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Fields and projects under development

Tune

Huldra

Gullfaks South phase II

Snorre B

Grane

Ringhorne

Kvitebjørn

Tambar

Glitne

Valhall water injection

Tune

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| Blocks and production licences | Block 30/5 – production licence 034. Awarded 1969. Block 30/6 – production licence 053. Awarded 1979. Block 30/8 – production licence 190. Awarded 1993. | |
| Progress | Government approval: December 1999 Planned production start-up: 1 October 2002 | |
| Operator | Norsk Hydro Produksjon a.s | |
| Licensees | Den norske stats oljeselskap a.s (SDFI 50%) | 50% |
| | Norsk Hydro Produksjon a.s | 30% |
| | TotalFinaElf Exploration Norge AS | 10% |
| | Total Norge AS | 10% |
| Recoverable reserves | Gas: 24 bn scm NGL: 0.1 mill tonnes Condensate: 6.1 mill scm | |
| Investment | Total investment is likely to be NOK 2.7 bn (2001 value) | |

Tune extends across three licences, with the bulk of the reserves concentrated in production licence 190. The field is being developed as a satellite to the Oseberg D platform. Production is scheduled to start in the summer of 2002, with and regular gas deliveries commencing on 1 October of that year. Agreements give the licensees in production licence 190 ownership of all petroleum produced from that part of the Tune reservoir which extends into production licence 053.

Huldra

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| Blocks and production licences | Block 30/2 – production licence 051. Awarded 1979. Block 30/3 – production licence 052. Awarded 1979. | |
| Progress | Government approval: February 1999 Production start-up: October 2001 | |
| Operator | Den norske stats oljeselskap a.s | |
| Licensees | Den norske stats oljeselskap a.s (SDFI 31.96%) | 51.62% |
| (rounded off to two decimal places) | Total Norge AS | 24.33% |
| | Norske Conoco A/S | 23.34% |
| | Paladin Resources Norge AS | 0.50% |
| | Svenska Petroleum Exploration A/S | 0.21% |
| Recoverable reserves | Gas: 19.1 bn scm NGL: 0.3 mill tonnes Condensate: 7.4 mill scm | |

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| Production | Planned plateau rate is 3.2 bn scm gas and 1.7 mill scm condensate Forecast production in 2001: Gas: 0.807 bn scm NGL: 0.014 mill tonnes Condensate: 0.434 mill scm |
| Investment | Total investment is likely to be NOK 5.5 bn (2001 value) |

Huldra was discovered in 1982. A plan for development and operation, submitted to the authorities in December 1997, calls for an unstaffed jack-up wellhead platform in 125 metres of water, tied back to processing facilities for condensate and gas. Huldra has been allocated a gas supply contract, with commercial deliveries due to start on 1 October 2001.

Gullfaks South phase II

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| Blocks and production licences | Block 34/10 – production licence 050/. Awarded 1978. Block 33/12 – production licence 037B. Awarded 1998. Block 34/10 – production licence 050B. Awarded 1995. |
| Progress | Government approval: June 1998 Production start-up: 2nd half of 2001 |
| Operator | Den norske stats oljeselskap a.s |
| Licensees | Den norske stats oljeselskap a.s (SDFI 73%) 91% Norsk Hydro Produksjon a.s 9% |
| Recoverable reserves | See chapter 14, page 98 (Gullfaks South) |
| Production | Planned plateau rate is 34 000 b/d oil, 4.8 bn scm gas and 0.5 mill tonnes NGL |
| Investment | Total investment is likely to be NOK 7.3 bn (2001 value) |

The Gullfaks South phase II project embraces production and export of gas resources and associated liquids in the Gullfaks South field. This development involves subsea installations tied back to Gullfaks A and C. The gas will be processed to rich gas before being transported to Kårstø via a new line from Gullfaks which ties into Statpipe. Oil and condensate will be stabilised, stored and loaded from existing facilities on the platforms. The water depth in the area varies from 135 to 216 metres.

Snorre B

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| Blocks and production licences | Block 34/4 – production licence 057. Awarded 1979. Block 34/7 – production licence 089. Awarded 1984. | |
| Progress | Government approval: June 1998 Planned production start-up: August 2001 | |
| Operator | Norsk Hydro Produksjon a.s | |
| Licensees (rounded off to two decimal places) | Den norske stats oljeselskap a.s (SDFI 31.40%) | 44.40% |
| | Norsk Hydro Produksjon a.s | 17.65% |
| | Esso Expl & Prod Norway A/S | 11.16% |
| | Idemitsu Petroleum Norge AS | 9.60% |
| | RWE-DEA Norge AS | 8.88% |
| | TotalFinaElf Exploration Norge AS | 5.95% |
| | Amerada Hess Norge AS | 1.18% |
| | Enterprise Oil Norwegian A/S | 1.18% |
| Recoverable reserves | See chapter 14, page 101 (Snorre) | |
| Production | Planned plateau rate is 108 000 b/d oil | |
| Investment | Total investment is likely to be NOK 14.7 bn (2001 value) | |
| Operating organisation | Stavanger | |
| Main supply base | Florø | |

Snorre B covers development of the Snorre field's northern flank, and is based on a semi-submersible production and drilling platform. Oil will be piped to Statfjord B for storage and export, with the gas being injected into the reservoir or piped via the Snorre TLP to the Statpipe system. A plan for development and operation of Snorre B was submitted in December 1997.

Grane

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| Blocks and production licences | Block 25/11 – production licence 001. Awarded 1965. Block 25/11 – production licence 169 B1. Awarded 2000. Block 25/11 – production licence 169 B2. Awarded 2000. | |
| Progress | Government approval: June 2000 Planned production start-up: 4th quarter 2003 | |
| Operator | Norsk Hydro Produksjon a.s | |

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| Licensees | Den norske stats oljeselskap a.s (SDFI 43.6%) | 43.6% |
| | Esso Expl & Prod Norway A/S | 25.6% |
| | Norsk Hydro Produksjon a.s | 24.4% |
| | Norske Conoco A/S | 6.4% |
| Recoverable reserves | Oil: 120 mill scm | |
| Investment | Total investment is likely to be NOK 14.2 bn (2001 value) | |

Proven in 1991, Grane lies east of Balder in the North Sea. Plans call for Grane to start producing in the autumn of 2003 and reach a plateau oil output of just over 200 000 b/d in 2005-2009.

Oil in the field is heavy and complicated to recover. Production testing/early production have been pursued by the licensees to gain experience with the reservoir.

Development is based on an integrated production, drilling and quarters platform, with oil due to be transported by the Grane Oil Pipeline to Sture 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. The water depth on Grane is 127 metres.

Ringhorne

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|---------------------------------------|---|------|
| Blocks and production licences | Block 25/11 – production licence 001. Awarded 1965. | |
| | Block 25/8 – production licence 027. Awarded 1969. | |
| | Block 25/8 – production licence 027C. Awarded 2000. | |
| | Blocks 25/8 and 25/11 – production licence 169. Awarded 1991. | |
| Progress | Government approval: June 2000 Planned production start-up: 2nd quarter 2001 | |
| Operator | Esso Expl & Prod Norway A/S | |
| Licensees | Esso Expl & Prod Norway A/S | 100% |
| Recoverable reserves | Oil: 39.2 mill scm Gas: 2.1 bn scm | |
| Production | Oil will be produced together with output from Balder Forecast production in 2001: Oil: 11 000 b/d | |
| Investment | Total investment is likely to be NOK 10 bn (2001 value) | |

Ringhorne will be developed with an integrated production, drilling and quarters platform carrying first-stage separation, tied back to the Balder production ship. In addition come

five subsea wells tied back to the Balder ship. Production is due to start from the subsea wells in the second quarter of 2001, with the wellhead platform coming on stream in the fourth quarter of 2002. Oil will be shipped by shuttle tanker from Balder.

Kvitebjørn

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| Block and production licence | Block 34/11 – production licence 193. Awarded 1993. | |
| Progress | Government approval: June 2000 Planned production start-up: October 2004 | |
| Operator | Den norske stats oljeselskap a.s | |
| Licensees | Den norske stats oljeselskap a.s (SDFI 40%) | 80% |
| | Norsk Hydro Produksjon a.s | 15% |
| | TotalFinaElf Exploration Norge AS | 5% |
| Recoverable reserves | Gas: 56.5 bn scm NGL: 0.5 mill tonnes Condensate: 19.3 mill scm | |
| Investment: | Total investment in field and pipelines is likely to be NOK 8.7 bn (2001 value) | |

Kvitebjørn was proven in 1994 and lies south of Gullfaks. Plans call for the field to be developed with a fixed production platform carrying an integrated drilling package, where gas and condensate will be separated for transport in separate pipelines to receiving facilities for further processing. Rich gas is due to be piped through a new line to Kollsnes for additional treatment. Condensate will be sent to Statoil's Mongstad terminal through a new pipeline tied into Troll Oil Pipeline II.

Tambar

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| Blocks and production licences | Block 1/3 – production licence 065. Awarded 1981. Block 2/1 – production licence 019B. Awarded 1977. | |
| Progress | Government approval: April 2000 Planned production start-up: June 2001 | |
| Operator | BP Amoco Norge AS | |

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| Licensees | BP Amoco Norge AS | 55% |
| | Den norske stats oljeselskap a.s (SDFI 30%) | 30% |
| | A/S Norske Shell | 15% |
| Recoverable reserves | Oil: 6.5 mill scm Gas: 1.8 bn scm NGL: 0.3 mill tonnes | |
| Production | Planned plateau production is 27 000 barrels/day oil | |
| | Forecast production in 2001: Oil: 13 000 b/d NGL: 0.034 mill tonnes | |
| Investment | Total investment will likely to be NOK 1 bn (2001 value) | |

Tambar lies about 16 km south-east of Ula and roughly 12 km north-west of Gyda. Production from the field will be remotely operated from Ula, with two wells planned. One of these is an exploration well drilled in 1998, while the other will be drilled from a jack-up rig. Production from the field will be exported to Ula for processing and onward transport by pipeline via Ekofisk to Teesside in the UK. Gas from Tambar will be injected in Ula to improve recovery from this field. Production is due to start in June 2001.

Glitne

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| Blocks and production licences | Block 15/5 – production licence 048B. Awarded 1977. | |
| | Block 15/6 – production licence 029. Awarded 1969. | |
| Progress | Government approval: September 2000. Planned production start-up: July 2001 | |
| Operator | Den norske stats oljeselskap a.s | |
| Licensees | Den norske stats oljeselskap a.s (SDFI 30.0%) | 68.9% |
| | TotalFinaElf Exploration Norge AS | 21.8% |
| | Norsk Hydro Produksjon a.s | 9.3% |
| Recoverable reserves | Oil: 4 mill scm | |
| Production | Forecast production in 2001: Oil: 19 000 b/d | |
| Investment | Total investment is likely to be NOK 0.7 bn (2001 value) | |

Glitne lies 40 km north-west of Sleipner. Its development solution is based on leasing the *Petrojarl 1* production ship, with the field due on stream in July 2001.

Valhall water injection

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| Blocks and production licences | Block 2/8 – production licence 006B. Awarded 2000. Block 2/11 – production licence 033. Awarded 1969. | |
| Progress | Government approval: September 2000. Production start-up: January 2003. | |
| Operator | BP Amoco Norge AS | |
| Licensees (rounded off to two decimal places) | BP Amoco Norge AS | 28.09% |
| | Amerada Hess Norge AS | 28.09% |
| | Enterprise Oil Norwegian A/S | 28.09% |
| | TotalFinaElf Exploration Norge AS | 15.72% |
| Recoverable reserves | See chapter 14, page 76 (Valhall) Water injection is expected to improve the oil recovery factor from 31 to 38 per cent. This would yield roughly 29 mill scm in additional oil. | |
| Investment | Total investment is likely to be NOK 4.5 bn (2001 value). | |

The water injection project on Valhall involves constructing a platform connected to the existing wellhead installation. Fourteen wells for water injection and an additional production well are planned in addition to the seven extra producers already due to be drilled before the licensees decided to invest in water injection. The new injection platform will pump water into the reservoir to improve oil recovery, probably from 31 to 38 per cent.