



8

# Production

Forecast production

Table 8.1 Fields in production at 1 January 2000. (Source: Norwegian Petroleum Directorate)

Fields	Originally present <sup>a</sup>					Remaining				
	Oil mill scm	Gas bn scm	NGL mill tonnes	Condensate mill scm	oe mill scm	Oil mill scm	Gas bn scm	NGL mill tonnes	Condensate mill scm	oe mill scm
Balder	30	0	0	0	30	24	0	0	0	24
Brage	48	3	1	0	53	11	1	0	0	13
Draugen	114	2	2	0	119	49	2	2	0	54
Ekofisk	456	180	14	0	662	178	65	4	0	250
Eldfisk	111	48	4	0	168	44	16	1	0	63
Embla	13	7	1	0	21	6	4	0	0	11
Frigg	0	120	0	0	121	0	7	0	0	7
Frøy	6	2	0	0	7	0	0	0	0	0
Glitne <sup>b</sup>	4	0	0	0	4	4	0	0	0	4
Grane <sup>b</sup>	120	0	0	0	120	120	0	0	0	120
Gullfaks <sup>1</sup>	321	21	2	0	346	45	3	1	(1)	48
Gullfaks South <sup>2</sup>	44	48	5	0	101	39	47	5	0	95
Gyda <sup>3</sup>	36	8	2	0	47	7	3	0	0	10
Heidrun	184	20	0	0	204	122	18	0	0	140
Heimdal	7	42	0	0	49	1	(1)	0	0	0
Hod	8	1	0	0	10	1	0	0	0	2
Huldra <sup>b</sup>	0	19	0	7	27	0	19	0	7	27
Jotun	31	1	0	0	32	23	1	0	0	24
Kvitebjørn <sup>b</sup>	0	57	0	19	77	0	57	0	19	77
Murchison	14	0	0	0	15	1	0	0	0	1
Njord	22	0	0	0	22	12	0	0	0	12
Norne	85	15	1	0	102	59	15	1	0	77
Oseberg <sup>4</sup>	339	41	0	7	388	58	40	0	7	105
Oseberg South	54	7	0	0	62	53	7	0	0	60
Oseberg East	24	1	0	0	25	20	1	0	0	22
Ringhorne <sup>b</sup>	39	2	0	0	41	39	2	0	0	41
Sleipner area <sup>5</sup>	0	171	19	56	263	0	113	9	20	150
Snorre	225	9	7	0	247	145	5	5	(1)	159
Statfjord	567	56	14	0	650	59	13	4	(3)	77
Statfjord North	46	2	1	0	49	25	1	0	0	28
Statfjord East	35	6	1	0	43	12	5	1	0	18
Sygna	10	1	0	0	11	10	1	0	0	10
Tambar <sup>b</sup>	7	2	0	0	9	7	2	0	0	9

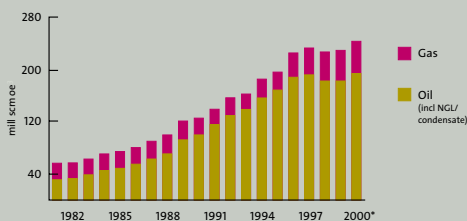


Figure 8.1 Total petroleum production 1981-2000.  
(Source: Norwegian Petroleum Directorate) \*estimate

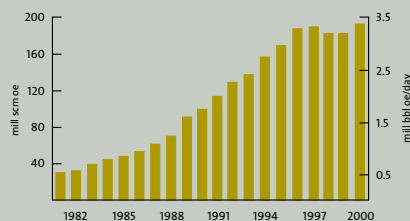


Figure 8.2 Oil production (incl NGL/condensate) 1981-2000.  
(Source: Norwegian Petroleum Directorate)

Fields	Originally present <sup>a</sup>					Remaining				
	Oil mill scm	Gas bn scm	NGL mill tonnes	Condensate mill scm	oe mill scm	Oil mill scm	Gas bn scm	NGL mill tonnes	Condensate mill scm	oe mill scm
Tor	26	12	1	0	40	5	1	0	0	6
Tordis <sup>6</sup>	52	4	1	0	59	25	2	1	0	29
Troll <sup>7</sup>	213	665	10	0	898	137	575	10	0	731
Tune <sup>b</sup>	0	24	0	6	30	0	24	0	6	30
Ula	76	4	3	0	85	15	0	0	0	16
Valhall	149	25	4	0	181	83	12	2	0	98
Varg	5	0	0	0	5	1	0	0	0	1
Veslefrikk	55	4	1	0	61	16	2	0	0	19
Vigdis	30	2	0	0	32	14	2	0	0	16
Visund	37	0	0	0	37	34	0	0	0	34
Yme	8	0	0	0	8	0	0	0	0	0
Åsgard	69	191	28	45	356	57	190	28	45	344
<b>Sum</b>	<b>3 719</b>	<b>1 822</b>	<b>124</b>	<b>141</b>	<b>5 917</b>	<b>1 566</b>	<b>1 256</b>	<b>75</b>	<b>100</b>	<b>3 065</b>

Some fields are reported with reserves and production from other fields. This applies to the following:

- 1) Gullfaks includes Gullfaks West
- 2) Gullfaks South includes Gullveig and Rimfaks
- 3) Cyda includes Cyda South
- 4) Oseberg includes Oseberg West
- 5) Sleipner area includes Sleipner East, Sleipner West, Gungne and Loke

6) Tordis includes Tordis East and Borg

7) Troll includes Togi

- a) The table presents expected values. All estimates are subject to uncertainty.
- b) Fields with an approved development plan, but which were not on stream at 31.12.00.

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

	1971-1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Totalt
Oil/NGL/cond	689.5	113.5	129.0	137.9	156.2	168.3	188.2	190.3	182.3	181.9	193.7	2 330.8
Gas	324.1	25.0	25.8	24.8	26.8	27.8	37.4	42.9	44.2	48.3	49.9	677.0
<b>Total</b>	<b>1 013.6</b>	<b>138.5</b>	<b>154.8</b>	<b>162.7</b>	<b>1 83.0</b>	<b>196.1</b>	<b>225.6</b>	<b>233.2</b>	<b>226.5</b>	<b>230.2</b>	<b>243.6</b>	<b>3 007.8</b>

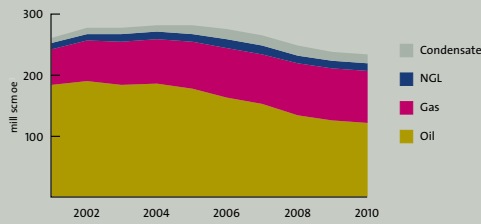


Figure 8.3 Production forecast for petroleum 2001-2010.  
(Source: Norwegian Petroleum Directorate)

Petroleum production from the NCS in 2000 totalled roughly 243.6 mill scm oe. Crude oil accounted for 181 mill scm oe (3.1 mill b/d) of this figure, gas for 49.9 mill scm oe and NGL (including condensate) for 12.7 mill scm oe. This represented a rise from 1999, when overall petroleum production came to 230.2 mill scm oe.

#### FORECAST PRODUCTION

After a long period of continuous growth in petroleum production, the development in output has been moderate since 1996. Oil production (including NGL/condensate) in 2000 averaged 3.3 mill b/d, the highest level so far achieved by Norway. Figure 8.2 shows historical production of oil (including NGL/condensate) on the NCS.

The share of gas in overall petroleum output is expected to increase substantially in coming years, from 23 per cent in 2000 to about 37 per cent in 2010. By contrast, oil production is expected to remain around its present level until 2004, when it will start to decline gradually. Figure 8.3

shows expected petroleum output from the NCS, broken down into crude oil, NGL, condensate and gas.

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. Figure 8.4 shows expected output of crude oil within an uncertainty range.

Annual Norwegian gas sales have lain around 40-50 bn scm oe in recent years. Under existing contracts, however, they are due increase to about 70 bn scm over the next five years.

Figure 8.5 shows future Norwegian gas production, split between field and delivery contracts based on existing agreements.

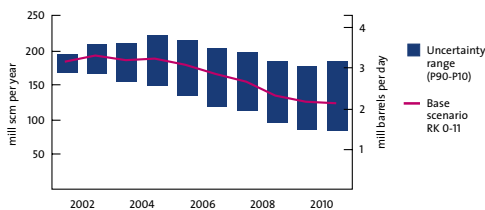


Figure 8.4 Forecast for Norwegian oil production, 2001-2010.  
(Source: Norwegian Petroleum Directorate)

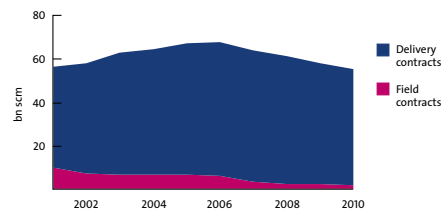


Figure 8.5 Delivery obligations for natural gas from the NCS. (Source: MPE)