



9

Market status for Norwegian petroleum products

Norm price

Norwegian crude on the world market

Sale of natural gas liquids (NGL)

Dry gas sales

Refining

Retail sales

Petrochemicals

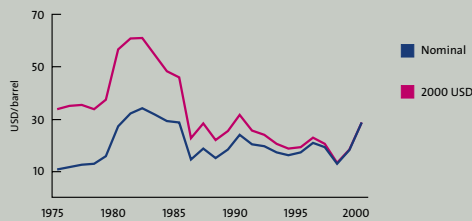


Figure 9.1 Price of Norwegian crude oil 1975-2000. (Source: MPE)

A governing principle of Norwegian policies on petroleum sales is that these will be made by commercial companies on the basis of commercial criteria within a general framework determined by the authorities. This means that producers on the NCS sell crude oil on market terms.

NORM PRICE

The Act of 13 June 1975 on taxation of subsea petroleum deposits (the Petroleum Taxation Act) provides the legal basis for an administrative determination of petroleum prices – the norm price – for the purpose of calculating tax and royalty payments. Figure 9.1 shows the trend in prices for Norwegian crude since 1975 in terms of the average norm price.

Authorisation to determine such norm prices for calculating royalty is provided by section 4-9, subsection 6 of the Continental Shelf Act. The norm price regulations of 25 June 1976, with subsequent amendments, specify guidelines for determining these prices, and are framed to have general validity for these three areas of application. For tax purposes, the norm price is applied to all petroleum transactions, whether traded between independent parties or transferred internally.

Authority to set provisional and final norm prices – and to decide whether such prices should not be determined for specified production areas – has been delegated to the Petroleum Price Board. The latter fixes norm prices in arrears – normally for each quarter, but for a shorter period when this is considered desirable. In recent years, with frequent oil price changes, the board has largely fixed monthly norm prices for crude oil.

The norm price must correspond to the price at which petroleum could have been traded between independent parties in a free market. "Independent parties" are defined as buyers and sellers with no common interests which might influence the price agreed. The norm price is fixed on a discretionary basis after an overall evaluation of market conditions, taking several types of transactions, reference markets and methods of evaluation into account.

Norway's norm price regulations are framed to cover all types of petroleum produced on the NCS. For natural gas, contractual prices provide the basis of calculating liability to tax and royalty because gas – unlike crude oil – is sold under long-term contracts.

The Petroleum Price Board has not set any norm prices so far for NGL (ethane, propane, butanes and condensate). When no norm price is fixed, prices actually obtained provide the basis for calculating tax liability.

NORWEGIAN CRUDE ON THE WORLD MARKET

Daily Norwegian offshore production averaged 3.3 mill barrels of oil (including NGL) in 2000, and Norway ranked sixth among the world's leading oil producers. Crude output increased by some 200 000 b/d from 1999.

Since Norway consumes some 200 000 barrels of petroleum products per day, its net exports of crude oil and petroleum products (including NGL) totalled about 3.1 mill b/d. This puts Norway in third place after Saudi Arabia and Russia among the world's leading net crude exporters.

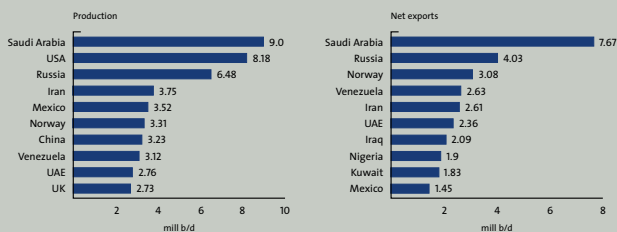


Figure 9.2 Production and net export of crude oil, incl NGL 2000. (Source: Petroleum Economics Limited)

Table 9.1 Norwegian crude oils marketed as different blends.

Norwegian crude oil	Crudes included in the various blends	Shipped from	Estimate for 2001, 1 000 b/d
Ekofisk	Ekofisk Embla Gyda incl Gyda South Hod Eldfisk Tor Valhall Ula	Terminal (Teesside)	484
Statfjord Blend	Statfjord Snorre Statfjord East Statfjord North Sygna	Buoy/via Mongstad	460
Oseberg Blend	Oseberg incl Oseberg West Oseberg East Oseberg South Veslefrikk Brage	Terminal (Sture)	467
Gullfaks Blend	Gullfaks A Gullfaks B Gullfaks West Gullfaks South Vigdis	Buoy/via Mongstad	313
Gullfaks C	Gullfaks C Tordis incl Borg Visund	Buoy/via Mongstad	72
Brent Blend	Murchison	Terminal (Sullom Voe)	3
Forties	Heimdal condensate	Terminal (Cruden Bay)	2
Draugen	Draugen	Buoy	209
Heidrun	Heidrun	Buoy/via Mongstad	174
Yme	Yme	Buoy/via Mongstad	2
Norne	Norne	Buoy	181
Jotun	Jotun	Buoy	130
Balder	Balder	Buoy	69
Njord	Njord	Buoy	52
Glitne	Glitne	Buoy	19
Troll Oil	Troll phase 2	Terminal (Mongstad)	319
Varg	Varg	Buoy	19
Åsgard	Åsgard	Buoy	148

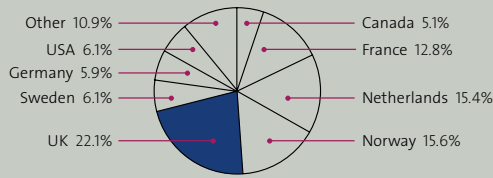


Figure 9.3 Shipments of Norwegian crude oil 2000*. Total: 178.5 mill scm oe.
(Source: Norwegian Petroleum Directorate) *to first recipient

Figure 9.3 shows shipments of Norwegian crude in 2000 by the first recipient nation. For commercial and technical reasons, various grades of oil are often marketed as a single blend. Both oil quality and flexibility in loading and storage affect the price obtained. Table 9.1 illustrates how Norwegian crudes are marketed as different blends.

blended with petrol or converted by alkylation to high-octane products). Heating constitutes about 60 per cent of the total market, with petrochemical production accounting for 30 per cent and automotive fuels for the remaining 10 per cent.

Demand for LPG from the heating market is high in the six winter months, which drives up the price. That makes these products less attractive as an alternative to naphtha in petrochemicals. Figure 9.5 shows shipments of Norwegian NGL to the first recipient in 2000.

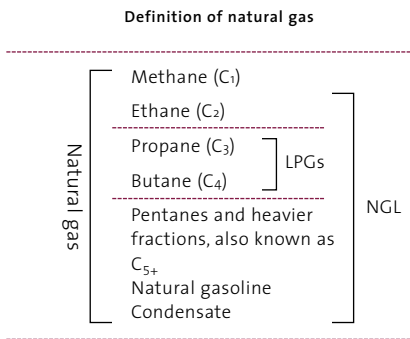


Figure 9.4 Definition of natural gas. (Source: MPE)

DRY GAS SALES

Norwegian dry (natural) gas is almost exclusively sold under long-term contracts. All deals signed before the Troll gas sales agreements in 1986 covered the entire reserves of a specified field (depletion contracts). The Troll agreements, on the other hand, are volume contracts with Troll serving as the main source, but with the option to deliver from other Norwegian fields.

Norway sells its gas through commercial negotiations, which have been pursued since 1986 by the Gas Negotiating Committee (GFU).

Members of the latter have been Statoil (chair), Norsk Hydro and Saga Petroleum. Following the acquisition of Saga by Hydro, only two companies remain members of the committee.

The GFU is responsible for preparing and pursuing all negotiations over Norwegian gas sales up to the final signing of the contract. If licensees are able to achieve a better price or to use the gas in their own facilities, however, sales can be agreed independently of the GFU. The authorities

SALES OF NATURAL GAS LIQUIDS (NGL)

NGL comprises ethane, propane, normal butane, iso-butane and condensate (see figure 9.4).

About 12.7 million scm oe of NGL was produced from the NCS in 2000, including some 6.1 million scm oe in the form of liquefied petroleum gases (LPG – propane and butanes). NGL output was about 20 per cent higher than in 1999.

Europe's LPG market can be divided into three main segments: heating (industrial and household fuels), petrochemicals and automotive fuel (directly,

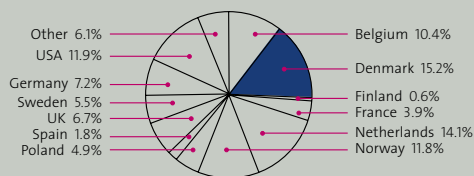


Figure 9.5 Shipments of NGL/condensate 2000*. Total: 10.9 mill scm oe.
(Source: Norwegian Petroleum Directorate) *to first recipient

have the responsibility and duty to designate contract and delivery fields for all agreements, and to approve all commercial deals.

A Gas Supply Committee (FU) was established in 1993 to supplement the existing gas sales organisation. This body advises the MPE on issues relating to the development and use of fields and transport systems.

Dry gas agreements

Figure 9.6 shows Norwegian gas exports in 2000 by recipient.

Gas from Frigg was sold under a contract with British Gas signed in 1973. Supplementary agreements for gas from Odin and the Frigg satellites were signed in 1980. Some fields have already been abandoned and further shutdowns are expected over the next few years.

Gas deliveries from the Ekofisk area are made under four different agreements. The Phillips group signed two contracts in 1973 and 1975 respectively with a buyer group consisting of Germany's Ruhrgas, Dutch Gasunie, Belgium's Distrigaz and Gaz de France. These deals embrace the Phillips group's interests in all eight Ekofisk area fields, and were merged into a single agreement in 1990.

A framework agreement on gas deliveries from Statfjord, Heimdal and Gullfaks phase I was signed with European buyers in 1981 and followed later by final contracts.

In May 1986, an agreement was signed between the Troll licensees and Germany's Ruhrgas, Thyssengas and BEB as well as Distrigaz, Gasunie

and Gaz de France. Similar deals were concluded by the Troll group with Austria in November 1986 and with Spain's Enagas in April 1988.

The Gas Negotiating Committee (GFU) signed an agreement with SEP, the Dutch association of power producers, in September 1988.

In 1993, Norwegian gas sellers also concluded contracts on new gas deliveries with Distrigaz for power generation in Belgium, with gas distributor Verbundnetz Gas in eastern Germany, and with Ruhrgas to provide additional supplies.

Further agreements followed with Gaz de France and Meeg (Mobil Germany) in 1994, and a supplementary deal was agreed with the French company in 1995.

Gas from Frøy has been delivered to UK companies since 1995. Irish buyers began receiving part of the gas from this field in 1997. Supplementary deliveries were agreed with Ruhrgas in 1996, while Italy's Snam contracted to buy gas in January 1997. A contract was signed by the GFU with Czech company Transgas in April of the same year.

Associated gas from the Heidrun field is sold as feedstock for methanol production and other applications at the Tjeldbergodden complex in mid-Norway.

Since 1998, Norwegian gas sellers have secured short-term contracts for gas sales to the UK.

A minor gas sales contract with Polish interests was concluded by Norwegian sellers in 1999. The two sides are currently negotiating a more substantial agreement.

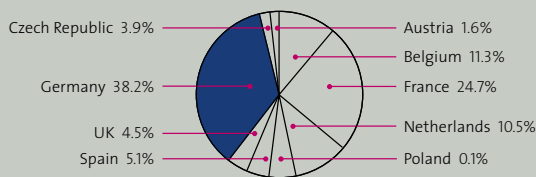


Figure 9.6 Norwegian gas exports 2000. Totalt: 48.6 bn scm oe.
(Source: Norwegian Petroleum Directorate)

Gas deliveries

The first deliveries under the Troll contracts took place from Sleipner East in 1993. Gas began flowing from Troll itself in the autumn of 1996.

Norwegian gas producers will have annual delivery commitments of over 70 bn scm by 2005. Most of these volumes are sold under delivery contracts.

Demand for Norwegian gas is currently high, in part because natural gas presents far fewer environmental problems than oil or coal.

Norwegian gas in an international perspective

Norway's gas exports totalled 48.6 bn scm in 2000, an increase of about seven per cent from 1999.

This represented some two per cent of world gas consumption, which was roughly 2 300 bn scm. Around 80 per cent of the latter output was used in the producing countries, with the remainder being traded across national frontiers.

Norway ranks among the world's top 10 gas exporters and is a major gas supplier to western

Europe, where Norwegian natural gas deliveries account for some 10 per cent of total gas consumption.

REFINING

The Norwegian refining sector embraces two refineries: the Mongstad facility owned by Statoil and Shell close to Bergen, and the Esso plant at Slagen near Oslo. Approximate annual capacities are just over 10 and roughly 4.5 million tonnes respectively.

The Shell facility at Sola outside Stavanger was closed in 2000.

Tables 9.2 and 9.3 illustrate Norwegian production and export of petroleum products in 1996-2000.

RETAIL SALES

Figure 9.7 provides an overview of most Norwegian companies involved in retailing petroleum products, with their market shares.

Table 9.2 Norwegian production of petroleum products, 1 000 tonnes. (Source: Statistics Norway)

Product	1996	1997	1998	1999	2000
Petrol	3 216	3 418	3 233	3 204	3 398
Naphtha/other gasolines	694	586	778	990	1 324
Kerosine	1 253	1 127	877	875	838
Medium distillates	6 870	7 126	6 921	7 279	8 174
Heavy fuel oil	1 780	1 878	1 997	1 958	1 856
Total	13 813	14 135	13 806	14 306	15 590

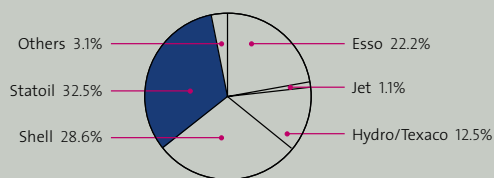


Figure 9.7 Market shares 2000. (Source: Norwegian Petroleum Institute)

Table 9.3 Norwegian exports of petroleum products, 1 000 tonnes. (Source: Statistics Norway)

Product	1996	1997	1998	1999	2000
Petrol	1 942	1 806	1 829	1 830	2 068
Naphtha/other gasolines	2 836	4 561	3 563	4 742	3 557
Kerosine	457	305	224	200	206
Medium distillates	3 528	3 681	3 760	3 485	3 501
Heavy fuel oil	1 476	1 637	1 428	1 638	1 488
Total	10 239	11 990	10 804	11 895	10 821

PETROCHEMICALS

Statoil owns 50 per cent of the Borealis petrochemicals group, a leading producer of polyolefins (plastic raw materials) with its head office in Copenhagen and some 6 000 employees.

I/S Noretyl, which produces ethylene and propylene as well as chemicals, is owned 51 per cent by Norsk Hydro (operator) and 49 per cent by Borealis. This company is located at Rafnes in Bamble local authority south of Oslo, where Hydro

also operates chlorine and VCM plants.

In addition, Bamble is the site of Borealis facilities producing plastic raw materials such as polyethylene and polypropylene based on ethylene and propylene supplied by I/S Noretyl.

Statoil and Conoco have a methanol plant at Tjeldbergodden, which started production in 1997.

Jotun Polymer and Dyno Kjemigruppen are also regarded as part of Norway's petrochemicals sector.