THE MINERAL INDUSTRIES OF

DENMARK, THE FAROE ISLANDS, AND GREENLAND

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Denmark

Energy resource development dominated the mineral sector in Denmark, particularly the extraction of natural gas and petroleum from the North Sea. Output continued to exceed total national consumption, resulting in net gas exports. The country lacked economically exploitable metallic mineral resources but had large reserves of such industrial minerals as chalk, diatomaceous earth, limestone, and sand and gravel. The Danish economy was strong with a low inflation rate and a budget surplus in 2000.

The Government planned to impose a wide-ranging ban on the use of lead, effective March 2001. The ban would affect the use of lead and lead compounds in the construction and electronics industry, as well as its use as a stabilizer in plastics and the use of metallic lead in ballasts and weights. The use of cadmium, mercury, and nickel also would be restricted (Mining Journal, 2000a).

Danish Steel Works planned to cut production of heavy steel plate by 36% in response to low plate prices in the world market. The Frederisvkaerk plant would instead concentrate production on other product groups. The company produced less than 500,000 metric tons of heavy plate in 1999. It also produced round, square, flat, and reinforcing bars (Metal Bulletin, 2000).

The state oil and gas company DONG AS and Polish Oil and Gas Co. of Poland were planning to build a new $300 million pipeline to transport natural gas from the Baltic Sea to mid-European markets and had completed technical and economic assessments of the proposed BalticPipe system (Oil & Gas Journal, 2000a). Two other projects announced in 1997 and 1998 could complement the BalticPipe system.

DONG made a new oil discovery with its exploratory well Nini-1/1A, which was located northeast of the Siri Oilfield in the North Sea. The company planned to drill two more wells in the Nini area in order to further determine the magnitude of the oil reserve involved. The partners in License 4/95 included DENERCO Oil AS; three German companies, RWE-DEA AG, EWE AG, and Mobil Erdgas-Erdol Gmbh; and Enterprise Oil Denmark Ltd. (Danish Environment & Energy Newsletter, October 2000, North Sea oil—DONG has made an exciting oil discovery in the Danish part of the North Sea, accessed October 5, 2000, at URL http://www.mex.dk/uk/northsea.asp).

Statoil AS of Norway planned to spend $50 million on a new diesel dearomatization unit at its Kalundborg refinery near Copenhagen. The new plant using Synflex technology was expected to come on-stream by 2002 and would reduce the sulfur content of diesel fuel by 80% (Oil & Gas Journal, 2000b).

The Faroe Islands

The Faroes have semiautonomous status under the Kingdom of Denmark and have no significant mineral resources. Regulations covering offshore oil exploration in the Faroe Islands were scheduled to be in effect in the first quarter of 2001. They would cover health, safety and the environment, risk analysis and emergency preparedness, technological issues and the operation of offshore oilfields, and documentation requirements for oil companies. The islands could become a new offshore oil and gas province.

The Faroe Islands' first oil and gas licensing round was announced at yearend 1999 and launched in February 2000. It attracted bids from 17 international oil companies seeking permits to explore an area of 7,000 square kilometers (km^2) in 5 blocks to the east and southeast of the Islands. BP Amoco, Exxon-Mobil Corp., Statoil, and Texaco Inc. were among the major corporations interested in licensing in the areas of the Faroese continental shelf.

The Danish Ministry of Petroleum awarded 7 licenses to 12 oil companies, which were organized in 5 groups for offshore exploration. Four of the licenses were granted for a period of 6 years and three for 9 years. Statoil's involvement was through the Atlantic Margin Group, a partnership with Mobil North Sea and Enterprise Oil. Through its subsidiary Agip Denmark B.V., Ente Nazional Idrocarburi of Italy and the Faroese oil company Foroya Kolvetni P/F, was awarded two licenses covering an area of 700 km^2 in water depths of 1,000 meters offshore the Faroe Islands.

Greenland

A self-governing overseas administrative division of Denmark, Greenland was actively trying to encourage an increase in mineral exploration of its diverse geology. Mineral exploration was focused on base metals, diamond, gold, industrial minerals, iron, nickel, and platinum-group metals. In 2000, however, exploration activity decreased in terms of the numbers of exploration permits issued and the areas staked for exploration.

Crew Development Corp. of Canada commissioned Strathcona Mineral Services to supervise a grade verification program at Crew's 67% owned Nalunaq gold property. Mineralization was consistent within three zones of low, medium, and high grade. The resources were reported to be at least 9,000 kilograms (300,000 troy ounces) of contained gold within measured and indicated categories (Mining Journal, 2000c). The other 33% ownership of Nalunaq was held by

Nuna Minerals. Crew provided the majority of the $5 million exploration underground bulk sampling funding and increased its ownership to 67% from the original 50%.

Angus & Ross plc of the United Kingdom received a license from the Government to explore for tantalum in a 414-km^2 area in southern Greenland. The Geological Survey of Greenland had carried out investigations into niobium and tantalum occurrences in the mid-1980s and identified pyrochlore. Resources were estimated to be 50 million metric tons (Mt) with grades in the range of 0.03% to 0.10% tantalum oxide and 130 Mt with niobium grades of 0.4% to 1.0% (Mining Journal, 2000b).

In the oil and gas sector, seismic surveys west of Greenland increased in mid-2000 with three vessels operating. A licensing round was planned in the area in mid-2001. The first exploratory well, Qulleq-1, drilled on the Fylla prospect off western Greenland was a dry hole. The license group consisted of Phillips Petroleum Greenland AS and Statoil, 38.25% each; Nunaoil AS of Greenland, 15%; and DONG Gronland, 8.5%. Statoil's budget was $25 million for a dry hole and included site surveys (Oil & Gas Journal, 2001).

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Major Source of Information

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TABLE 1
DENMARK: PRODUCTION OF MINERAL COMMODITIES 1/ 2/

(Metric tons unless otherwise specified)

Commodity		1996	1997	1998	1999 e/	2000 e/
Aluminum metal, secondary e/		14,500	14,000	14,000	14,000	16,000
Cement, hydraulic		2,628,528	2,683,039	2,600,000 e/	2,600,000	2,650,000
Chalk		359,378	427,634	425,000 e/	400,000	400,000
Clays: e/						
Fire clay		1,800	20 3/	20	20	25
Kaolin		3,000	3,000	2,500	2,500	2,500
Other		8,050	8,000	6,000	6,000	6,500
Moler, extracted	thousand cubic meters	185	185	185	180	185
Gas:						
Manufactured e/	terajoules	1,210 3/	1,500	1,500	1,500	1,500
Natural:						
Gross e/	million cubic meters	7,500	9,530	9,600	9,600	9,700
Marketable	do.	5,710	6,960	7,000 e/	7,000	7,100
Iron and steel metal, steel:						
Crude	thousand metric tons	737	787	790 r/	748 r/ 3/	750 3/
Semimanufactures	do.	621	625 e/	706	600	700
Lime, hydrated and quicklime		108,628	115,129	116,000 e/	115,000 r/	115,000
Natural gas plant liquids e/	thousand 42-gallon barrels	45,000	45,000	45,000	45,000	46,000
Nitrogen, N content of ammonia e/		1,600	1,600	1,600	1,600	1,600
Peat e/		204,465 3/	205,000	205,000	200,000	200,000
Petroleum:						
Crude	thousand 42-gallon barrels	78,795	83,950	84,000 e/	84,000	85,000
Refinery products: e/						
Liquefied petroleum gas	do.	13,879 3/	1,600	1,600	1,600	1,700
Gasoline	do.	31,247 3/	30,200	30,000	30,000	30,000
Naphtha	do.	1,666 3/	1,200	1,200	1,200	1,300
Jet fuel	do.	1,800	1,800	1,800	1,800	2,000
Kerosene	do.	93 3/	100	100	100	100
Distillate fuel oil	do.	26,590 3/	28,000	28,000	28,000	28,200
Refinery gas	do.	2,880	1,600	1,600	1,600	1,700
Lubricants	do.	300	300	300	300	300
Residual fuel oil	do.	15,951 3/	13,500	13,500	13,000	13,000
Petroleum coke	do.	59 3/	60	60	60	60
Total	do.	94,500	78,400	78,200	77,700	78,400
Phosphates, crude, gross weight e/		1,200	1,200	1,200	1,200	1,300
Salt, all forms e/		600,000	600,000	600,000	600,000	605,000
Sand and gravel: e/						
Onshore	thousand cubic meters	18,000	18,000	18,000	18,000	18,000
Offshore	do.	5,000	5,000	5,000	5,000 r/	5,000
Total	do.	23,000	23,000	23,000	23,000	23,000
Of which, sand, industrial (sales)	do.	50	50	50	50	50
Stone: e/						
Dimension (mostly granite)		27,198 3/	26,000	26,000	26,000	27,000
Limestone:						
Agricultural		695,380 3/	700,000	700,000	700,000	700,000
Industrial		250,000	250,000	250,000	250,000	250,000
Sulfur, byproduct		7,465	10,585	10,000 e/	10,000	10,500

e/ Estimated. r/ Revised.

1/ Table includes data available through June 7, 2001. Estimated data based on sales of domestically produced mineral commodities.

2/ Estimated data are rounded to no more than three significant digits; may not add to totals shown.

3/ Reported figure.