



8

Production

Production 2001

Forecast production




Table 8.1 Fields in production, with an approved development plan or with a development decision by the licensees at 31 December 2001. Footnotes on page 42. (Source: NPD)

FIELD	VOLUME ORIGINALLY RECOVERABLE ¹					REMAINING RESERVES ⁵				
	Oil					Oil				
	Oil mill scm	Gas bn scm	NGL mill tonnes	Condensate mill scm	equivalent ² mill scm	Oil mill scm	Gas bn scm	NGL mill tonnes	Condensate mill scm	equivalent ² mill scm
BALDER ^a	72.4	2.9	0.0	0.0	75.3	63.5	2.9	0.0	0.0	66.3
BRAGE	44.9	2.6	0.7	0.0	48.9	5.8	0.8	0.1	0.0	6.8
DRAUGEN	137.0	7.4	2.0	0.0	148.2	60.2	7.1	1.6	0.0	70.4
EKOFISK	478.5	174.0	14.0	0.0	679.0	183.6	55.8	3.7	0.0	246.4
ELDFISK	108.5	45.3	4.1	0.0	161.5	39.4	12.8	0.9	0.0	53.9
EMBLA	13.6	6.6	0.7	0.0	21.4	6.1	4.2	0.4	0.0	11.1
FRAM ³	16.1	3.6	0.1	0.0	19.8	16.1	3.6	0.1	0.0	19.8
FRIGG	0.0	121.6	0.0	0.5	122.1	0.0	7.7	0.0	0.0	7.7
GLITNE	3.6	0.0	0.0	0.0	3.6	2.8	0.0	0.0	0.0	2.8
GRANE ³	120.0	0.0	0.0	0.0	120.0	120.0	0.0	0.0	0.0	120.0
GULLFAKS ^b	335.2	22.2	2.0	0.0	361.1	49.2	2.7	0.5	-0.7	52.2
GULLFAKS SOUTH ^c	40.2	47.4	5.8	0.0	98.7	31.1	46.9	5.8	0.0	89.0
GUNGNE	0.0	10.1	1.3	3.1	15.7	0.0	10.1	0.8	1.5	13.1
GYDA ^d	34.1	5.8	1.8	0.0	43.3	3.8	0.6	0.1	0.0	4.7
HEIDRUN	178.0	28.2	1.2	0.0	208.4	106.4	24.7	1.1	0.0	133.1
HEIMDAL	6.9	41.8	0.0	0.0	48.7	0.8	0.3	0.0	0.0	1.0
HOD	7.8	1.6	0.2	0.0	9.8	0.9	0.3	0.0	0.0	1.2
HULDRA	5.0	12.9	0.1	0.0	18.1	4.9	12.8	0.1	0.0	17.9
JOTUN	31.1	0.8	0.0	0.0	31.9	17.6	0.3	0.0	0.0	17.9
KRISTIN ³	0.0	34.9	8.5	34.6	85.7	0.0	34.9	8.5	34.6	85.7
KVITEBJØRN ³	0.0	54.2	0.5	20.6	75.6	0.0	54.2	0.5	20.6	75.6
MIKKEL ³	0.0	19.8	4.2	5.5	33.3	0.0	19.8	4.2	5.5	33.3
MURCHISON	13.6	0.4	0.4	0.0	14.7	0.5	0.1	0.1	0.0	0.7
NJORD	23.7	0.0	0.0	0.0	23.7	11.3	0.0	0.0	0.0	11.3
NORNE	84.8	13.5	1.3	0.0	100.8	47.9	12.5	1.2	0.0	62.7
OSEBERG	346.0	89.0	0.0	0.0	435.0	54.1	84.1	-0.5	-0.6	136.5
OSEBERG EAST	24.5	0.8	0.0	0.0	25.3	17.2	0.8	0.0	0.0	18.0
OSEBERG SOUTH	54.0	7.0	0.0	0.0	61.0	48.1	7.0	0.0	0.0	55.1
OSEBERG WEST	2.0	6.0	0.0	0.0	8.0	0.9	6.0	0.0	0.0	6.9
SIGYN ³	0.0	5.3	1.5	3.0	11.1	0.0	5.3	1.5	3.0	11.1
SLEIPNER EAST ^e	0.0	55.2	11.3	25.2	101.7					
SLEIPNER WEST	0.0	104.0	6.9	27.0	144.1					
SLEIPNER EAST AND WEST ⁶						0.0	90.3	6.2	13.1	115.2
SNORRE	231.6	8.9	6.7	0.0	253.3	140.0	4.8	4.0	-0.6	151.9
SNØHVIT ⁴	0.0	163.5	5.1	18.1	191.3	0.0	163.5	5.1	18.1	191.3
STATFJORD	561.4	58.4	14.4	0.0	647.1	43.4	13.5	4.2	-3.2	61.6
STATFJORD EAST	37.1	4.1	1.3	0.0	43.6	12.6	2.2	0.7	0.0	16.3
STATFJORD NORTH	40.0	2.8	0.8	0.0	44.4	16.9	1.6	0.5	0.0	19.5
SYGNA	12.7	0.0	0.0	0.0	12.7	9.5	0.7	0.0	0.0	10.2
TAMBAR	7.2	2.4	0.3	0.0	10.1	6.7	2.4	0.3	0.0	9.6
TOR	25.8	11.4	1.2	0.0	39.5	4.4	0.8	0.1	0.0	5.4
TORDIS ^f	52.5	4.2	1.4	0.0	59.3	20.9	1.7	0.7	0.0	24.0
TROLL ⁹	215.9	1 321.7	24.8	1.6	1 586.2	119.5	1 210.4	24.8	0.0	1 376.9
TUNE ³	6.1	22.9	0.1	0.0	29.1	6.1	22.9	0.1	0.0	29.1
ULA	77.9	3.7	2.6	0.0	86.6	15.6	0.0	0.3	0.0	16.1
VALE ³	3.0	2.3	0.0	0.0	5.3	3.0	2.3	0.0	0.0	5.3
VALHALL	166.7	25.6	4.1	0.0	200.1	96.0	11.4	1.6	0.0	110.5
VARG	5.2	0.0	0.0	0.0	5.2	0.5	0.0	0.0	0.0	0.5
VESLEFRIKK	54.6	3.1	1.1	0.0	59.8	14.3	1.1	0.0	0.0	15.4
VIGDIS	29.8	2.1	0.0	0.0	31.9	10.5	2.1	0.0	0.0	12.6
VISUND	42.9	50.5	5.1	0.0	103.1	37.5	50.5	5.1	0.0	97.7
ÅSGARD	71.4	190.7	27.6	42.0	356.5	51.3	186.4	27.0	41.1	330.0
Total	3 823.1	2 803.0	164.9	181.2	7 120.6	1 500.8	2 186.8	111.3	132.3	4 031.3



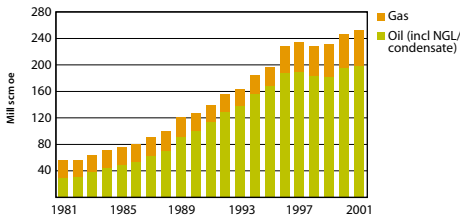


Figure 8.1 Total petroleum production 1981-2001
(Source: MPE/NPD)

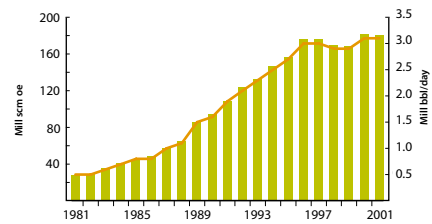


Figure 8.2 Crude oil production 1981-2001
(Source: MPE/NPD)

- 1) The table specifies estimated values. All estimates are subject to uncertainty
- 2) The factor applied in converting NGL from tonnes to standard cubic metres is 1.9
- 3) Fields approved for development but not on stream at 31 December (resource category 2)
- 4) Discoveries which the licensees have decided to produce (resource category 3)
- 5) Negative amounts for remaining reserves in certain fields indicate that the product is not reported under the volume originally recoverable. This applies to produced NGL and condensate.
- 6) Production from Sleipner East and West is measured jointly. As a result, their remaining reserves have also been combined.

- a) Balder includes Ringhorne
- b) Gullfaks includes Gullfaks West
- c) Gullfaks South includes Rimfaks and Gullveig
- d) Gyda includes Gyda South
- e) Sleipner East includes Loke
- f) Tordis includes Borg and Tordis East
- g) Troll includes Togi

Table 8.2 Total petroleum production, mill scm oe. (Source: NPD)

	1971-1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	Total
Oil/NGL/cond	803	129.0	137.9	156.2	168.3	188.2	190.3	182.3	181.9	194.7	198.1	2 529.9
Gas	349.1	25.8	24.8	26.8	27.8	37.4	42.9	44.2	48.3	49.7	53.2	730.0
Total	1 152.1	154.8	162.7	183.0	196.1	225.6	233.2	226.5	230.2	244.4	251.3	3 259.9

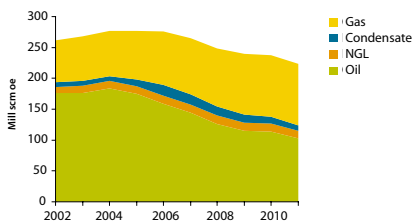


Figure 8.3 Production forecast for petroleum 2002-2011
(Source: MPE/NPD)

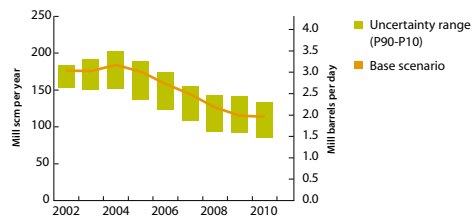


Figure 8.4 Forecast for Norwegian crude oil production 2002-2011 (Source: MPE/NPD)

Production 2001

Petroleum production from the NCS in 2001 totalled roughly 251 mill scm oe. Crude oil accounted for 181 mill scm oe (3.1 mill b/d) of this figure, gas for 53 mill scm oe and NGL (including condensate) for 17 mill scm oe. This represented a rise from 2000, when overall petroleum production came to 244 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 2001 averaged 3.4 mill b/d oe, the highest level so far achieved by Norway. Figure 8.2 shows historical production of crude oil on the NCS.

The share of gas in overall petroleum output is expected to increase substantially in coming years, from just over 20 per cent in 2001 to about 42 per

cent in 2010. By contrast, oil production is expected to remain around its present level for the next few years before starting 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, but are expected to increase substantially. A future sales level of 100 bn scm is regarded as a realistic scenario.

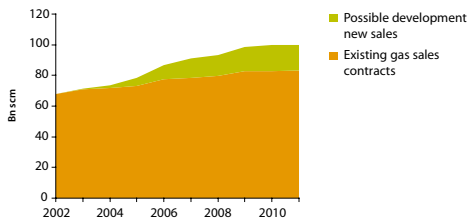


Figure 8.5 Dry gas deliveries from the NCS
(Source: MPE/NPD)