Fields and projects under development

(Approved developments regarded as an upgrade to existing fields are covered in chapter 12, even if the project has required separate approval of a plan for development and operation.)

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**Fram**

<table>
<thead>
<tr>
<th>Block and production licence</th>
<th>Block 35/11 - production licence 090. Awarded 1984.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Progress</td>
<td>Government approval: March 2001</td>
</tr>
<tr>
<td></td>
<td>Planned production start-up: October 2003</td>
</tr>
<tr>
<td>Operator</td>
<td>Norsk Hydro Produksjon a.s</td>
</tr>
<tr>
<td>Licensees</td>
<td>Norsk Hydro Produksjon a.s 25%</td>
</tr>
<tr>
<td></td>
<td>Mobil Development Norway AS 25%</td>
</tr>
<tr>
<td></td>
<td>Statoil ASA 20%</td>
</tr>
<tr>
<td></td>
<td>Gaz de France Norge AS 15%</td>
</tr>
<tr>
<td></td>
<td>Idemitsu Petroleum Norge AS 15%</td>
</tr>
<tr>
<td>Resources</td>
<td>Oil: 16.1 mill scm</td>
</tr>
<tr>
<td></td>
<td>Gas: 3.7 bn scm</td>
</tr>
<tr>
<td></td>
<td>NGL: 0.1 mill tonnes</td>
</tr>
<tr>
<td>Investment</td>
<td>Total investment is likely to be NOK 7.4 bn (2003 value)</td>
</tr>
</tbody>
</table>

Fram lies in the northern North Sea, about 22 km north of Troll C. This development embraces a reservoir in the Fram/Gjøa area and involves two subsea templates tied back to Troll C, where the wellstream will be processed and oil sent to Mongstad through Troll Oil Pipeline II. Associated gas will initially be injected back into the reservoir, and later exported via Troll A to Kollsnes. In the production phase, Fram operations will be integrated with Troll C, which is also operated by Norsk Hydro.

**Grane**

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Progress</td>
<td>Government approval: June 2000</td>
</tr>
<tr>
<td></td>
<td>Planned production start-up: 4th quarter 2003</td>
</tr>
<tr>
<td>Operator</td>
<td>Norsk Hydro Produksjon a.s</td>
</tr>
<tr>
<td>Licensees</td>
<td>Norsk Hydro Produksjon a.s 38.0%</td>
</tr>
<tr>
<td></td>
<td>Petoro AS 30.0%</td>
</tr>
<tr>
<td></td>
<td>Esso Expl &amp; Prod Norway AS 25.6%</td>
</tr>
<tr>
<td></td>
<td>Norske Conoco A/S 6.4%</td>
</tr>
<tr>
<td>Recoverable reserves</td>
<td>Oil: 120 mill scm</td>
</tr>
<tr>
<td>Investment</td>
<td>Total investment is likely to be NOK 14.4 bn (2003 value)</td>
</tr>
</tbody>
</table>

1 Petoro AS serves as the licensee for the SDFI.


Oil in the field is heavy and complicated to recover. Development is based on an integrated production, drilling and quarters platform, with oil due to be transported by the Grane Oil Pipeline to the Sture terminal for storage, metering and export.

Natural gas will be used as the drive mechanism for oil production. Since the field contains very little associated gas, injection volumes must be acquired elsewhere and a pipeline will accordingly be laid from Grane to Heimdal.
**Kristin (Halten Bank West)**

**Blocks and production licences**
- Blocks 6406/1 and 6406/5 - production licence 257. Awarded 2000.

**Progress**
- Government approval: December 2001
- Planned production start-up: October 2005

**Operator**
- Statoil ASA

**Licensees**
- Statoil ASA 46.6%
- Petoro AS\(^1\) 18.9%
- Norsk Hydro Produksjon a.s 12.0%
- Mobil Development Norway A/S 10.5%
- Norsk Agip AS 9.0%
- TotalFinaElf Exploration Norge AS 3.0%

**Resources (Kristin)**
- Gas: 34.9 bn scm
- NGL: 8.5 mill tonnes
- Condensate: 34.6 mill scm

**Investment (Kristin)**
- Total investment is likely to be NOK 17.1 bn (2003 value)

\(^1\) Petoro AS serves as the licensee for the SDFI.

Halten Bank West embraces the production licences which contain Kristin and the Lavrans, Erlend, Morvin and Ragnfrid discoveries. Found in 1997, Kristin lies about 20 km south-west of Åsgard’s Smørbukk deposit. The plan for development and operation was approved in December 2001.

Development of this field is based on a subsea production facility tied back to a semi-submersible production platform. Plans call for the rich gas to be piped through the Åsgard Transport trunkline to Kårstø for separation of the NGLs, while condensate will be piped to Åsgard C for storage and export by shuttle tanker.

**Kvittebjørn**

**Block and production licence**

**Progress**
- Government approval: June 2000
- Planned production start-up: October 2004

**Operator**
- Statoil ASA

**Licensees**
- Statoil ASA 50%
- Petoro AS\(^1\) 30%
- Norsk Hydro Produksjon a.s 15%
- TotalFinaElf Exploration Norge AS 5%

**Recoverable reserves**
- Gas: 51.8 bn scm
- NGL: 0.5 mill tonnes
- Condensate: 20.4 mill scm

**Investment**
- Total investment in field and pipelines is likely to be NOK 9.5 bn (2003 value)

\(^1\) Petoro AS serves as the licensee for the SDFI.

Kvittebjørn was proven in 1994 and lies south-east of Gullfaks. It is being developed with a fixed production platform carrying drilling package, processing facilities and quarters module. The topside is being fabricated at ABB in Haugesund, the quarters module by Leirvik Sveis, the drilling package by Heerema Tønsberg and the jacket by Aker Verdal. The platform is due to be assembled offshore in the spring of 2003.

All production wells will be drilled from the platform. Four of 11 gas producers are due to be ready to begin production in October 2004. The facilities are dimensioned for a daily output of 20.7 mill scm of rich gas and 10 000 scm of condensate. Rich gas will be piped through a new line to Kollsnes for further processing and export. Stabilised condensate will be transported to the crude oil terminal at Mongstad in the new Kvittebjørn Oil Pipeline and a tie-in to Troll Oil Pipeline II.
Mikkel

Blocks and production licences  
Block 6407/ 6 - production licence 092. Awarded 1984.  
Block 6407/ 5 - production licence 121. Awarded 1986.

Progress  
Government approval: September 2001  
Planned production start-up: October 2003

Operator  
Statoil ASA

Licensees  
Statoil ASA  41.62%  
Mobil Development Norway A/S  33.48%  
Norsk Hydro Produksjon a.s  10.00%  
Norsk Agip AS  7.90%  
Fortum Petroleum AS  7.00%

Resources  
Gas: 19.8 bn scm NGL: 4.2 mill tonnes Condensate: 5.5 mill scm

Investment  
Total investment is likely to be NOK 2.5 bn (2003 value)

Proven in 1987, Mikkel lies in 220 metres of water on Halten Bank East, about 40 km south of Åsgard’s Midgard deposit and 40 km north of Draugen. The plan for development and operation was approved in September 2001.

The field is being developed with two subsea templates housing a total of four production wells tied back via Midgard to Åsgard B. Condensate will be separated on the platform, with the rich gas being piped through Åsgard Transport to Kårstø for separation of the NGLs. After being stabilised, condensate will be stored and shipped away together with Åsgard’s own production.

Skirne (incl Byggve)

Block and production licence  

Progress  
Government approval: 5 July 2002  
Planned production start-up: March 2004

Operator  
TotalFinaElf Exploration Norge AS

Licensees  
TotalFinaElf Exploration Norge AS  40%  
Petoro AS¹  30%  
Marathon Petroleum Norge AS  20%  
Norsk Hydro Produksjon a.s  10%

Resources  
Oil: 1.7 mill scm  
Gas: 6.7 bn scm

Investment  
Total investment is likely to be NOK 2.1 bn (2003 value)

¹ Petoro AS serves as the licensee for the SDFI.

Skirne, proven in 1990, and Byggve, discovered the following year, lie about 20 km east of Heimdal. Their development comprises a wellhead platform on each discovery and a joint 24-km pipeline to Heimdal.
Snøhvit (incl Albatross and Askeladd)

**Blocks and production licences**
- Blocks 7120/5 and 7121/5 - production licence 110. Awarded 1985.
- Block 7120/6 - production licence 097. Awarded 1984.
- Block 7120/7 - production licence 077. Awarded 1982.
- Block 7121/7 - production licence 100. Awarded 1984.

**Progress**
- Planned production start-up: 2006

**Operator**
- Statoil ASA

**Licensees**
- Petoro AS\(^1\) 30.00%
- Statoil ASA 22.29%
- TotalFinaElf Exploration Norge AS 18.40%
- Gaz de France Norge AS 12.00%
- Norsk Hydro Produksjon a.s 10.00%
- Amerada Hess Norge AS 3.26%
- RWE Dea Norge AS 2.81%
- Svenska Petroleum Exploration AS 1.24%

**Recoverable reserves**
- Gas: 151.0 bn scm NGL: 5.1 mill tonnes Condensate: 17.9 mill scm

**Investment**
- Total investment, excl the gas liquefaction plant, is likely to be NOK 24.4 bn (2003 value)

\(^1\) Petoro AS serves as the licensee for the SDFI.

Discovered in 1984, Snøhvit lies about 140 km north-west of Hammerfest and comprises the Askeladd and Albatross finds as well as the main discovery.

The operator's development solution is based on subsea installations tied back to Melkøya outside Hammerfest by a pipeline for gas and condensate. The gas will be processed on land and transported to market in liquefied natural gas (LNG) carriers. Investment in the gas liquefaction plant is expected to total NOK 17 bn (2003 value). Gas production is due to start in 2006.