Norway's offshore sector faces a reorganization

THE TRENDS DEFINING what has to be done to ensure a healthy future for Norway's offshore oil and gas industry are similar to those affecting other regions in the North Sea, indeed throughout the world.

But Norway has an additional challenge: How to realize the full value and potential of the assets held by state company **Statoil AS** and contained in the State Direct Financial Interest (SDFI).

A need for capital to compete in the global market and complete projects in Norwegian waters is behind a push to privatize Statoil and transfer SDFI assets to the newly-private company. SDFI owns 40% of Norway's offshore oil resources and is managed by Statoil.

A proposal on the future of its holdings in Statoil and the SDFI is expected to be made by the government during the fall parliamentary session. There is considerable opposition to privatization and it may be some time before the issue is resolved.

In the meantime, several large development projects are underway and drilling activity on the Norwegian Continental Shelf (NCS) is forecast to increase from its recent low early this year. In May, 19 rigs were operating offshore Norway, up from 13 a year earlier.

Costs are a challenge everywhere, but they are especially daunting on the NCS.

From 1990 to 1998, according to the Annual Report of the **Norwegian Petroleum Directorate**, the cost of drilling production wells rose from 18% to 29% of total project investment, excluding transportation systems.

An increasing activity level, partly related to improved oil recovery, meant that increasing numbers of more complex wells were drilled.

Because more developments involve subsea technology and floating production installations, the proportion of subsea wells climbed from 7% to 43% of the total number of development wells drilled during the period 1992 to 1998.

Subsea wells are more expensive to drill and maintain than those drilled from platforms.

The number of subsea installations is likely to continue to increase.

Investment in Norwegian offshore oil projects hit a record in 1998 at about $10 billion, according to the **US Energy Information Agency**. After falling about 10% last year, 2000 spending on oil projects is expected to increase by as much as 12%. The increase is due to a large number of fields under development, according to the EIA.

Last year, exploration licenses in 19 blocks were awarded to 14 different companies.

There will also be spending soon that will not contribute to reserves or boost production. In the Ekofisk complex, for example, **Phillips Petroleum Co** will remove 14 of its 29 platforms between 2003 and 2018. About 10% of the $1 billion removal cost will be paid by Phillips, 72% by the Norwegian government, and the rest by other members of the consortium.

Late last year, Phillips submitted its removal proposal to the government; a final decision is expected in second half 2001. The plan is to bring the steel structures ashore for recycling, leave a concrete tank and barrier wall in place, and bury about 150 miles of pipelines.

OIL PRODUCTION OUTLOOK

Oil production on the Norwegian shelf in 1998 was 2.9 million b/d, 4% less than in 1997 and 5% less than was forecast. The reduction, according to NPD, is a consequence of production regulations, postponements and delays of new projects.

NPD estimates oil production for 1999, a year that also saw production regulation, at 3.0 million bpd.

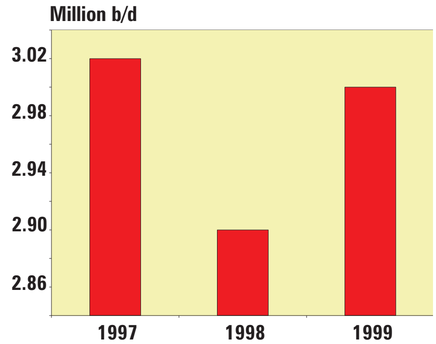
NPD expects oil production to peak at 3.6 million bpd in 2001. Then the Directorate says production of oil and condensate is not expected to drop below the production level of 1998 before 2007.

In the next 10 years, three quarters of NCS output will come from fields that are already in production or have been approved for development.

Less than 10% of the production up to 2008 is expected to come from discoveries that have not yet been approved for development.

"The level of oil production in the coming years is very uncertain," says the NPD report. "The greatest uncertainty in the short term is linked with the production on fields that are in operation. Many fields are in the decline phase, including the largest ones, Oseberg, Statfjord and Gullfaks.

Figure 1: NCS oil output



"Investments in well activities are essential if production targets are to be attained on the larger fields that are in the decline phase."

KEY DEVELOPMENT PROJECTS

Norway's natural gas reserves are pegged at 41 tcf, about 60% of total petroleum reserves. Troll field contains more than half the natural gas reserves.

Gas will increase its share of Norway's energy export total. Statoil expects Norway's share of gas deliveries to continental Europe to rise from 14% in 1996 to 20% by 2005.

Consequently, it's not surprising that gas development is the focus of large projects under development on the NCS.

Plans for Åsgard field call for more than 50 subsea wells grouped in 17 seabed templates. The project will involve development of the field itself, construction of a trunkline to the Kårstø gas treatment plant, the Kårstø development project, and the Europipe II trunkline to Europe.

Gas was introduced on 20 May into Statoil's Åsgard 730-km transport trunkline at the Kårstø treatment plant north of Stavanger. The gas was due to reach

Åsgard around 13 June, when the line will contain 115 million cubic metres of gas.

Filling the system in this way will allow the Åsgard B gas platform to commission and tests its own facilities. It is due to start returning gas to Kårstø on 1 August. Gas will be used to dewater flowlines between Åsgard B and the Midgard, then be used to start up the process plant on the platform.

Oil began flowing from the Åsgard development in the Norwegian Sea on 19 May 1999; oil reserves are estimated at 400 million bbl.

A plan for development and operation of Statoil's Kvitebjørn field in the North Sea is ready to be submitted to the Norwegian authorities. It has recoverable reserves estimated at 55 billion cubic metres of gas and 132 million bbl of condensate.

Statoil and its partners want to develop the field with a jacket-supported production platform which could be installed during the spring of 2003. Drilling would begin immediately, allowing Kvitebjørn to start production from four wells in October 2004.

STATOIL'S STRATEGIC FOCUS

Whatever the outcome of reorganization, the economic and operating issues facing NCS operators and drillers must be addressed. After successfully postponing the onset of production decline, Norway's offshore production appears to be approaching its peak.

"The job we face is naturally to postpone the expected decline in output, and then to ensure that the curve descends as slowly as possible," said Statoil's Chief Executive **Olav Fjell** at the NPF's 20th annual Petroleum Policy Seminar in January.

Mr Fjell summed up the challenges facing Norway's petroleum sector, saying there is a need to:

- Make more discoveries, preferably oil for the most part;
- Reduce costs;
- Improve the profitability of projects;
- Become more decisive.

Statoil will focus its efforts on four core areas on the Norwegian Continental Shelf, said Mr Fjell: Sleipner, Troll, Tampen, and Halten. These areas now produce about 2.5 billion boe/d.

"Great opportunities for value creation are available in these regions, based on existing reserves in each area and on resources in new parts of the Norwegian and North Seas," said Mr Fjell. "An overall view with an ability to manage the whole area will be needed to realize the maximum value. We need operators with bigger license interests."

Mr Fjell was referring to the fact that Norwegian offshore operators typically have relatively small interests (15-20%) in each license, an approach that was "serviceable" during Norway's offshore buildup.

"Today's challenges are different," said Mr Fjell. "Establishing overall solutions is very demanding, quite simply because the interests of players can diverge fairly sharply."

To improve the competitiveness of Norway's offshore sector and create value, more effort should be focused on establishing core areas and unitized interests.

TAMPEN IS AN EXAMPLE

This approach should be taken in areas such as Tampen, said Mr Fjell. Production there is expected to peak at 1.2 million boe/d in 2003 and decline to 600,000 boe/d in 2010. The larger fields in the area are onstream now.

But remaining reserves in the area are put at 5.2 billion boe. "After 20 years of oil and gas production, in other words, a substantial value creation potential remains. The challenge is to realize that potential in the face of higher costs and declining production."

At the beginning of 1999, Statoil began a study of the area that identified opportunities through such approaches as coordinating operation, optimal utilization and abandonment of installations, extending plateau production through reduced operating costs and developing Tampen as a Norwegian Sea gas hub to serve UK and European customers.

Mr Fjell cites Tampen as an example of where value could be created by commercializing the SDFI interests and restructuring licenses to improve efficiency.

"We would then be able to give companies the appropriate incentives to adopt the role of 'area entrepreneurs' and to participate in area-wide coalitions."

Statoil participated in 20 wells on the NCS last year where 5 discoveries were made. Two of these—Idun gas field in the Norwegian Sea and Beta West oil structure near Yme in the North Sea—are operated by Statoil.

Statoil is also working up the Halten Bank South area where it took over as operator from **Saga** early this year.

And the Ormen Lange field with an estimated 10 tcf of natural gas has now been licensed. It could, according to IEA, turn out to be the largest Norwegian gas field behind Troll. **Shell** is the operator.

Statoil has also awarded a drilling contract worth up to NOK 560 million to **Transocean Sedco Forex** for the Heidrun North development in the Norwegian Sea.

Seven definite wells will be drilled and completed; the contract also contains options for two further wells plus a sidetrack to be drilled from an existing well. Seven drilling contractors from the Norwegian and UK sectors submitted tenders.

Work on Heidrun North is due to begin on 15 August, and plans call for the seven definite wells to be completed in 450 days. A replacement rig will be used until Transocean Prospect becomes available from a job on the Norne field, which runs to the end of October. ■