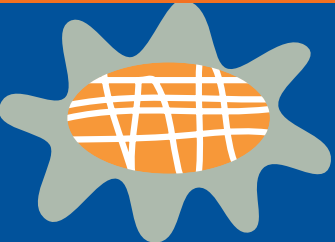


9



Market status for Norwegian petroleum products

Norm price

Norwegian crude on the world market

Sale of natural gas liquids (NGLs)

Dry gas sales

Refining

Retail sales

Petrochemicals

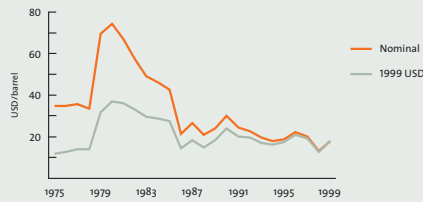


Figure 9.1 Price of Norwegian crude oil 1975-1999 (Source: MPE)

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 NGLs (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 2.9 mill barrels of crude oil (excluding NGLs) in 1999, and Norway ranked seventh among the world's leading oil producers. Crude output was more or less unchanged from 1998.

Since Norway consumes about 200 000 barrels of petroleum products per day, its net exports of crude oil and petroleum products (including NGLs) totalled about 2.9 mill barrels a day. This puts Norway in third place after Saudi Arabia and countries in the former Soviet Union (FSU) among the world's leading net crude exporters. Figure 9.3 shows shipments of Norwegian crude

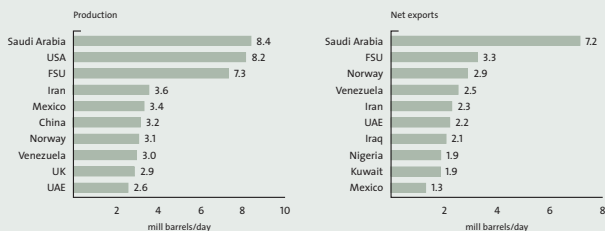


Figure 9.2 Production and net export of crude oil, incl NGLs 1999 (Source: Petroleum Economics Limited)

Table 9.1 Norwegian crude oils marketed as different blends

Norwegian crude blends	Crudes included in the various blends	Shipped from	Estimate for 2000, 1 000 b/d
Ekofisk	Ekofisk Embla Gyda Hod Eldfisk Tor Valhall Ula	Terminal (Teesside)	485
Statfjord Blend	Statfjord Snorre Statfjord East Statfjord North Sygna	Buoy/via Mongstad	496
Oseberg Blend	Oseberg, incl Oseberg West Oseberg East Oseberg South Veslefrikk Brage Frøy	Terminal (Sture)	450
Gullfaks Blend	Gullfaks A Gullfaks B Gullfaks West Vigdis	Buoy/via Mongstad	217
Gullfaks C	Gullfaks C Tordis, incl Borg Visund Gullfaks sat phase I	Buoy/via Mongstad	292
Brent Blend	Murchison	Terminal (Sullom Voe)	3
Forties	Heimdal condensate	Terminal (Cruden Bay)	1
Draugen	Draugen	Buoy	223
Heidrun	Heidrun	Buoy/via Mongstad	211
Yme	Yme	Buoy/via Mongstad	27
Troll Oil	Troll phase II	Terminal (Mongstad)	293
Varg	Varg	Buoy	30
Åsgard	Åsgard	Buoy	159
Jotun	Jotun	Buoy	104
Balder	Balder	Buoy	95
Norne	Norne	Buoy	175
Njord	Njord	Buoy	60

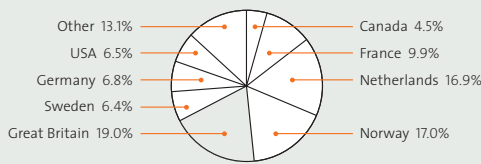


Figure 9.3 Shipments of Norwegian crude oil 1999*. Total: 168,7 scm oe
(Source: Norwegian Petroleum Directorate) *to first recipient

in 1999 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.

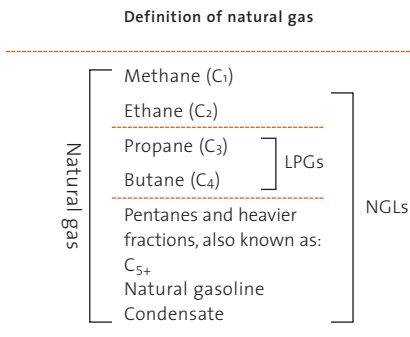


Figure 9.4 Definition of natural gas (Source: MPE)

SALES OF NATURAL GAS LIQUIDS (NGL)

NGLs comprise ethane, propane, normal butane, iso-butane and condensate (see figure 9.4). About 10 million scm oe of NGLs was produced from the NCS in 1999, including some 4.4 million scm oe in the form of liquefied petroleum gases (LPG – propane and butanes). NGL output was unchanged from 1998 to 1999.

Europe's LPG market can be divided into three main segments: heating (industrial and household fuels), petrochemicals and automotive fuel (directly, 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 NGLs to the first recipient in 1999.

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 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

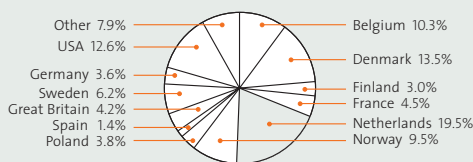


Figure 9.5 Shipments of NGLs/condensate 1999*. Total: 10 mill scm oe
 (Source: Norwegian Petroleum Directorate) *to first recipient

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 1998 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. Deliveries to the UK under existing contracts will be discontinued around 2000, when reserves are due to be depleted.

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.

The GFU has also secured a long-term sales contract from National Power in the UK, but no date has been set for the start of deliveries.

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

In 1998, Norwegian gas sellers secured short-term contracts covering gas sales for the winter of 1998-99 to UK companies Alliance Gas, British Gas Trading and Norsk Hydro (UK).

Sales contracts with Polish interests were concluded by Norwegian gas sellers in 1999.

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 in the order of over 70 bn

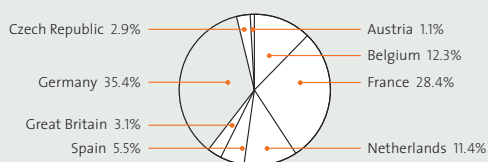


Figure 9.6 Norwegian gas exports 1999. Total: 45.5 bn scm
(Source: Norwegian Petroleum Directorate)

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 45.5 bn scm in 1999, an increase of four per cent from 1998. This represented about two per cent of world gas production, which was roughly 2 200 bn scm. Some 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 three refineries: Statoil Mongstad close to Bergen, Esso's refinery at Slagen near Oslo and the Shell facility at Sola outside Stavanger.

Approximate annual capacities are 10, 4.5 and 2.5 million tonnes respectively.

Tables 9.2 and 9.3 illustrate Norwegian production and export of petroleum products in 1995-99.

Shell has decided to close down its refinery outside Stavanger some time during 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	1995	1996	1997	1998	1999
Petrol	2 872	3 216	3 418	3 233	3 204
Naphtha/other gasolines	791	694	586	778	990
Kerosine	1 059	1 253	1 127	877	875
Medium distillates	6 187	6 870	7 126	6 921	7 279
Heavy fuel oil	1 727	1 780	1 878	1 997	1 958
Total	12 636	13 813	14 135	13 806	14 306

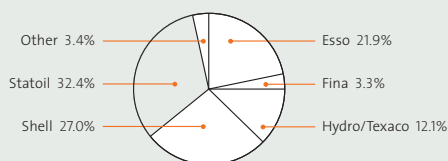


Figure 9.7 Market shares 1999 (Source: Norwegian Petroleum Institute)

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

Product	1995	1996	1997	1998	1999
Petrol	1 361	1 942	1 806	1 829	1 830
Naphtha/other gasolines	2 572	2 836	4 561	3 563	3 705
Kerosine	328	457	305	224	200
Medium distillates	3 576	3 528	3 681	3 760	3 505
Heavy fuel oil	1 307	1 476	1 637	1 428	1 638
Total	9 144	10 239	11 990	10 804	10 878

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.

