



14

## Fields in production

### **Ekofisk area**

Ekofisk • Valhall • Hod • Gyda • Ula • Yme

### **Sleipner area**

Sleipner East • Sleipner West • Varg

### **Frigg area**

Heimdal • Frigg • Frøy • Balder • Jotun

### **Statfjord area**

Statfjord • Statfjord North • Statfjord East  
Murchison • Gullfaks • Gullfaks South • Rimfaks  
Gullveig • Vigdis • Visund • Snorre • Tordis

### **Oseberg and Troll area**

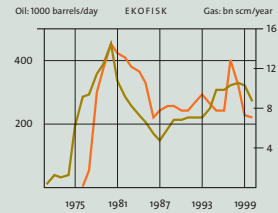
Oseberg • Oseberg East • Togi • Veslefrikk  
Brage • Troll phase II • Troll phase I

### **The Norwegian Sea**

Njord • Draugen • Heidrun • Norne • Åsgard

## Ekofisk

<b>Blocks and production licences</b>	Block 2/5 – production licence 006. Block 1/6 – production licence 011 and 018B. Blocks 1/5, 2/4, 2/7 and 7/11 – production licence 018. All blocks awarded in 1965.	
<b>Operator</b>	Phillips Petroleum Norsk AS	
<b>Licensees</b> (Production licence 018, rounded to two decimal places)	Phillips Petroleum Norsk AS	35.11%
	Fina Exploration Licenses AS	28.50%
	Norsk Agip AS	12.39%
	Elf Petroleum Norge AS	8.03%
	Norsk Hydro Produksjon a.s	6.37%
	Den norske stats oljeselskap a.s (SDFI 5%)	5.95%
	Total Norge AS	3.37%
	Saga Petroleum ASA	0.29%
	Den norske stats oljeselskap a.s saw its interest rise to 5.95% at 1 January 1999 through the inclusion of a direct financial interest of 5% for the state. Interests held by the other licensees were reduced proportionally. The Cod, Edda, Eldfisk, Embla, Ekofisk and West Ekofisk fields fall within this licence. So do parts of Tor and Albuskjell.	
<b>Licensees</b> (Production licence 018B)	Same as production licence 018. Albuskjell is divided 50/50 between production licences 018 (block 2/4) and 018B (block 1/6). Awarded in 1995.	
<b>Licensees</b> (Production licence 006, rounded to two decimal places)	BP Amoco Norge AS	28.33%
	Amerada Hess Norge AS	28.33%
	Enterprise Oil Norwegian A/S	28.33%
	Elf Petroleum Norge AS	15.00%
	Tor is divided between Elf/Amerada Hess and the Phillips group, which have 13.363% (block 2/5) and 86.637% (block 2/4) respectively.	
<b>Recoverable reserves</b> (incl Eldfisk, Embla and Tor)	Originally present:	Remaining at 31.12.99:
	567.9 mill scm oil	213.3 mill scm oil
	211.7 bn scm gas	55.7 bn scm gas
	19.4 mill tonnes NGLs	5.2 mill tonnes NGLs
<b>Production</b>	Estimated production in 2000: Oil: 326 000 barrels/day Gas: 5.277 bn scm NGLs: 0.6 mill tonnes	
<b>Transport</b>	Oil is piped through the Norpipe system to Teesside in the UK, while gas is piped to Emden in Germany.	
<b>Investment</b>	Total investment is likely to be NOK 160.8 bn (2000 value). About NOK 152.7 bn (2000 value) had been invested at 31.12.99.	
<b>Operating organisation</b>	Stavanger	
<b>Main supply base</b>	Phillipsbasen, Tananger	



Eight fields are on stream in the Ekofisk area: Albuskjell, Cod, Edda, Ekofisk, Eldfisk, Embla, Tor and West Ekofisk. This area has been developed in five phases. Ekofisk and its central processing facilities were developed in two stages, with production starting in 1971. Cod and West Ekofisk represented phase three. Oil was initially loaded into tankers on the fields, but has been piped since 1975 to Teesside in the UK. Pipeline transport of gas to Emden in Germany began in 1977.

Approved by the authorities in 1975, the fourth development phase covered Albuskjell, Eldfisk and Edda. The last of these came on stream in 1979. The fifth phase was prompted by a desire to improve recovery from Ekofisk, and the 2/4-K water injection platform began operation in December 1987. Expanded several times, water injection capacity on the field currently exceeds 800 000 b/d.

The Edda platform was modified in 1988 to receive gas from the Tommeliten field. A decision to develop the Embla field south-west of Ekofisk was taken in 1990, with production starting in 1993. Water depths in the area are 70-75 metres.

A new plan for development and operation of the Ekofisk field (Ekofisk II) was approved in 1994, when the Phillips group also had its licence extended to 2028. A new Ekofisk Centre comprising two platforms has been installed on the field. The wellhead platform was put in place during the autumn of 1996, followed by a processing and transport facility in August 1997. Ekofisk II came on stream in August 1998, and is expected to produce for the next 30 years.

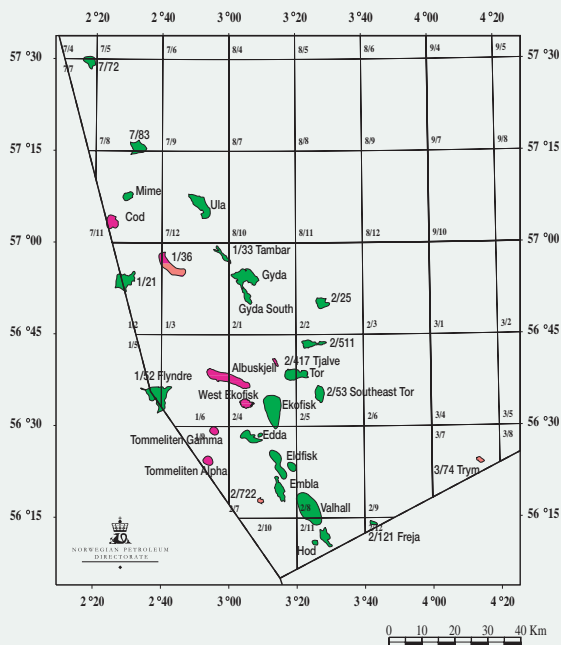
The Ekofisk, Eldfisk, Embla and Tor fields are tied back to the new field centre, and will thereby remain on stream. Plans call for Cod, Edda, Albuskjell and West Ekofisk to be shut in. Plugging of wells on Cod has begun, but opportunities for further utilisation of the reserves in Edda, Albuskjell and West Ekofisk will be assessed.

A total of 29 platforms are now installed in the Ekofisk area. In connection with the development of the new field centre, 14 of these installations in the Norwegian sector and two on the UK continental shelf will eventually be shut in. Decommissioning plans for these platforms are currently being prepared, and plans call for them to be submitted to the authorities in the autumn of 1999.

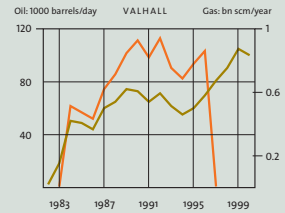
The plan for development and operation of Eldfisk water injection was approved in 1997 and this project is now under construction. It involves a new platform with equipment for water injection, gas lift and gas injection on the field, tied back to one of the existing installations by a bridge. This facility is due to be ready in 2000.

Declining pressure in Ekofisk has caused seabed subsidence, and the operator initiated efforts in 1985 to safeguard the platforms against this effect. All the steel platforms in the Ekofisk Centre were jacked up by six metres in 1987, and a protective concrete wall was installed around the Ekofisk tank in 1989. However, the seabed has continued to subside – so far by about seven metres.

The new platforms, which came on stream in 1988, have been designed to cope with up to 20 metres of seabed subsidence.



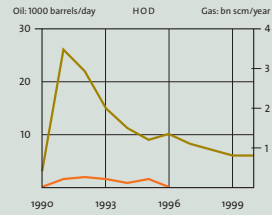
The Ekofisk area (Source: Norwegian Petroleum Directorate)



## Valhall

<b>Blocks and production licences</b>	Block 2/8 – production licence 006.Awarded 1965. Block 2/11 – production licence 033.Awarded 1969.	
<b>Progress</b>	Government approval: July 1977 Production start-up: October 1982	
<b>Operator</b>	BP Amoco Norge AS	
<b>Licensees</b> <small>(rounded to two decimal places)</small>	BP Amoco Norge AS	28.09%
	Amerada Hess Norge AS	28.09%
	Enterprise Oil Norwegian A/S	28.09%
	Elf Petroleum Norge AS	15.72%
<b>Recoverable reserves</b>	Originally present: 132.3 mill scm oil 31.2 bn scm gas 4.5 mill tonnes NGLs	Remaining at 31.12.99: 70.5 mill scm oil 18.8 bn scm gas 2.3 mill tonnes NGLs
<b>Production</b>	Estimated production in 2000: Oil: 99 000 barrels/day NGLs: 0.15 mill tonnes	
<b>Investment</b>	Total investment is likely to be NOK 29.5 bn (2000 value) About NOK 23.4 bn (2000 value) had been invested at 31.12.99	
<b>Operating organisation</b>	Stavanger	
<b>Main supply base</b>	Phillipsbasen/Akerbasen, Tananger	

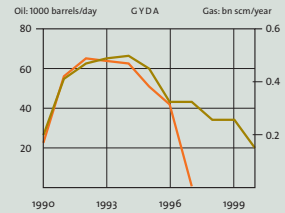
A landing permit was awarded in 1977 for the Valhall and Hod fields at the southern end of Norway's North Sea sector. Valhall has been developed in 70 metres of water with platforms for drilling, production/compression and quarters. An updated plan for development and operation was approved in 1995. A wellhead platform was installed in 1996. Up to 19 wells will come on stream. Plans have also been drawn up for additional wells from the original Valhall installations. Water injection to improve oil recovery is under consideration. Two 20-inch pipelines, for oil and gas respectively, link Valhall to the Ekofisk Centre. In connection with the Ekofisk II development, a new 24-km gas line from Valhall will tie directly into the Norpipe gas trunkline to Emden. Oil is due to continue being piped via Ekofisk to Teesside. The state has a 10 per cent net profit agreement for block 2/11.



## Hod

<b>Block and production licence</b>	Block 2/11 – production licence 033. Awarded 1969.	
<b>Progress</b>	Government approval: June 1988 Production start-up: August 1990	
<b>Operator</b>	BP Amoco Norge AS	
<b>Licensees</b>	Amerada Hess Norge AS	25%
	BP Amoco Norge AS	25%
	Enterprise Oil Norwegian A/S	25%
	Elf Petroleum Norge AS	25%
<b>Recoverable reserves</b>	Originally present:	Remaining at 31.12.99:
	8.2 mill scm oil	1.8 mill scm oil
	1.5 bn scm gas	0.3 bn scm gas
	0.2 mill tonnes NGLs	
<b>Production</b>	Estimated production in 2000: Oil: 6 000 barrels/day	
<b>Investment</b>	Total investment is likely to be NOK 1.7 bn (2000 value) About NOK 1.7 bn (2000 value) had been invested at 31.12.99	
<b>Operating organisation</b>	Stavanger	
<b>Main supply base</b>	Phillipsbasen/Akerbasen, Tananger	

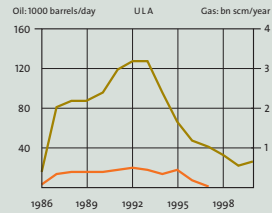
Hod has been developed with a single unstaffed wellhead platform in 72 metres of water, remotely controlled from the Valhall field 13 km further north. Oil and gas are separated and metered on the Hod platform, and piped as a two-phase flow for final processing on Valhall.



## Gyda

<b>Blocks and production licence</b>	Block 2/1 and 7/12 – production licence 019B. Awarded 1977.	
<b>Progress</b>	Government approval: June 1987 Production start-up: June 1990	
<b>Operator</b>	BP Amoco Norge AS	64.25%
<b>Licensees</b>	Den norske stats oljeselskap a.s (SDFI 30%)	30%
	BP Amoco Norge AS	56%
	Norske AEDC A/S	5%
	Norske Moeco A/S	5%
	AS Pelican	4%
<b>Recoverable reserves</b> (incl Gyda South)	Originally present: 36.3 mill scm oil 7.5 bn scm gas 2.2 mill tonnes NGLs	Remaining at 31.12.99: 2.7 mill scm oil  0.1 mill tonnes NGLs
<b>Production</b> (incl Gyda South)	Estimated production in 2000: Oil: 26 000 barrels/day NGLs: 0.14 mill tonnes	
<b>Investment</b>	Total investment is likely to be NOK 12.1 bn (2000 value). About NOK 11.3 bn (2000 value) had been invested at 31.12.99.	
<b>Operating organisation</b>	Stavanger	
<b>Main supply base</b>	Sola	

The Gyda field in the southern part of Norway's North Sea sector was discovered in 1980, and has been developed with an integrated steel platform in 66 metres of water. Oil is piped to a tie-in with the Ula pipeline and on via the Ekofisk Centre to Teesside, while gas goes through a dedicated pipeline to the Ekofisk Centre for use as fuel there by the Ekofisk group. Government approval to develop the small Gyda South satellite was given in June 1993. This field is being drained with one or two extended-reach wells drilled from the Gyda platform. Production started in 1995.

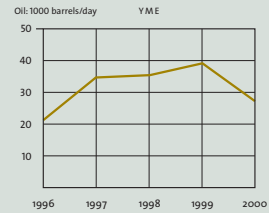


## Ula

<b>Block and production licence</b>	Block 7/12 – production licence 019A. Awarded 1965.	
<b>Progress</b>	Government approval: May 1980 Production start-up: October 1986	
<b>Operator</b>	BP Amoco Norge AS	
<b>Licensees</b>	BP Amoco Norge AS	80%
	Svenska Petroleum Exploration AS	15%
	AS Pelican	5%
<b>Recoverable reserves</b>	Originally present: 70 mill scm oil 3.7 bn scm gas 2.5 mill tonnes NGLs	Remaining at 31.12.99: 10.2 mill scm oil 0.2 mill tonnes NGLs
<b>Production</b>	Estimated production in 2000: Oil: 26 000 barrels/day NGLs: 0.03 mill tonnes	
<b>Investment</b>	Total investment is likely to be NOK 16 bn (2000 value). About NOK 15.6 bn (2000 value) had been invested at 31.12.99.	
<b>Operating organisation</b>	Stavanger	
<b>Main supply base</b>	Sola	

Discovered in 1976, Ula lies at the southern end of Norway's North Sea sector and has been developed with three conventional steel platforms – for processing, drilling and quarters respectively. The water depth is about 70 metres. Oil is carried by the Ula pipeline to Ekofisk and on to Teesside.

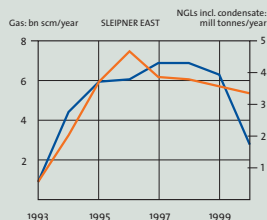




**Yme**

<b>Blocks and production licences</b>	Block 9/2 – production licence 114. Awarded 1985. Block 9/2 – production licence 114B. Awarded 1995. Blocks 9/1, 9/2 and 9/4 – production licence 114C. Awarded 1998.	
<b>Progress</b>	Government approval: January 1995 Production start-up: February 1996	
<b>Operator</b>	Den norske stats oljeselskap a.s	
<b>Licensees</b>	Den norske stats oljeselskap a.s (SDFI 30%)	65%
	Saga Petroleum ASA	25%
	RWE-DEA Norge AS	10%
<b>Recoverable reserves</b>	Originally present: 9.3 mill scm oil	Remaining at 31.12.99: 2.7 mill scm oil
<b>Production</b>	Estimated production in 2000: Oil: 27 000 barrels/day	
<b>Investment</b>	Total investment is likely to be NOK 2.4 bn (2000 value). About NOK 2.4 bn (2000 value) had been invested at 31.12.99.	
<b>Operating organisation</b>	Stavanger	
<b>Main supply base</b>	Dusavik	

Oil was first proven in 1987. Yme lies on the Egersund Bank, about 160 km north-east of Ekofisk. The field has been developed with a jack-up platform linked to a tanker for storage and export. The Yme Beta East satellite was approved for development in November 1995 with a subsea installation tied back to Yme. The water depth in the area is 80-90 metres.

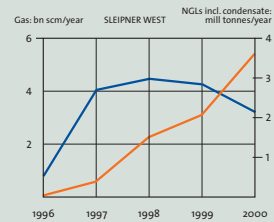


## Sleipner East

<b>Blocks and production licence</b>	Blocks 15/8 and 15/9 – production licence 046. Awarded 1976.	
<b>Progress</b>	Government approval: December 1986 Production start-up: August 1993	
<b>Operator</b>	Den norske stats oljeselskap a.s	
<b>Licensees</b>	Den norske stats oljeselskap a.s (SDFI 29.6%)	49.6%
	Esso Expl & Prod Norway A/S	30.4%
	Norsk Hydro Produksjon a.s	10.0%
	Elf Petroleum Norge AS	10.0%
<b>Recoverable reserves</b>	Originally present: 50.3 bn scm gas 11 mill tonnes NGLs 25.1 mill scm condensate	Remaining at 31.12.99: 26.4 bn scm gas 3.5 mill tonnes NGLs 6.5 mill scm condensate
<b>Production</b>	Estimated production in 2000: Gas: 3 183 bn scm NGLs: 1.188 mill tonnes Condensate: 2.197 mill scm	
<b>Investment</b>	Total investment is likely to be NOK 28.8 bn (2000 value). About NOK 28 bn (2000 value) had been invested at 31.12.99.	
<b>Transport</b>	Gas is piped through Statpipe/Norpipe to Emden and through Zeepipe to Zeebrugge. Condensate is piped through a separate line to Kårstø.	
<b>Operating organisation</b>	Stavanger	
<b>Main supply base</b>	Dusavik	

Sleipner East was discovered in 1981, and has been developed with the integrated Sleipner A production, drilling and quarters platform, two templates for subsea wells, a riser platform and a flare stack. Gas from this field has been sold under the Troll gas sales agreements. The Storting (parliament) approved plans to change the landfall site for condensate from Teesside to Kårstø in November 1989.

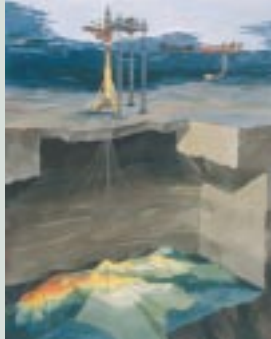
Loke Heimdal, a Sleipner East satellite, was developed with a single subsea well tied back to Sleipner A. This field has been fully depleted and was shut in during the spring of 1997. Production from the Gungne satellite began in April 1996 through wells drilled from the A platform. In addition, development of the Loke Triassic satellite to produce from the Loke Heimdal template has been approved. Loke Triassic produces from the Loke Heimdal template.



## Sleipner West

<b>Blocks and production licences</b>	Block 15/6 – production licence 029. Awarded 1969. Blocks 15/8 and 15/9 – production licence 046. Awarded 1976.	
<b>Progress</b>	Government approval: December 1992 Production start-up: August 1996	
<b>Operator</b>	Den norske stats oljeselskap a.s	
<b>Licensees</b> (rounded to two decimal places)	Den norske stats oljeselskap a.s (SDFI 32.37%)	49.50%
	Esso Expl & Prod Norway A/S	32.24%
	Elf Petroleum Norge AS	9.41%
	Norsk Hydro Produksjon a.s	8.85%
<b>Recoverable reserves</b>	Originally present: 125.5 bn scm gas 8.5 mill tonnes NGLs 27 mill scm condensate	Remaining at 31.12.99: 97.1 bn scm gas 6.9 mill tonnes NGLs 19.6 mill scm condensate
<b>Production</b>	Estimated production in 2000: Gas: 6 797 bn scm NGLs: 0.592 mill tonnes Condensate: 2.081 mill scm	
<b>Investment</b>	Total investment is likely to be NOK 23.6 bn (2000 value). About NOK 15.4 bn (2000 value) had been invested at 31.12.99.	
<b>Operating organisation</b>	Stavanger	
<b>Main supply base</b>	Dusavik	

Sleipner West was discovered in 1974 and has been tied back to Sleipner East. These two fields share the same operations organisation. Sleipner West is produced through two installations: the Sleipner B wellhead platform and the Sleipner T gas treatment facility. Unprocessed wellstreams from Sleipner B are piped the 12 kilometres to Sleipner T, which is linked by a bridge to Sleipner A. Carbon dioxide is removed from the wellstream on the T platform and injected into a sub-surface formation. Like Sleipner East, this field delivers gas under the Troll gas sales agreements and its condensate is landed at Kårstø.

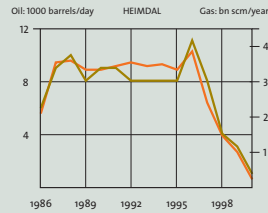


## Varg

<b>Block and production licence</b>	Block 15/12 – production licence 038. Awarded 1974.	
<b>Progress</b>	Government approval: May 1996 Production start-up: December 1998	
<b>Operator</b>	Saga Petroleum ASA	
<b>Licensees</b>	Den norske stats oljeselskap a.s (SDFI 30%)	65%
	Saga Petroleum ASA	35%
<b>Recoverable reserves</b>	Originally present: 4.4 mill scm oil	Remaining at 31.12.99: 2.7 mill scm oil
<b>Production</b>	Estimated production in 2000: Oil: 30 000 barrels/day	
<b>Investment</b>	Total investment is likely to be NOK 4.3 bn (2000 value). About NOK 4.3 bn (2000 value) had been invested at 31.12.99.	
<b>Operating organisation</b>	Stavanger	
<b>Main supply base</b>	Dusavik	

Varg was proven in 1984 and lies south of Sleipner East. Saga took over as operator in 1995. The field has been developed with a wellhead platform and a production ship which provides integrated oil storage. These two units are linked by flexible flowlines for oil production as well as water and gas injection, and by cables for power supply and control. The wellhead platform will normally be unstaffed. Oil is transferred to shuttle tankers from the production ship via a discharging system at the stern of the latter. The water depth is 84 metres.

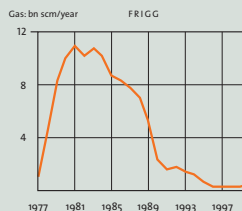
The production ship was sold in 1999 to Petroleum Geo Services (PGS), which also took over management responsibility for the vessel. An agreement on leasing back and operating the vessel for the duration of the field’s producing life has been concluded by the Varg licensees with PGS.



## Heimdal

<b>Block and production licence</b>	Block 25/4 – production licence 036. Awarded 1971.	
<b>Progress</b>	Government approval: Spring 1981 Production start-up: October 1985	
<b>Operator</b>	Norsk Hydro Produksjon a.s	
<b>Licensees</b> (rounded to two decimal places)	Den norske stats oljeselskap a.s (SDFI 20%)	40.00%
	Marathon Petroleum Norge A/S	23.80%
	Norsk Hydro Produksjon a.s	15.80%
	Elf Petroleum Norge AS	11.94%
	Total Norge AS	4.82%
	Saga Petroleum ASA	3.47%
	AS Ugland Rederi	0.17%
<b>Recoverable reserves</b>	Originally present:	Remaining at 31.12.99:
	6.9 mill scm oil	0.8 mill scm oil
	44.6 bn scm gas	2.2 bn scm gas
<b>Production</b>	Estimated production in 2000: Oil: 0.04 mill scm Gas: 0.213 bn scm Production is expected to cease in 2002	
<b>Investment</b>	Total investment is likely to be NOK 16.9 bn (2000 value). About NOK 16.8 bn (2000 value) had been invested at 31.12.99.	
<b>Operating organisation</b>	Bergen	
<b>Main supply base</b>	Dusavik	

The field was declared commercial in 1974, and the government exercised its option to secure participation in 1982. Heimdal has been developed with an integrated steel platform in 120 metres of water. According to the operator, production is expected to cease during 1999. In 1998, the MPE received development plans for the Heimdal gas centre, which involve installing a new riser platform as well as modifying and upgrading the existing installation. This project will ensure long-term operation of the Heimdal platform by using its processing capacity for gas from Huldra and other surrounding fields. The MPE approved the plan for development and operation of the Heimdal gas centre in 1999.



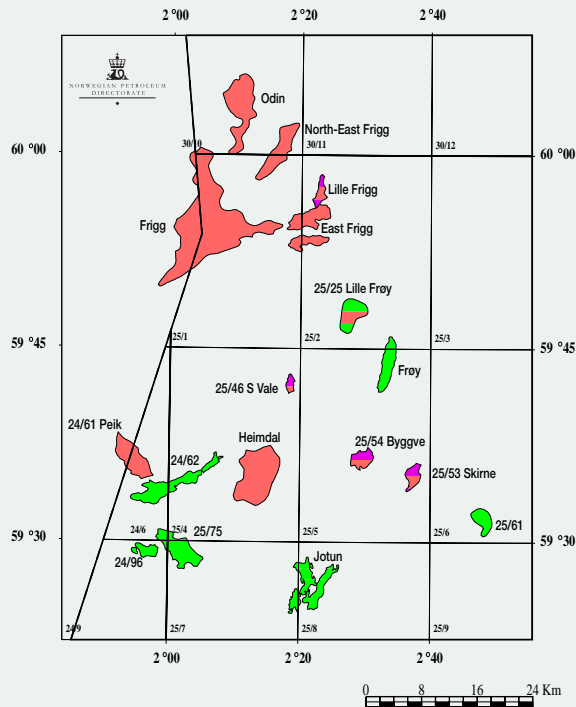
## Frigg

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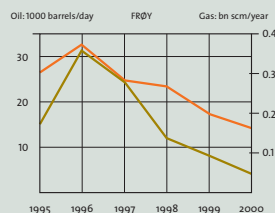
<b>Blocks and production licence</b>	Block 25/1 and 30/10 – production licence 024. Awarded 1969. 60.82 per cent lies on the Norwegian side, 39.18 per cent in the UK sector.	
<b>Progress</b>	Government approval: June 1974 Production start-up: September 1977	
<b>Operator</b>	Elf Petroleum Norge AS	
<b>Licensees</b> (rounded to two decimal places)	Elf Exploration UK plc	26.12%
	Norsk Hydro Produksjon a.s	19.99%
	Elf Petroleum Norge AS	16.07%
	Total Norge AS	12.60%
	Den norske stats oljeselskap a.s	12.16%
	Total Oil Marine plc	13.06%
	After exercising its option, Den norske stats oljeselskap a.s has a five per cent interest in block 25/1.	
<b>Recoverable reserves</b> (Norwegian share)	Originally present: 119.8 bn scm gas 0.5 mill scm condensate	Remaining at 31.12.99: 7.3 bn scm gas
<b>Production</b> (Norwegian share)	Estimated production in 2000: Gas: 0.4 bn scm. Production is expected to cease in 2002.	
<b>Investment</b>	Total investment is likely to be NOK 34.6 bn (2000 value). About NOK 34.6 bn (2000 value) had been invested at 31.12.99.	
<b>Operating organisation</b>	Stavanger	
<b>Main supply base</b>	Dusavik	

The unitisation agreed by the Frigg partners, which gives Norway a 60.82 per cent share, was approved by the UK and Norwegian authorities under a treaty between the two countries on joint exploitation. Production started in 1977 and reached plateau in October 1979. Frigg went off plateau in October 1987. Located in about 100 metres of water, the field installations have also processed oil and gas from Frøy since the summer of 1995.

Production from Frøy is expected to cease during 2000. In addition, Britain's Alwyn field utilises the Frigg installations, while gas from North-East Frigg, Odin, East Frigg and Lille-Frigg was processed there until production from these fields ceased in May 1993, August 1994, December 1997 and April 1999 respectively. The government decided not to acquire the North-East Frigg, Odin, East Frigg and Lille-Frigg installations.



The Frigg area (Source: Norwegian Petroleum Directorate)



## Frøy

<b>Blocks and production licences</b>	Block 25/2 – production licence 026. Awarded 1969. Block 25/5 – production licence 102B. Awarded 1985.	
<b>Progress</b>	Government approval: May 1992 Production start-up: May 1995	
<b>Operator</b>	Elf Petroleum Norge AS	
<b>Licensees</b> (rounded to two decimal places)	Den norske stats oljeselskap a.s (SDFI 41.62%)	53.96%
	Elf Petroleum Norge AS	24.76%
	Total Norge AS	15.23%
	Norsk Hydro Produksjon a.s	6.05%
<b>Recoverable reserves</b>	Originally present: 5.5 mill scm oil 1.6 bn scm gas 0.1 mill scm condensate	Remaining at 31.12.99: 0.2 mill scm oil 0.4 bn scm gas
<b>Production</b>	Estimated production in 2000: Oil: 4000 barrels/day Gas: 0.161 bn scm Condensate: 5 000 scm Production is expected to cease in 2000.	
<b>Investment</b>	Total investment is likely to be NOK 6.7 bn (2000 value). About NOK 6.7 bn (2000 value) had been invested at 31.12.99.	
<b>Operating organisation</b>	Stavanger	
<b>Main supply base</b>	Dusavik	

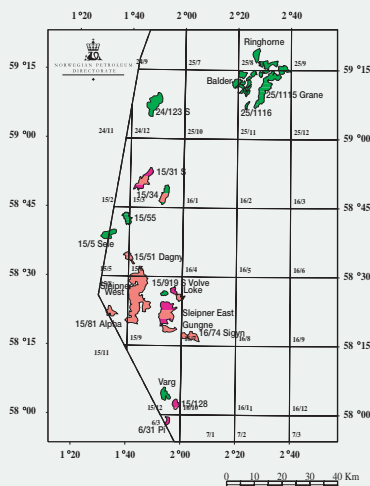
The bulk of Frøy resources are thought to lie in block 25/5. The field is produced from a wellhead platform tied back to Frigg. Oil and condensate are piped through Frostpipe to Oseberg A, and on through the Oseberg Transport System to Sture near Bergen. Gas is piped to the UK via the Norwegian Frigg pipeline. Located in 120 metres of water, Frøy is expected to cease production during the second quarter of 2000.





## Balder

<b>Blocks and production licences</b>	Block 25/11 – production licence 001. Awarded 1965. Block 25/10 – production licence 028. Awarded 1969.
<b>Progress</b>	Government approval: February 1996 Production start-up: October 1999
<b>Operator</b>	Esso Expl & Prod Norway A/S
<b>Licensees</b>	Esso Expl & Prod Norway A/S <span style="float: right;">100%</span>
<b>Recoverable reserves</b>	Originally present: <span style="float: right;">Remaining at 31.12.99:</span> 26.7 mill scm oil <span style="float: right;">25.7 mill scm oil</span>
<b>Production</b>	Estimated production in 2000: Oil: 95 000 barrels/day
<b>Investment</b>	Total investment is likely to be NOK 10 bn (2000 value). About NOK 9.8 bn (2000 value) had been invested at 31.12.99.
<b>Operating organisation</b>	Stavanger
<b>Main supply base</b>	Dusavik



Balder was proven in 1967 and lies in the North Sea about 85 km north of the Sleipner area and 190 km west of Stavanger. This reservoir is very complex, and uncertainty over its production properties remains very high. The water depth is roughly 125 metres. Balder has been developed with a production ship tied to subsea-completed wells. The oil is processed and stored on the ship before being transferred to shuttle tankers.

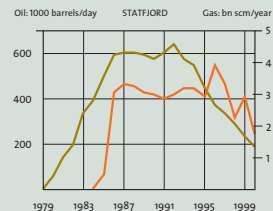
The Sleipner and Balder area  
*(Source: Norwegian Petroleum Directorate)*



## Jotun

<b>Blocks and production licences</b>	Block 25/8 – production licence 027. Awarded 1969. Block 25/7 – production licence 103B. Awarded 1985.	
<b>Progress</b>	Government approval: June 1997 Production start-up: September 1999	
<b>Operator</b>	Esso Expl & Prod Norway A/S	
<b>Licensees</b> (rounded to two decimal places)	Esso Expl & Prod Norway A/S	45.00%
	Enterprise Oil Norwegian A/S	45.00%
	Den norske stats oljeselskap a.s (SDFI 3%)	5.00%
	Norske Conoco A/S	3.75%
	Amerada Hess Norge AS	1.25%
<b>Recoverable reserves</b>	Originally present:	Remaining at 31.12.99:
	31.1 mill scm oil	30.2 mill scm oil
	1 bn scm gas	1 bn scm gas
<b>Production</b>	Estimated production in 2000: Oil: 104 000 barrels/day Gas: 0.014 bn scm	
<b>Investment</b>	Total investment is likely to be NOK 9 bn (2000 value). About NOK 8.2 bn (2000 value) had been invested at 31.12.99.	
<b>Operating organisation</b>	Stavanger	
<b>Main supply base</b>	Dusavik	

Jotun comprises the Elli, Elli South and Tau reservoirs, proven in 1994 and 1995. The field lies about 25 km north of Balder and 165 km west of Haugesund, in 126 metres of water. It has been developed with a floating production, storage and offloading (FPSO) unit and a wellhead platform. Ship and platform are tied together by flowlines for oil and gas production and for water injection, as well as power and control cables. The wellhead platform will normally be unstaffed once drilling has been completed. Oil production is transported by shuttle tankers. Gas will be exported through a pipeline tied into the Statpipe system.



## Statfjord

<b>Blocks and production licence</b>	Blocks 33/9 and 33/12 – production licence 037. Awarded 1973.	
<b>Progress</b>	Government approval: 1976 Production start-up: November 1979	
<b>Operator</b>	Den norske stats oljeselskap a.s	
<b>Licensees</b> (rounded to two decimal places)	Den norske stats oljeselskap a.s	44.34%
	Mobil Development of Norway AS	12.82%
	Norske Conoco A/S	10.33%
	Esso Expl & Prod Norway A/S	8.55%
	A/S Norske Shell	8.55%
	Conoco (UK) Ltd	4.84%
	Chevron UK Ltd	4.84%
	BP Exploration Operating Co Ltd	4.84%
	Enterprise Oil Norwegian A/S	0.89%
<b>Recoverable reserves</b> (Norwegian share)	Originally present: 569.5 mill scm oil 56.4 bn scm gas 13.9 mill tonnes NGLs	Remaining at 31.12.99: 72.5 mill scm oil 14.6 bn scm gas 4.3 mill tonnes NGLs
<b>Production</b> (Norwegian share)	Estimated production in 2000: Oil: 185 000 barrels/day Gas: 1.704 bn scm NGLs: 0.421 mill tonnes	
<b>Investment</b>	The Norwegian share of total investment is likely to be NOK 104.5 bn (2000 value). About NOK 92.5 bn (2000 value) had been invested at 31.12.99.	
<b>Operating organisation</b>	Stavanger	
<b>Main supply base</b>	Coast Center Base, Sotra and Florø	

Proven in 1974, Statfjord lies in about 145 metres of water and extends into the UK North Sea. It has been developed with three fully-integrated platforms supported by gravity base structures featuring concrete storage cells. Each platform is tied to a buoy for loading

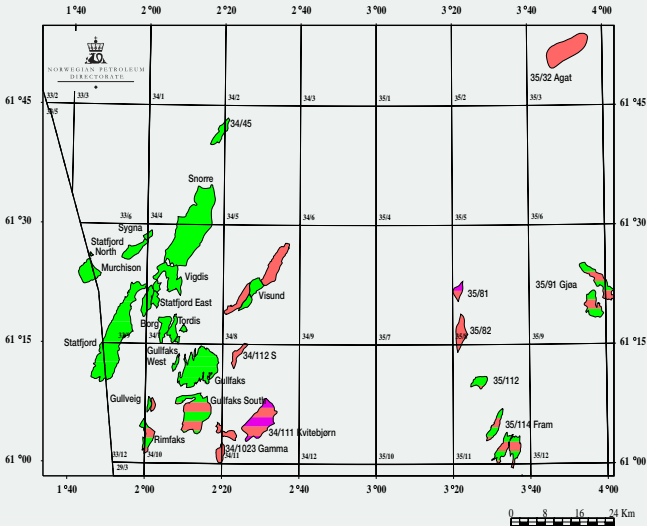
stabilised oil into tankers. The platforms came on stream in November 1979, November 1982 and June 1985 respectively.

Gas sales began in October 1985. Norway's share has been sold to a consortium of European buyers and is piped to Emden in Germany via the Statpipe/Norpipe system. The UK share of gas output has been sold to British Gas, and is landed in the UK via the Far North Liquids and Associated Gas System (Flags). Oil transport is organised by K/S Statfjord Transport, in which Statoil has a 50 per cent interest.

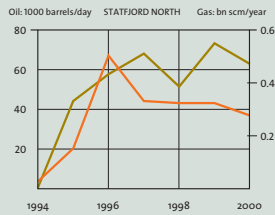
A unitisation agreement between the UK and Norwegian licensees gives Norway 85.47 per cent of the Statfjord reserves, with Britain taking 14.53 per cent.

The operatorship for production licence 037 and the unitised field was transferred from Mobil to Statoil on 1 January 1987.

Oil and gas from Snorre, Statfjord North and Statfjord East are processed on and exported from the Statfjord installations.



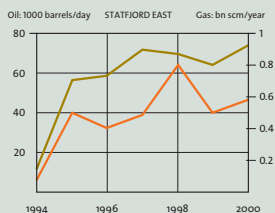
The Gullfaks, Statfjord and Snorre area (Source: Norwegian Petroleum Directorate)



## Statfjord North

<b>Block and production licence</b>	Block 33/9 – production licence 037. Awarded 1973.	
<b>Progress</b>	Government approval: December 1990 Production start-up: January 1995	
<b>Operator</b>	Den norske stats oljeselskap a.s	
<b>Licensees</b> (rounded to two decimal places)	Den norske stats oljeselskap a.s (SDFI 30%)	51.88%
	Mobil Development of Norway AS	15.00%
	Norske Conoco A/S	12.08%
	Esso Expl & Prod Norway A/S	10.00%
	A/S Norske Shell	10.00%
	Enterprise Oil Norwegian A/S	1.04%
<b>Recoverable reserves</b>	Originally present:	Remaining at 31.12.99:
	41.6 mill scm oil	25.4 mill scm oil
	3.1 bn scm gas	2.2 bn scm gas
	0.7 mill tonnes NGLs	0.5 mill tonnes NGLs
<b>Production</b>	Estimated production in 2000: Oil: 62 000 barrels/day Gas: 0.268 bn scm NGLs: 0.052 mill tonnes	
<b>Investment</b>	Total investment is likely to be NOK 6.2 bn (2000 value). About NOK 5.6 bn (2000 value) had been invested at 31.12.99.	
<b>Operating organisation</b>	Stavanger	
<b>Main supply base</b>	Coast Center Base, Sotra and Florø	

Discovered in 1977, Statfjord North is about 17 km north of Statfjord in block 33/9. It has been developed with subsea installations in 250-290 metres of water, tied back to Statfjord C for processing and export.

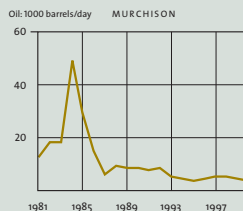


## Statfjord East

14

<b>Blocks and production licences</b>	Block 33/9 – production licence 037. Awarded 1973. Block 34/7 – production licence 089. Awarded 1984.	
<b>Progress</b>	Government approval: December 1990 Production start-up: October 1994	
<b>Operator</b>	Den norske stats oljeselskap a.s	
<b>Licensees</b> (rounded to two decimal places)		
	Den norske stats oljeselskap a.s (SDFI 40.5%)	55.05%
	Esso Expl & Prod Norway A/S	10.25%
	Mobil Development of Norway AS	7.50%
	Norske Conoco A/S	6.04%
	A/S Norske Shell	5.00%
	Idemitsu Petroleum Norge AS	4.80%
	Saga Petroleum ASA	2.44%
	Norsk Hydro Produksjon a.s	4.20%
	Elf Petroleum Norge AS	2.80%
	RWE-DEA Norge AS	1.40%
	Enterprise Oil Norwegian A/S	0.52%
<b>Recoverable reserves</b>	Originally present:	Remaining at 31.12.99:
	35.7 mill scm oil	16.3 mill scm oil
	5.1 bn scm gas	3.9 bn scm gas
	1 mill tonnes NGLs	0.7 mill tonnes NGLs
<b>Production</b>	Estimated production in 2000: Oil: 73 000 barrels/day Gas: 0.565 bn scm NGLs: 0.078 mill tonnes	
<b>Investment</b>	Total investment is likely to be NOK 5.2 bn (2000 value). About NOK 4.5 bn (2000 value) had been invested at 31.12.99.	
<b>Operating organisation</b>	Stavanger	
<b>Main supply base</b>	Coast Center Base, Sotra and Florø.	

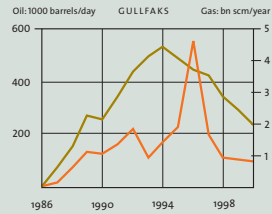
Statfjord East was discovered in 1976 and lies about seven km north-east of Statfjord. Some 50 per cent of its reserves are in block 33/9, with the rest in block 34/7. It has been developed with subsea installations in 150-190 metres of water, tied back to Statfjord C for processing and export.



## Murchison

<b>Block and production licence</b>	Block 33/9 – production licence 037. Awarded 1973. The Norwegian share is 22.2 per cent, while the British share is 77.8 per cent.	
<b>Progress</b>	Production start-up: 1980	
<b>Operator</b>	Kerr-McGee North Sea (UK) Limited	
<b>Licensees</b> <small>(rounded to two decimal places)</small>	Kerr-McGee North Sea (UK) Limited	68.72%
	Den norske stats oljeselskap a.s	11.52%
	Ranger Oil	9.08%
	Mobil Development of Norway AS	3.33%
	Norske Conoco A/S	2.68%
	Esso Expl & Prod Norway A/S	2.22%
	A/S Norske Shell	2.22%
	Enterprise Oil Norwegian A/S	0.23%
<b>Recoverable reserves</b> <small>(Norwegian share)</small>	Originally present: 13.6 mill scm oil 0.4 bn scm gas 0.4 mill tonnes NGLs	Remaining at 31.12.99: 0.8 mill scm oil 0.1 bn scm gas
<b>Production</b> <small>(Norwegian share)</small>	Estimated production in 2000: Oil: 3 000 barrels/day Gas: 0.003 bn scm NGLs: 0.005 mill tonnes	
<b>Investment</b>	The Norwegian share of total investment is likely to be NOK 6.3 bn (2000 value). About NOK 6.3 bn (2000 value) had been invested at 31.12.99.	
<b>Operating organisation</b>	Aberdeen, Scotland	
<b>Main supply base</b>	Peterhead, Scotland	

An integrated steel production, drilling and quarters platform has been installed on Murchison, which was discovered in August 1975. A unitisation agreement for Murchison was concluded by its British and Norwegian licensees in 1979, and production began the following year. Both Norwegian and UK shares of the oil and NGLs are landed through the Brent system to Sullom Voe in Shetland, with the gas piped to St Fergus in Scotland. Kerr-McGee North Sea (UK) Ltd took over from Oryx UK Energy Company as Murchison operator on 1 January 1999.



## Gullfaks

<b>Block and production licences</b>	Block 34/10 – production licence 050. Awarded 1978. Block 34/10 – production licence 050B. Awarded 1995.	
<b>Progress</b>	Government approval: Gullfaks phase I (platforms A and B) was approved in the spring of 1981. Gullfaks phase II (platform C) was approved in June 1985. Production start-up: December 1986	
<b>Operator</b>	Den norske stats oljeselskap a.s	
<b>Licensees</b>	Den norske stats oljeselskap a.s (SDFI 73%) Norsk Hydro Produksjon a.s	91% 9%
<b>Recoverable reserves</b> (incl Gullfaks West and Gullfaks Lunde)	Originally present: 314.8 mill scm oil 21.2 bn scm gas 2 mill tonnes NGLs	Remaining at 31.12.99: 54.8 mill scm oil 3.5 bn scm gas 0.7 mill tonnes NGLs
<b>Production</b> (incl Gullfaks West and Gullfaks Lunde)	Estimated production in 2000: Oil: 299 000 barrels/day Gas: 0.773 bn scm NGLs: 0.1 mill tonnes	
<b>Investment</b>	Total investment is likely to be NOK 79.5 bn (2000 value). About NOK 70.9 bn (2000 value) had been invested at 31.12.99.	
<b>Operating organisation</b>	Bergen	
<b>Main supply base</b>	Coast Center Base, Sotra and Florø.	

Gullfaks was discovered in 1978 at the northern end of Norway's North Sea sector. Gullfaks A and C are integrated production, drilling and quarters platforms, while oil and gas from Gullfaks B is piped to the A or C installations for further treatment and storage. Stabilised oil is stored in the A and C gravity base structures and loaded into tankers via buoys. A tie-in to Statpipe allows rich gas from the field to be piped to Kårstø north of Stavanger, where the NGLs are removed before the dry gas travels via Ekofisk to Emden. Crude oil shipments are organised by I/S Gullfaks Transport, which is owned by the Gullfaks licensees in the same proportion as their interests in the field.



The wellstream from Tordis is processed on Gullfaks C, while stabilised crude from Vigdis is stored on and shipped from Gullfaks. Visund is also tied back to Gullfaks C for processing and transport. Gullfaks lies in 130-220 metres of water.

Development approval for the small Gullfaks West satellite was given by the government in January 1993. Being drained by a horizontal well drilled from Gullfaks B, this field contains some 2.9 mill scm of oil and is expected to remain on stream for six years.

Draining Gullfaks Lunde with wells drilled from Gullfaks C was approved in November 1995. With recoverable oil reserves put at 3.8 mill scm, the field came on stream in 1996 and will produce for 10 years. Approval to develop the Gullfaks satellites – Gullfaks South, Rimfaks and Gullveig – was given in April 1996. They have been developed with subsea wells remotely operated from Gullfaks A. See the descriptions which follow.

## Gullfaks South

<b>Block and production licence</b>	Block 34/10 – production licence 050. Awarded 1978.	
<b>Progress</b>	Government approval: March 1996 Production start-up: March 1999	
<b>Operator</b>	Den norske stats oljeselskap a.s	
<b>Licensees</b>	Den norske stats oljeselskap a.s (SDFI 73%)	91%
	Norsk Hydro Produksjon a.s	9%
<b>Recoverable reserves</b>	Originally present:	Remaining at 31.12.99:
	32.8 mill scm oil	32 mill scm oil
	61.2 bn scm gas	61.2 bn scm gas
<b>Production</b>	Estimated production in 2000: Oil: 37 000 barrels/day	
<b>Investment</b>	Total investment is likely to be NOK 13 bn (2000 value). About NOK 5.9 bn (2000 value) had been invested at 31.12.99.	
<b>Operating organisation</b>	Bergen	
<b>Main supply base</b>	Coast Center Base, Sotra and Florø.	

Gullfaks South lies about nine km south of Gullfaks. A complex reservoir means that recoverable reserves are uncertain. The field was declared commercial in October 1993, and has been the subject of a phased development. A plan for development and operation of the first (oil) phase was submitted to the authorities in December 1995 and approved in April 1996, while plans for phase II – covering gas and associated fluids – were submitted in December 1997 and approved in June 1998. Gullfaks South phase I has been developed with subsea wells tied back to Gullfaks A. Gullfaks South phase II is under development, based on piping production to Gullfaks C for processing into rich gas. A tie-in to Statpipe will allow this output to be transported to Kårstø for further processing and sale. See chapter 15: Fields under development.

## Rimfaks

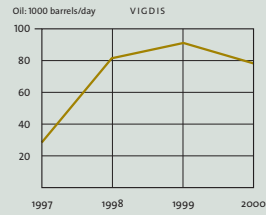
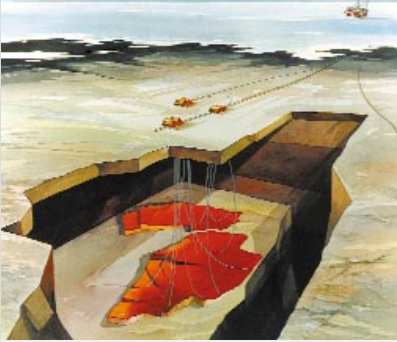
<b>Block and production licence</b>	Block 34/10 – production licence 050. Awarded 1978.	
<b>Progress</b>	Government approval: March 1996 Production start-up: February 1999	
<b>Operator</b>	Den norske stats oljeselskap a.s	
<b>Licensees</b>	Den norske stats oljeselskap a.s (SDFI 73%)	91%
	Norsk Hydro Produksjon a.s	9%
<b>Recoverable reserves</b>	Originally present: 19.5 mill scm oil	Remaining at 31.12.99: 18.1 mill scm oil
<b>Production</b>	Estimated production in 2000: Oil: 22 000 barrels/day	
<b>Investment</b>	Total investment is likely to be NOK 5.6 bn (2000 value). About NOK 3.8 bn (2000 value) had been invested at 31.12.99.	
<b>Operating organisation</b>	Bergen	
<b>Main supply base</b>	Coast Center Base, Sotra and Florø.	

Discovered in 1983, Rimfaks straddles the boundary between blocks 34/10 and 33/12 about 15 km south-west of Gullfaks. Production licence 037 has agreed to buy the oil produced. Development is based on subsea-completed wells tied back to Gullfaks A. The plan for development and operation was submitted to the authorities in December 1995 and approved the following April. The water depth is about 135 metres.

## Gullveig

<b>Block and production licence</b>	Block 34/10 – production licence 050. Awarded 1978.	
<b>Progress</b>	Government approval: March 1996 Production start-up: October 1998	
<b>Operator</b>	Den norske stats oljeselskap a.s	
<b>Licensees</b>	Den norske stats oljeselskap a.s (SDFI 73%)	91%
	Norsk Hydro Produksjon a.s	9%
<b>Recoverable reserves</b>	Originally present:	Remaining at 31.12.99:
	2.7 mill scm oil	2.3 mill scm oil
	2 bn scm gas	2 bn scm gas
<b>Production</b>	Estimated production in 2000: Oil: 9 000 barrels/day	
<b>Investment</b>	Total investment is likely to be NOK 1 bn (2000 value). About NOK 0.9 bn (2000 value) had been invested at 31.12.99.	
<b>Operating organisation</b>	Bergen	
<b>Main supply base</b>	Coast Center Base, Sotra and Florø	

The Gullveig discovery, made in 1995, has been developed with subsea facilities tied back to Gullfaks A. Submitted to the authorities in December 1995, the plan for development and operation was approved in April 1996. Production started on 10 October 1998.



## Vigdis

<b>Block and production licence</b>	Block 34/7 – production licence 089. Awarded 1984.	
<b>Progress</b>	Government approval: December 1994 Production start-up: June 1997	
<b>Operator</b>	Saga Petroleum ASA	
<b>Licensees</b> (rounded to two decimal places)	Den norske stats oljeselskap a.s (SDFI 51%)	58.22%
	Esso Expl & Prod Norway A/S	10.5%
	Idemitsu Petroleum Norge AS	9.6%
	Norsk Hydro Produksjon a.s	8.4%
	Saga Petroleum ASA	4.88%
	Elf Petroleum Norge AS	5.6%
	RWE-DEA Norge AS	2.8%
<b>Recoverable reserves</b>	Originally present: 33.3 mill scm oil 2.3 bn scm gas	Remaining at 31.12.99: 21.9 mill scm oil 2.3 bn scm gas
<b>Production</b>	Estimated production in 2000: Oil: 78 000 barrels/day	
<b>Investment</b>	Total investment is likely to be NOK 6.8 bn (2000 value). About NOK 5.1 bn (2000 value) had been invested at 31.12.99.	

Located between Snorre and Gullfaks, Vigdis was discovered in 1986. It has been developed with subsea installations in 280 metres of water tied back to the Snorre platform, where the petroleum is processed.

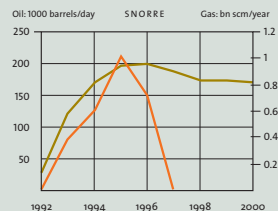
Stabilised crude oil is transferred via a dedicated pipeline to Gullfaks A for storage and loading into tankers.



## Visund

<b>Blocks and production licence</b>	Block 34/8 and parts of block 34/7 – production licence 120. Awarded 1985.	
<b>Progress</b>	Government approval: March 1996 Production start-up: April 1999	
<b>Operator</b>	Norsk Hydro Produksjon a.s	
<b>Licensees</b>	Den norske stats oljeselskap a.s (SDFI 49.6%)	62.9%
	Norsk Hydro Produksjon a.s	16.1%
	Elf Petroleum Norge AS	7.7%
	Norske Conoco A/S	9.1%
	Saga Petroleum ASA	4.2%
<b>Recoverable reserves</b>	Originally present: 48.5 mill scm oil	Remaining at 31.12.99: 47.9 mill scm oil
<b>Production</b>	Estimated production in 2000: Oil: 52 000 barrels/day	
<b>Investment</b>	Total investment is likely to be NOK 15.7 bn (2000 value). About NOK 10.2 bn (2000 value) had been invested at 31.12.99.	
<b>Operating organisation</b>	Bergen	
<b>Main supply base</b>	Florø	

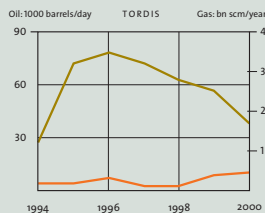
The Visund field, discovered in 1986, lies east of Snorre. A plan for development and operation submitted to the authorities in September 1995 called for a phased project based on a floating production facility, with oil stored in and shipped from Gullfaks C. The Storting approved these proposals on 29 March 1996.



## Snorre

<b>Blocks and production licences</b>	Block 34/4 – production licence 057. Awarded 1979. Block 34/7 – production licence 089. Awarded 1984.	
<b>Progress</b>	Government approval: May 1988 Production start-up: August 1992	
<b>Operator</b>	Saga Petroleum ASA	
<b>Licensees</b> <small>(rounded to two decimal places)</small>	Den norske stats oljeselskap a.s (SDFI 31.4%)	44.40%
	Saga Petroleum ASA	8.72%
	Esso Expl & Prod Norway A/S	11.16%
	RWE-DEA Norge AS	8.88%
	Idemitsu Petroleum Norge AS	9.60%
	Norsk Hydro Produksjon a.s	8.93%
	Elf Petroleum Norge AS	5.95%
	Amerada Hess Norge AS	1.18%
	Enterprise Oil Norwegian A/S	1.18%
<b>Recoverable reserves</b>	Originally present:	Remaining at 31.12.99:
	225.3 mill scm oil	153.8 mill scm oil
	9.2 bn scm gas	5.9 bn scm gas
	6 mill tonnes NGLs	4 mill tonnes NGLs
<b>Production</b>	Estimated production in 2000: Oil: 168 000 barrels/day Gas: 0.452 bn scm NGLs: 0.203 mill tonnes	
<b>Investment</b>	Total investment, including Snorre II, is likely to be NOK 55.8 bn (2000 value). About NOK 39 bn (2000 value) had been invested at 31.12.99.	
<b>Operating organisation</b>	Stavanger	
<b>Main supply base</b>	Florø	

The Snorre field east of Statfjord was discovered in 1979. Its southern area has been developed with a tension leg platform and a subsea production system. This project covers about 150 mill scm of Snorre's recoverable oil reserves. A plan for development and operation of the northern part of the field (Snorre II) was approved in June 1998. The water depth varies from 300-350 metres in this part of the field, increasing in a north-easterly direction. Oil and gas are piped to Statfjord for final processing, storage and export.



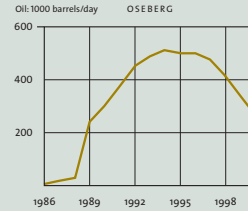
## Tordis

<b>Block and production licence</b>	Block 34/7 – production licence 089. Awarded 1984.	
<b>Progress</b>	Government approval: May 1991 Production start-up: June 1994	
<b>Operator</b>	Saga Petroleum ASA	
<b>Licenseses</b> (rounded to two decimal places)	Den norske stats oljeselskap a.s (SDFI 51%)	58.22%
	Esso Expl & Prod Norway A/S	10.5%
	Idemitsu Petroleum Norge AS	9.6%
	Norsk Hydro Produksjon a.s	8.4%
	Saga Petroleum ASA	4.88%
	Elf Petroleum Norge AS	5.6%
	RWE-DEA Norge AS	2.8%
<b>Recoverable reserves</b> (incl Tordis East and Borg)	Originally present:	Remaining at 31.12.99:
	47.7 mill scm oil	7.2 mill scm oil
	5.2 bn scm gas	1.3 bn scm gas
	1.2 mill tonnes NGLs	0.2 mill tonnes NGLs
<b>Production</b>	Estimated production in 2000: Oil: 81 000 barrels/day Gas: 0.21 bn scm NGLs: 0.13 mill tonnes	
<b>Investment</b>	Total investment is likely to be NOK 6.9 bn (2000 value). About NOK 5.7 bn (2000 value) had been invested at 31.12.99	
<b>Operating organisation</b>	Stavanger	
<b>Main supply base</b>	Florø	

The Tordis area embraces Tordis East and Borg as well as Tordis itself. Lying between Snorre and Gullfaks, Tordis was discovered in 1987. A subsea development in about 200 metres of water is tied back to Gullfaks C, where the wellstream is processed.

Tordis East and Borg have been developed with subsea-completed wells tied back to the Tordis production facilities, and came on stream in July 1998 and July 1999 respectively.





## Oseberg

<b>Blocks and production licences</b>	Block 30/6 – production licence 053. Awarded 1979. Block 30/9 – production licence 079. Awarded 1982.	
<b>Progress</b>	Government approval: 1984 Production start-up: December 1988	
<b>Operator</b>	Norsk Hydro Produksjon a.s	
<b>Licensees</b> <small>(rounded to two decimal places)</small>	Den norske stats oljeselskap a.s (SDFI 50.78%)	64.78%
	Norsk Hydro Produksjon a.s	13.68%
	Saga Petroleum ASA	8.55%
	Elf Petroleum Norge AS	5.77%
	Mobil Development of Norway AS	4.33%
	Total Norge AS	2.88%
<b>Recoverable reserves</b>	Originally present:	Remaining at 31.12.99:
	337 mill scm oil	71.5 mill scm oil
	34 bn scm gas	34 bn scm gas
	8 mill scm condensate	8 mill scm condensate
<b>Production</b>	Estimated production in 2000: Oil: 265 000 barrels/day Gas: 1.74 bn scm Condensate: 0.311 mill scm	
<b>Investment</b>	Total investment is likely to be NOK 62.9 bn (2000 value). About NOK 60.4 bn (2000 value) had been invested at 31.12.99.	
<b>Operating organisation</b>	Bergen	
<b>Main supply base</b>	Mongstad	

The first development phase for Oseberg comprised a two-platform field centre at the southern end of the field. Oseberg A is a production and quarters platform on a concrete gravity base structure, while Oseberg B is a drilling and injection platform with a steel jacket. The second development phase embraced Oseberg C, a steel drilling and quarters platform with equipment for some processing. It stands roughly 16 km north of the field centre. Total processing capacity for Oseberg is about 500 000 barrels of oil per day. The platforms are in around 100 metres of water.

Gas for injection to maintain reservoir pressure is received by Oseberg from the Togi subsea module on Troll. In addition, gas from the Oseberg West satellite is injected in the phase II area.

Oil from Oseberg is piped through the Oseberg Transport System (OTS) to Sture near Bergen. A revised plan for development and operation, which covers gas exports, was approved in December 1996. It calls for an additional platform tied to Oseberg A and B. Due to be piped to Germany via a new pipeline linking Oseberg with the Statpipe spur at Heimdal, gas deliveries are scheduled to start in October 2000.

The Oseberg East and Oseberg South satellites will be tied back to the main field installations for processing.



## Oseberg East

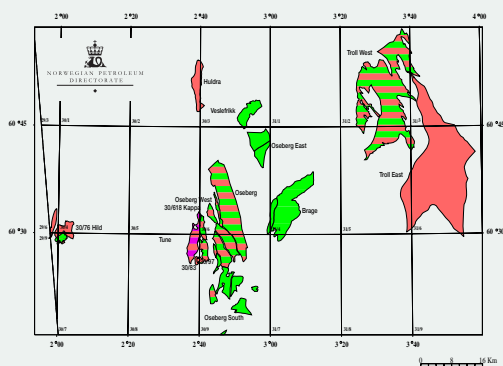
<b>Block and production licence</b>	Block 30/6 – production licence 053. Awarded 1979.	
<b>Progress</b>	Government approval: October 1996 Production start-up: April 1999	
<b>Operator</b>	Norsk Hydro Produksjon a.s	
<b>Licensees</b> (rounded to two decimal places)	Den norske stats oljeselskap a.s (SDFI 45.4%)	59.40%
	Norsk Hydro Produksjon a.s	12.25%
	Elf Petroleum Norge AS	9.33%
	Saga Petroleum ASA	7.35%
	Mobil Development of Norway AS	7.00%
	Total Norge AS	4.67%
<b>Recoverable reserves</b>	Originally present:	Remaining at 31.12.99:
	22.8 mill scm oil	21.9 mill scm oil
	0.8 bn scm gas	0.8 bn scm gas
<b>Production</b>	Estimated production in 2000: Oil: 43 000 barrels/day	
<b>Investment</b>	Total investment is likely to be NOK 4.9 bn (2000 value). About NOK 4 bn (2000 value) had been invested at 31.12.99.	
<b>Operating organisation</b>	Bergen	
<b>Main supply base</b>	Mongstad	

Located north-east of the unitised Oseberg field and south of Veslefrikk, Oseberg East is being developed with a platform in 160 metres of water for quarters, drilling and first-stage separation of oil, water and gas. Crude will be piped in a new line to Oseberg A for further processing and onward transport via the Oseberg Transport System (OTS) to Sture near Bergen.

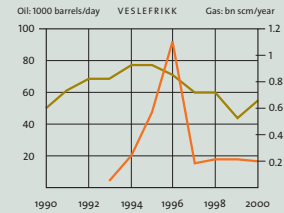
## Troll-Oseberg gas injection (Togi)

<b>Block and production licence</b>	The Togi project has been undertaken by the Troll group. Blocks and production licences are identical to Troll phase I.
<b>Progress</b>	Government approval: June 1986 Production start-up: January 1991
<b>Operator</b>	Norsk Hydro Produksjon a.s
<b>Production</b>	Gas: 22-25 bn scm over 11-14 years.
<b>Investment</b>	Total investment is likely to be NOK 3.6 bn (2000 value). About NOK 3.6 bn (2000 value) had been invested at 31.12.99.

The Togi module on Troll delivers injection gas to Oseberg and embraces five wells remotely operated from the latter field. Intended to improve oil recovery from Oseberg, the gas is transported in a 20-inch pipeline.



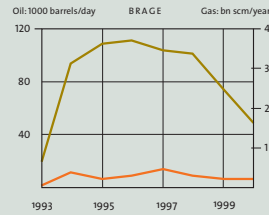
The Oseberg and Troll area (Source: Norwegian Petroleum Directorate)



## Veslefrikk

<b>Block and production licence</b>	Block 30/3 – production licence 052. Awarded 1979.	
<b>Progress</b>	Government approval: June 1987 Production start-up: December 1989	
<b>Operator</b>	Den norske stats oljeselskap a.s	
<b>Licensees</b>	Den norske stats oljeselskap a.s (SDFI 37%)	55.00%
	Total Norge AS	18.00%
	RWE-DEA Norge AS	11.25%
	Petro-Canada Norge AS	9.00%
	Svenska Petroleum Exploration AS	4.50%
	Norske RWE-DEA AS	2.25%
<b>Recoverable reserves</b>	Originally present:	Remaining at 31.12.99:
	54.5 mill scm oil	18.7 mill scm oil
	9.6 bn scm gas	7.9 bn scm gas
	1.3 mill tonnes NGLs	0.3 mill tonnes NGLs
<b>Production</b>	Estimated production in 2000: Oil: 54 000 barrels/day Gas: 0.204 bn scm NGLs: 0.127 mill tonnes	
<b>Investment</b>	Total investment is likely to be NOK 14.8 bn (2000 value). About NOK 12.5 bn (2000 value) had been invested at 31.12.99.	
<b>Operating organisation</b>	Bergen	
<b>Main supply base</b>	Coast Center Base, Sotra and Florø	

Veslefrikk has been developed with the A wellhead platform and the B semi-submersible for processing and quarters in about 175 metres of water. The oil is piped to Oseberg A for onward transmission through the Oseberg Transport System (OTS) to the terminal at Sture near Bergen, while the gas travels via Statpipe/Norpipe to Emden. Veslefrikk B was taken to land in the summer of 1999 to reinforce its steel hull and for modifications to prepare the platform for processing gas from the Huldra field.

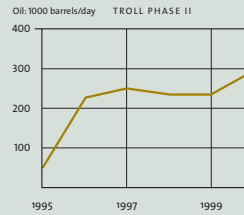


## Brage

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<b>Blocks and production licences</b>	Block 30/6 – production licence 053. Awarded 1979. Block 31/4 – production licence 055. Awarded 1979. Block 31/7 – production licence 185. Awarded 1991.	
<b>Progress</b>	Government approval: March 1990 Production start-up: September 1993	
<b>Operator</b>	Norsk Hydro Produksjon a.s	
<b>Licensees</b>	Den norske stats oljeselskap a.s (SDFI 34.3%)	46.96%
	Norsk Hydro Produksjon a.s	24.44%
	Esso Expl & Prod Norway A/S	16.34%
	Fortum Petroleum AS	12.26%
<b>Recoverable reserves</b>	Originally present:	Remaining at 31.12.99:
	46.7 mill scm oil	12.5 mill scm oil
	2.6 bn scm gas	1.1 bn scm gas
	0.7 mill tonnes NGLs	0.2 mill tonnes NGLs
<b>Production</b>	Estimated production in 2000: Oil: 48 000 barrels/day Gas: 0.184 bn scm NGLs: 0.052 mill tonnes	
<b>Investment</b>	Total investment is likely to be NOK 14 bn (2000 value). About NOK 13.5 bn (2000 value) had been invested at 31.12.99.	
<b>Operating organisation</b>	Bergen	
<b>Main supply base</b>	Mongstad	

The Brage field has been developed in 140 metres of water with an integrated steel production, drilling and quarters platform. Oil goes by pipeline to Oseberg A for onward transmission through the Oseberg Transport System (OTS) to the Sture terminal near Bergen, while gas is carried in a line tied to Statpipe for onward transport.



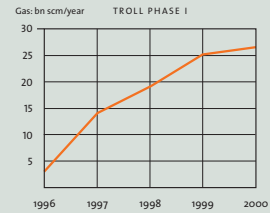
## Troll phase II

<b>Blocks and production licences</b>	Block 31/2 – production licence 054. Awarded 1979. Blocks 31/3, 31/5 and 31/6 – production licence 085. Awarded in an extraordinary licensing round in 1983. The field was unitised in January 1987.	
<b>Progress</b>	Government approval: May 1992 Production start-up: September 1995	
<b>Operator</b>	Norsk Hydro Produksjon a.s	
<b>Licensees</b> (rounded to two decimal places)	Den norske stats oljeselskap a.s (SDFI 62.93%)	76.80%
	Norsk Hydro Produksjon a.s	7.72%
	A/S Norske Shell	8.10%
	Saga Petroleum ASA	2.06%
	Elf Petroleum Norge AS	2.35%
	Norske Conoco A/S	1.62%
	Total Norge AS	1.35%
	The division of interests is based on roughly 68% per cent of the reserves lying in production licence 085.	
<b>Recoverable reserves</b>	Originally present: 195 mill scm oil Gas reserves are included under Troll phase I.	Remaining at 31.12.99: 136.5 mill scm oil
<b>Production</b>	Estimated production in 2000: Oil: 293 000 barrels/day.	
<b>Investment</b>	Total investment is likely to be NOK 48.7 bn (2000 value). About NOK 39.2 bn (2000 value) had been invested at 31.12.99.	
<b>Operating organisation</b>	Bergen	
<b>Main supply base</b>	Mongstad	

A thin oil layer underlies the whole Troll field, but is only sufficiently thick for commercial recovery in the Troll West region. The latter divides into oil and gas provinces, where the thickness of the oil-bearing zones is 22-27 and 12-14 metres respectively. Test production from the two provinces in 1990 and 1991 yielded positive results. Crude is being produced from the oil province with horizontally-drilled wells tied back to the Troll B floating production platform. All 18 of the production wells originally planned are now in operation. The crude is landed through Troll Oil Pipeline I to the terminal at Mongstad near Bergen. Associated gas is exported via Troll A on Troll East.

Oil production from the first Troll B well cluster began in November 1997. At 31 December 1999, 18 of 50 planned wells were producing in the gas province. The floating Troll C production platform came on stream in late October 1999 to recover oil from the northern part of the gas province. Nine wells were producing at 31 December 1999. Oil from Troll C is landed through the Troll Oil Pipeline II to Mongstad, with associated gas exported via Troll A.





## Troll phase I

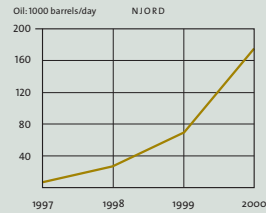
<b>Blocks and production licences</b>	Block 31/2 – production licence 054. Awarded 1979. Blocks 31/3, 31/5 and 31/6 – production licence 085. Awarded in an extraordinary licensing round in 1983. The field was utilised in January 1987.	
<b>Progress</b>	Government approval: December 1986 Production start-up: October 1996	
<b>Operator</b>	A/S Norsk Shell was operator for the development phase. Den norske stats oljeselskap a.s is operator for the production phase.	
<b>Licensees</b> (rounded to two decimal places)	Den norske stats oljeselskap a.s (SDFI 62.93%)	76.80%
	Norsk Hydro Produksjon a.s	7.72%
	A/S Norske Shell	8.10%
	Saga Petroleum ASA	2.06%
	Elf Petroleum Norge AS	2.35%
	Norske Conoco A/S	1.62%
	Total Norge AS	1.35%
	The division of interests is based on roughly 68% per cent of the reserves lying in production licence 085.	
<b>Recoverable reserves</b>	Originally present: 653 bn scm gas 12.7 mill tonnes NGLs	Remaining at 31.12.99: 588.1 bn scm gas 12.7 mill tonnes NGLs
<b>Production</b>	Estimated production in 2000: Gas: 26.521 bn scm Oil: 12 000 barrels/day NGLs: 0.523 mill tonnes	
<b>Investment</b>	Total investment is likely to be NOK 47.2 bn (2000 value). About NOK 39.5 bn (2000 value) had been invested at 31.12.99.	
<b>Transport</b>	Gas from Troll will be transported from Kollsnes through Zeepipe to Zeebrugge and Statpipe/Norpipe to Emden. The Franpipe line to Dunkerque has also been used since 1998. Condensate is shipped from Sture.	
<b>Operating organisation</b>	Bergen	
<b>Main supply base</b>	Ågotnes	

Discovered in 1979, Troll lies in the North Sea off Bergen and comprises two main structures: Troll East and Troll West. The first of these primarily occupies blocks 31/3 and 31/6, while most of Troll West is found in block 31/2. The NPD estimates that roughly two-thirds of the field's recoverable gas reserves are located in Troll East.

A staged development has been pursued, with phase I covering gas reserves in the eastern region and phase II focusing on the oil reserves in Troll West. Phase III will cover gas reserves in the latter area.

The original phase I plan, approved in 1986, called for an integrated production, drilling and quarters platform in 330 metres of water, but this was amended in the spring of 1990 to a single wellhead platform and a land-based processing plant at Kollsnes near Bergen. The authorities approved these revised proposals in December 1990.

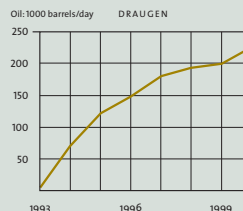
Troll phase I supplies gas under the Troll gas sales agreements. The processing plant at Kollsnes could be expanded to handle production from a development of the gas reserves in Troll West. While part of the condensate is piped to Sture, condensate belonging to the majority of the Troll licensees is piped to the Vestprosess facility at Mongstad.



## Njord

<b>Blocks and production licences</b>	Block 6407/7 – production licence 107. Awarded 1985. Block 6407/10 – production licence 132. Awarded 1987.	
<b>Progress</b>	Government approval: June 1995 Production start-up: September 1997	
<b>Operator</b>	Norsk Hydro Produksjon a.s	
<b>Licensees</b>	Den norske stats oljeselskap a.s (SDFI 30.0%)	50.0%
	Norsk Hydro Produksjon a.s	22.5%
	Mobil Development of Norway AS	20.0%
	Petro-Canada Norge AS	7.5%
<b>Recoverable reserves</b>	Originally present: 28.4 mill scm oil	Remaining at 31.12.99: 22.8 mill scm oil
<b>Production</b>	Estimated production in 2000: Oil: 60 000 barrels/day.	
<b>Investment</b>	Total investment is likely to be NOK 8.9 bn (2000 value). About NOK 7.7 bn (2000 value) had been invested at 31.12.99.	
<b>Operating organisation</b>	Kristiansund	
<b>Main supply base</b>	Kristiansund	

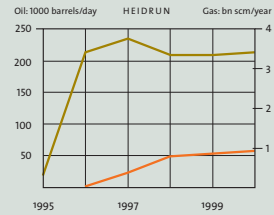
Njord was discovered in 1986 and lies about 30 km west of Draugen in the Norwegian Sea. Coming on stream in September 1997, the field has been developed with a steel-hulled semi-submersible production, drilling and quarters platform – Njord A. Subsea wells are tied back to this facility, with oil stored in a dedicated vessel – Njord B – located 2.5 km from the production platform. The crude is transferred via a flowline with power supplied by cable from the platform. Oil is loaded into shuttle tankers for transport to the market. Plans call for Njord B to be remotely operated from the A platform. The water depth in the area is 330 metres.



## Draugen

<b>Block and production licence</b>	Block 6407/9 – production licence 093. Awarded 1984.	
<b>Progress</b>	Government approval: December 1988 Production start-up: October 1993	
<b>Operator</b>	A/S Norske Shell	
<b>Licensees</b> (rounded to two decimal places)	Den norske stats oljeselskap a.s (SDFI 57.88%)	57.88%
	BP Amoco Norge AS	18.36%
	A/S Norske Shell	16.20%
	Norsk Chevron AS	7.56%
<b>Recoverable reserves</b>	Originally present: 111.6 mill scm oil	Remaining at 31.12.99: 58.4 mill scm oil
<b>Production</b>	Estimated production in 2000: Oil: 223 000 barrels/day Gas: 0.035 bn scm NGLs: 0.978 mill tonnes	
<b>Investment</b>	Total investment is likely to be NOK 21.8 bn (2000 value). About NOK 18.8 bn (2000 value) had been invested at 31.12.99.	
<b>Operating organisation</b>	Kristiansund	
<b>Main supply base</b>	Kristiansund	

Draugen was discovered in 1984 and has been developed with a concrete monotower gravity base structure supporting an integrated topside. Reserves consist mainly of oil. Associated gas is currently injected back into the field, but the development of an export solution will tie Draugen to the Åsgard Transport trunkline. Oil is loaded into shuttle tankers on the field via two flowlines which link the platform with a floating loading buoy.

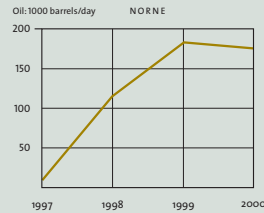


## Heidrun

<b>Blocks and production licences</b>	Block 6507/7 – production licence 095. Awarded 1984. Block 6507/8 – production licence 124. Awarded 1986.	
<b>Progress</b>	Government approval: May 1991 Production start-up: October 1995	
<b>Operator</b>	Den norske stats oljeselskap a.s	
<b>Licensees</b> <small>(rounded to two decimal places)</small>	Den norske stats oljeselskap a.s (SDFI 64.16%)	76.59%
	Norske Conoco A/S	18.29%
	Fortum Petroleum AS	5.12%
<b>Recoverable reserves</b>	Originally present: 183.8 mill scm oil 19.9 bn scm gas 0.1 mill tonnes NGLs	Remaining at 31.12.99: 132.9 mill scm oil 18.3 bn scm gas 0.1 mill tonnes NGLs
<b>Production</b>	Estimated production in 2000: Oil: 211 000 barrels/day Gas: 0.88 bn scm NGLs: 0.028 mill tonnes	
<b>Investment</b>	Total investment is likely to be NOK 47.5 bn (2000 value). About NOK 37.9 bn (2000 value) had been invested at 31.12.99.	
<b>Operating organisation</b>	Stjørdal	
<b>Main supply base</b>	Kristiansund	

The Heidrun field was discovered in 1985 on the Halten Bank off mid-Norway. A revised development plan submitted in December 1989 was approved by the government, and embraces a concrete tension leg platform (TLP) in some 350 metres of water.

Heidrun's northern flank is being developed with subsea installations in order to phase in resources in this part of the field. A Heidrun gas export solution is under development, and will be tied to the Åsgard Transport system.



## Norne

<b>Blocks and production licences</b>	Blocks 6508/10 and 1608/11 – production licence 128. Awarded 1986. Block 6508/B – production licence 128B. Awarded 1998.	
<b>Progress</b>	Government approval: March 1995 Production start-up: November 1997	
<b>Operator</b>	Den norske stats oljeselskap a.s	
<b>Licensees</b> (rounded to two decimal places)	Den norske stats oljeselskap a.s (SDFI 55%)	79.0%
	Norsk Hydro Produksjon a.s	8.1%
	Norsk Agip A/S	6.9%
	Enterprise Oil Norwegian A/S	6.0%
<b>Recoverable reserves</b>	Originally present: 80.4 mill scm oil 15 bn scm gas 1.1 mill tonnes NGLs	Remaining at 31.12.99: 65.1 mill scm oil 15 bn scm gas 1.1 mill tonnes NGLs
<b>Production</b>	Estimated production in 2000: Oil: 175 000 barrels/day Gas: 0.375 bn scm NGLs: 0.035 mill tonnes	
<b>Investment</b>	Total investment is likely to be NOK 13.8 bn (2000 value). About NOK 11 bn (2000 value) had been invested at 31.12.99.	
<b>Operating organisation</b>	Harstad	
<b>Main supply base</b>	Sandnessjøen	

Norne lies in 380 metres of water, about 80 km north of Heidrun and roughly 200 km from the north Norwegian coast. The field has been developed with a production and storage ship tied to subsea templates. Flexible risers carry wellstreams to the vessel, which weathervanes around a cylindrical turret moored to the seabed. This ship carries processing facilities on its deck and storage tanks for oil. Processed crude can be transferred over the stern to shuttle tankers. Norne needs an export solution for its associated gas, and plans for a pipeline tied to the Åsgard Transport system have been submitted to the authorities.



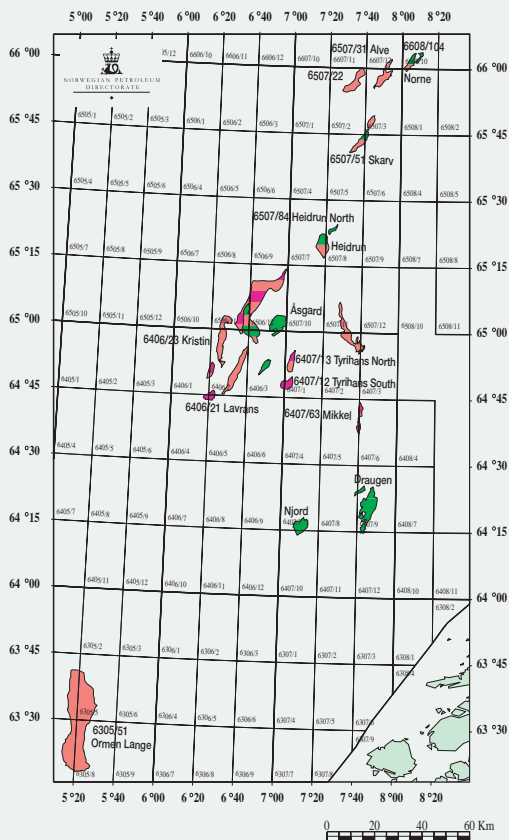
## Åsgard

<b>Blocks and production licences</b>	Block 6507/11 – production licence 062. Awarded 1981. (6507/11-1 Midgard) Block 6407/2 – production licence 074. Awarded 1982. (6507/11-1 Midgard) Block 6506/12 – production licence 094. Awarded 1984. (6506/12-1 Smørbukk and 6506/12-3 Smørbukk South) Block 6506/11 – production licence 134. Awarded 1987. (6506/12-1 Smørbukk) Block 6407/3 – production licence 237. Awarded 1998.	
<b>Progress</b>	Government approval: June 1996 Production start-up: 1999/2000	
<b>Operator</b>	Den norske stats oljeselskap a.s	
<b>Licensees</b> (rounded to two decimal places)	Den norske stats oljeselskap a.s (SDFI 46.95%)	60.50%
	Norsk Agip A/S	7.90%
	Total Norge AS	7.65%
	Mobil Development of Norway AS	7.35%
	Fortum Petroleum AS	7.00%
	Saga Petroleum ASA	7.00%
	Norsk Hydro Produksjon a.s	2.60%
<b>Recoverable reserves</b>	Originally present:	Remaining at 31.12.99:
	64.6 mill scm oil	60.7 mill scm oil
	198.1 bn scm gas	198.1 bn scm gas
	28 mill tonnes NGLs	28 mill tonnes NGLs
	49 mill scm condensate	49 mill scm condensate
<b>Production</b>	Estimated production in 2000: Oil: 159 000 barrels/day Gas: 1.37 bn scm NGLs: 0.07 mill tonnes Condensate: 0.99 mill scm	
<b>Investment</b>	Total investment is likely to be NOK 43.8 bn (2000 value). About NOK 35.9 bn (2000 value) had been invested at 31.12.99.	

Åsgard comprises the Midgard, Smørbukk and Smørbukk South discoveries, made in 1981, 1984 and 1985 respectively. Water depths are in the 240-300 metre range.

The field is being developed with a production ship for oil and condensate, which came on stream in May 1999, and a floating gas platform scheduled to start production in

October 2000. Both gas and oil/NGLs will be produced from subsea wells. Rich gas will be piped to Kårstø north of Stavanger for processing and fractionation of the liquid components. Dry gas is due to be sent on from Kårstø through the Europipe II line.



Fields and discoveries off mid-Norway (Source: Norwegian Petroleum Directorate)