium-sized gas discoveries.

Plans for development and operation (PDO) and installation and operation (PIO) for the Snøhvit LNG project were submitted to the authorities in September 2001 and approved by the Storting the following March.

These are based on subsea installations tied back by a multiphase gas and condensate pipeline to a receiving terminal at Melkøya outside Hammerfest in northern Norway. The gas will be processed there, liquefied and exported in liquefied natural gas carriers.

The Goliat oil discovery was made in 2000. Several different development options have been assessed, and the licensees are continuing their efforts to secure the technical-financial basis for a decision on continuing the project.