



8

Production

Forecast production

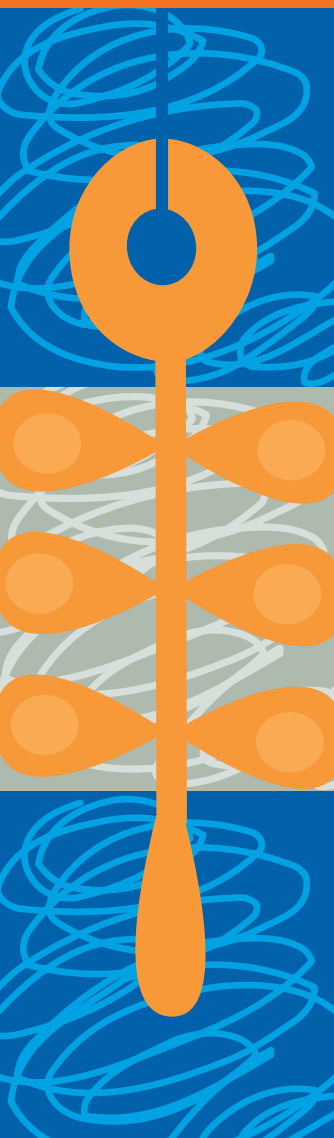


Table 8.1 Fields in production at 1 January 1999 (Source: Norwegian Petroleum Directorate)

	Originally present					Remaining at 31 Dec 1999				
	Oil mill scm	Gas bn scm	NGLs mill tonnes	Condensate mill scm	oe mill scm	Oil Mill scm	Gas bn scm	NGLs mill tonnes	Condensate mill scm	oe mill scm
Balder	26.7	0.0	0.0	0.0	26.7	25.7	0.0	0.0	0.0	25.7
Borg	12.6	1.6	0.4	0.0	14.7	Debited Tordis				
Brage 4)	46.7	2.6	0.7	0.0	50.2	12.5	1.1	0.2	(0.1)	13.8
Draugen	111.6	0.0	0.0	0.0	111.6	58.4	0.0	0.0	0.0	58.4
Ekofisk	417.1	142.2	13.3	0.0	576.6	155.4	29.9	3.6	0.0	189.9
Eldfisk	109.1	50.7	4.2	0.0	165.2	43.3	19.7	1.1	0.0	64.3
Embla	14.5	7.2	0.7	0.0	22.5	8.2	5.0	0.4	0.0	13.8
Frigg	0.0	119.8	0.0	0.5	120.2	0.0	7.3	0.0	0.0	7.2
Froy	5.5	1.6	0.0	0.1	7.2	0.2	0.4	0.0	0.0	0.6
Gullfaks 4)	314.8	21.2	2.0	0.0	338.6	54.8	3.5	0.7	(0.6)	58.7
Gullfaks South	32.8	61.2	0.0	0.0	94.0	32.0	61.2	0.0	0.0	93.2
Gullfaks West	3.6	0.4	0.0	0.0	4.0	1.4	0.4	0.0	0.0	1.8
Gullveig	2.7	2.0	0.0	0.0	4.8	2.3	2.0	0.0	0.0	4.4
Gungne 2)	0.0	8.4	1.0	3.0	12.6	Debited Sleipner 2)				
Gyda 4)	30.7	3.8	1.5	0.0	36.4	2.7	(0.9)	(0.1)	0.0	1.7
Gyda South 3)	5.6	3.7	0.7	0.0	10.2	Debited Gyda 3)				
Heidrun	183.8	19.9	0.1	0.0	203.9	132.9	18.3	0.1	0.0	151.4
Heimdal	6.9	44.6	0.0	0.0	51.5	0.8	2.2	0.0	0.0	2.9
Hod	8.2	1.5	0.2	0.0	10.0	1.8	0.3	0.0	0.0	2.1
Huldra 1)	0.0	18.7	0.3	7.4	26.4	0.0	18.7	0.3	7.4	26.4
Jotun	31.1	1.0	0.0	0.0	32.1	30.2	1.0	0.0	0.0	31.2
Loke 2)	0.0	3.5	0.5	1.2	5.4	Debited Sleipner 2)				
Murchison	13.6	0.4	0.4	0.0	14.5	0.8	0.1	0.0	0.0	1.0
Njord	28.4	0.0	0.0	0.0	28.4	22.8	0.0	0.0	0.0	22.8
Norne	80.4	15.0	1.4	0.0	97.3	65.4	15.0	1.4	0.0	82.2
Oseberg	337.0	34.0	0.0	8.0	379.0	71.5	34.0	0.0	8.0	113.0
Oseberg South 1)	53.5	11.4	0.0	0.0	64.9	53.5	11.4	0.0	0.0	64.9
Oseberg West	1.6	6.0	0.0	0.0	7.6	0.5	6.0	0.0	0.0	6.5
Oseberg East	22.8	0.8	0.0	0.0	23.6	21.9	0.8	0.0	0.0	22.7
Rimfaks 5)	19.5	(2.3)	0.0	0.0	17.2	18.4	(2.3)	0.0	0.0	16.1
Sleipner West 2)	0.0	125.5	8.5	27.0	163.6	0.0	97.1	6.9	19.6	125.7
Sleipner East 2) 4)	0.0	50.3	11.0	25.1	89.7	0.0	26.4	3.5	6.5	37.5
Snorre 4)	225.3	9.2	6.0	0.0	242.3	153.8	5.9	4.0	(0.4)	164.6
Statfjord 4)	569.5	56.4	13.9	0.0	644.0	72.5	14.6	4.3	(2.6)	90.1
Statfjord North 4)	41.6	3.1	0.7	0.0	45.6	25.4	2.2	0.5	(0.1)	28.1
Statfjord East 4)	35.7	5.1	1.0	0.0	42.0	16.3	3.9	0.7	(0.1)	21.0
Sygna 1)	9.3	0.6	0.0	0.0	9.8	9.3	0.6	0.0	0.0	9.8
Tor	27.2	11.6	1.2	0.0	40.4	6.4	1.1	0.1	0.0	7.6
Tordis 4)	29.9	3.1	0.7	0.0	33.9	7.2	1.3	0.2	(0.1)	8.7

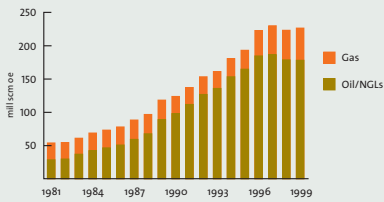


Figure 8.1 Total petroleum production 1981-1999
(Source: Norwegian Petroleum Directorate)

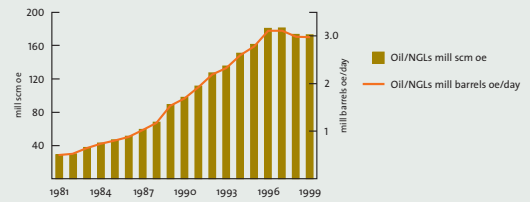


Figure 8.2 Oil production (incl NGLs) 1981-1999
(Source: Norwegian Petroleum Directorate)

						Debited Tordis				
Tordis East	5.2	0.5	0.1	0.0	5.9					
Troll I	0.0	653.3	12.7	669.8	0.0	0.0	588.1	12.7	0.0	600.8
Troll II	195.0	0.0	0.0	0.0	195.0	136.5	0.0	0.0	0.0	136.5
Tune 1)	0.0	24.0	0.1	6.1	30.2	0.0	24.0	0.1	6.1	30.2
Ula	70.0	3.7	2.5	0.0	77.0	10.2	0.0	0.2	0.0	10.4
Valhall	132.3	31.2	4.5	0.0	169.4	70.5	18.8	2.3	0.0	92.3
Varg	4.4	0.0	0.0	0.0	4.4	2.7	0.0	0.0	0.0	2.7
Veslefrikk 4)	54.5	9.6	1.3	0.0	65.8	18.7	7.9	0.3	(0.1)	26.8
Vigdis	33.3	2.3	0.0	0.0	35.7	21.9	2.3	0.0	0.0	24.2
Visund	48.5	0.0	0.0	0.0	48.5	47.9	0.0	0.0	0.0	47.9
Yme	9.3	0.0	0.0	0.0	9.3	2.7	0.0	0.0	0.0	2.7
Åsgard	64.6	198.1	28.0	49.0	348.1	60.7	198.1	28.0	49.0	344.2
Total	3476.5	1725.8	118.2	123.5	5479.4	1479.8	1067.0	61.9	63.3	2690.5

Footnotes table 8.1:

1. Fields with an approved development plan at 31 December 1999 which are not yet in production.
2. Gas production from the Sleipner area is measured collectively. All production from this area is deducted from Sleipner East reserves.
3. Production from Gyda and Gyda South is measured collectively. All production is deducted from Gyda reserves.
4. Small negative figures for remaining resources arise for accounting reasons, and reflect discrepancies between estimates for original recoverable resources and exact production figures.

Petroleum production from the NCS in 1999 totalled roughly 226.9 mill scm oe. Oil accounted for 168.9 mill scm oe (2.9 mill b/d) of this figure, gas for 45.4 mill scm oe and NGLs (including condensate) for 12.9 mill scm oe. This represented

a rise from 1998, when overall petroleum production came to 222.5 mill scm oe. Gas and NGL/condensate production accounted for the virtually all the increase, while oil output remained relatively stable.

Table 8.2 Production of oil/NGLs and sales of gas, mill scm oe (Source: Norwegian Petroleum Directorate)

	1971-1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	Total
Oil/NGLs	676.5	111.8	127.4	136.1	153.5	165.0	184.7	186.2	178.6	181.5	2101.3
Gas	322.4	25.1	25.7	24.7	26.8	27.6	38.1	42.3	43.0	45.4	621.1
Total	998.9	136.9	153.1	160.8	180.3	192.6	222.8	228.5	221.6	226.9	2722.4

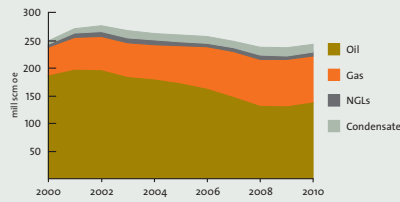


Figure 8.3 Production forecast for petroleum 1999-2010
(Source: Norwegian Petroleum Directorate)

FORECAST PRODUCTION

Figure 8.2 shows historical production of crude oil from the NCS. After a long period of continuous growth, the development in output has been weak since 1996.

Forecast petroleum production from the NCS is shown in figure 8.3, broken down by oil, NGLs and gas. The figure shows that the share of gas in overall output is expected to increase substantially, from roughly 21 per cent today to about 34 per cent in 2007.

Figure 8.4 shows expected production of crude oil from the NCS within an uncertainty range. Norway's output is set to average about 3.2 mill b/d of crude during 2000, including an official regulation of production by 200 000 b/d for the first three months.

The latter represents an element in the long-term management of the country's petroleum resources and tax revenues, and of the petroleum sector's impact on the economy.

Crude oil output is expected to rise to about

3.4 mill b/d in 2001 and 2002, and should there after fall back towards the present level by 2005.

These production forecasts involve considerable uncertainties, such as the time when different fields go off plateau, how fast their output might decline and when fields now under consideration will come on stream.

Other sources of uncertainty include the development of new technology and the recovery factor for each field.

In the longer term, the number and size of new discoveries and industry profitability are also likely to influence the level of production.

Annual Norwegian gas sales have lain around 40-50 bn scm oe in recent years. Under existing contracts, however, they are due almost to double over the next decade. For planning purposes, annual gas sales are put at about 85 bn scm from 2007-08.

Figure 8.5 shows contractual delivery commitments for Norwegian natural gas, split between field and delivery contracts based on existing agreements.

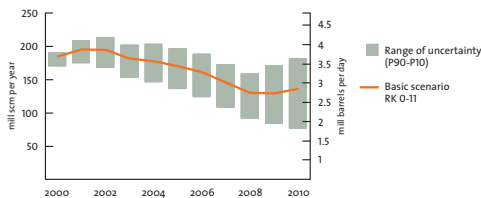


Figure 8.4 Forecast for Norwegian oil production, 1999-2010
(Source: Norwegian Petroleum Directorate)

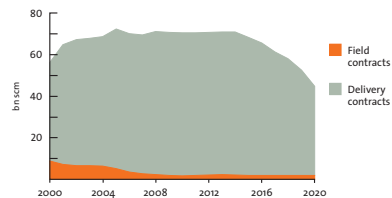


Figure 8.5 Delivery obligations for natural gas from the NCS (Source: MPE)