

THE MINERAL INDUSTRY OF THE NETHERLANDS

By Harold R. Newman

In terms of world production, the Netherlands was a modest producer of metallic, nonmetallic minerals, and mineral products. It was, however, very important as a regional producer of natural gas and petroleum for the European market and played a major role as a transshipment center for mineral materials entering and leaving continental Europe.

The Dutch economy, which has been expanding at a rate of 3% or more for 3 years, performed well again in 1999 with a growth in the gross domestic product of 3.5%. Growth was being driven chiefly by high levels of domestic spending rather than by exports. Consequently, the companies that have concentrated on the national markets have enjoyed strong growth, which has not been the case for export-oriented companies owing to fierce international competition.

The Netherlands was one of the top trading countries in the world and depended heavily on foreign trade. The country maintained a commitment to an open market and free trade. Among the Netherlands' most important markets, sales to Italy and the United Kingdom increased but those to Germany fell slightly. Exports to the European Union as a whole grew by about 2.4% compared with that of 1998 (Netherlands Foreign Trade Agency, [2000], *The Dutch economy in 1999*, accessed April 6, 2000, via URL <http://www.hollandtrade.com/engels/homeuk.htm>).

Rotterdam, which was the world's largest container port and a major European transportation hub, remained extremely important as a shipping and storage center. With the ever-expanding inland transportation systems, goods entering or leaving Rotterdam can originate in or be destined for almost anywhere in continental Europe.

Production of mineral commodities generally remained the same or dropped slightly during 1999. The high cost of social benefits contributed to the production costs of Dutch products thus making them less competitive on the world market. The only mining operations left in the Netherlands in 1999 were involved in the extraction of limestone, peat, salt, and sand and gravel. The metal processing sector relied almost exclusively on imported raw ores and concentrates, as well as scrap (table 1).

The Government has reduced its role in the economy since the 1980's, and privatization has continued with little debate or opposition. Nevertheless, the state dominated the energy sector and played a large role in the aviation, chemicals, steel, telecommunications, and transportation sectors (table 2).

Hoogovens Aluminium BV was to remain a part of British Steel/Koninklijke Hoogovens Plc. (BSKH), which was the new group formed by the merger of British Steel and Koninklijke Hoogovens. BSKH will be a multimetals group, and retain Hoogovens aluminum smelters, extrusion plants, and rolling

mills alongside a merged steel production that will be one of the largest in Europe (Metal Bulletin, 1999a).

The Antheus Magnesium Development Programme Delfzijl (MDPD), a group of private and public interests, was continuing with plans for the construction of a new 40,000- to 50,000-metric-ton-per-year primary magnesium smelter to be located in the Eemsmond region in the northern part of the Netherlands. The findings of a prefeasibility study had been submitted to the Dutch Government. MDPD stated this area was ideal owing to the ready availability of a plant site at Delfzijl, more than 2,000 megawatts of electric power, and close by magnesium salt mining operations that used high purity brines. The plant would be located near the existing primary aluminum producer and secondary aluminum processor, Hoogovens, which would provide optimal access for producing various alloys (Metal Bulletin, 1999b).

In midyear 1999, British Steel of the United Kingdom and Koninklijke Hoogovens of the Netherlands announced the two companies would merge, thus creating the world's third largest steelmaker after the Republic of Korea's Posco Steel and Japan's Nippon Steel. The newly formed company would be called the Corus Group. Aside from its large capacity—23 million metric tons combined output of crude steel in 1998—Corus has the capacity to supply multiple metals, which included stainless steel from the United Kingdom and aluminum from the Netherlands. Merging the two companies was expected to generate operational savings of about \$285 million in 3 years (Metal Bulletin Monthly, 1999).

The Netherlands was active on the international energy supply scene in more than one respect. The country supplies energy to Europe via pipelines and other methods, and served as the entrepôt for oil products for the whole of northwestern Europe.

After the Nederlandse Aardolie Maatschappij BV struck one of the largest gasfields in the world in the north of the Netherlands in 1959, the decision was made to begin drilling for natural gas and petroleum in the North Sea. Natural gas has become the most important mineral fuel produced in the Netherlands. The Groningen Gasfield at Slochteren is one of the world's largest producing natural gasfields (Netherlands Foreign Trade Agency, [2000], *The upstream gas and oil industry in the Netherlands*, accessed September 19, 2000, at URL <http://www.hollandtrade.com/engels/en020418.htm>).

References Cited

- Metal Bulletin, 1999a, Hoogovens' Al operation to be retained by BSKH: Metal Bulletin, no. 8383, June 10, p. 3.
- 1999b, Prefeasibility study is concluded on Antheus Mg project: Metal Bulletin, no. 8374, May 10, p. 9.
- Metal Bulletin Monthly, 1999, Men of metal: Metal Bulletin Monthly, no. 347, November, p. 8.

Major Sources of Information

Geological Survey of the Netherlands
Richard Holkade, 10
2000 AD Haarlem
The Netherlands

Ministry of Economic Affairs
2500 EC The Hague
The Netherlands

TABLE 1
THE NETHERLANDS: PRODUCTION OF MINERAL COMMODITIES 1/ 2/

(Metric tons unless otherwise specified)

Commodity 3/ METALS	1995	1996	1997	1998	1999 e/
Aluminum metal:					
Primary	215,600	227,027	231,800	264,000 e/	286,400 4/
Secondary	191,500	150,000	150,400	102,000 r/	105,000 4/
Cadmium metal, primary	603	603	718	739	731 4/
Iron and steel:					
Ore, sintered (from imported ore)	4,246,400	4,250,000 e/	4,250,000 e/	3,376,000 r/	3,094,000 4/
Metal:					
Pig iron, including blast-furnace ferroalloys (if any)	5,646,500	5,545,000	5,804,000	5,561,000 r/	5,307,000 4/
Steel:					
Crude	6,409,000	6,325,000	6,640,000	6,379,000	6,075,000 4/
Semimanufactures	5,500,000 e/	4,810,000	5,175,000	4,964,000 r/	5,000,000
Lead, metal, refined, secondary	20,200	22,000 e/	19,500 e/	13,200	19,900 4/
Zinc, metal, primary	206,300	207,400	208,800	218,700	221,400 4/
INDUSTRIAL MINERALS					
Cement, hydraulic e/	3,180,000 r/	3,140,000 r/	3,230,000 r/	3,200,000	3,200,000
Magnesium compounds: e/					
Chloride	125,000	125,000	25,000 r/	25,000 r/	23,000
Oxide	100,000	100,000	10,000 r/	10,000 r/	10,000
Nitrogen, N content of ammonia	thousand tons	2,580	2,653	2,478	2,350 e/
Salt, all types	do.	4,976	5,530	5,500 e/	5,500 e/
Sand, industrial e/	do.	23,159 4/	24,000	24,000	5 r/
Sodium compounds, n.e.s.: e/					
Carbonate, synthetic	400,000	400,000	400,000	400,000	350,000
Sulfate:					
Natural	20,000	20,000	20,000	20,000	20,000
Synthetic	15,000	15,000	15,000	15,000	15,000
Sulfur: e/					
Elemental byproduct:					
Of metallurgy	125,000	150,000	150,000	131,000 r/	135,000
Of petroleum and natural gas	300,000	150,000	138,000	432,000 r/	450,000
Total	425,000	300,000	288,000	563,000 r/	585,000
Sulfuric acid, 100% H ₂ SO ₄	1,250,000	1,250,000	1,250,000	1,250,000	1,000,000
MINERAL FUELS AND RELATED MATERIALS					
Coke, metallurgical e/	2,800,000	2,800,000	2,800,000	2,829,000 r/ 4/	2,247,000 4/
Gas:					
Manufactured e/	million cubic meters	10,000	10,000	10,000	10,000
Natural:					
Gross	do.	78,350	89,700	80,000 r/ e/	76,331 r/
Marketed e/	do.	78,000	86,000	86,000	75,201 r/ 4/
Natural gas liquids e/	thousand 42-gallon barrels	170,000	170,000	170,000	170,000
Petroleum:					
Crude	do.	24,466	21,086	21,276 r/	19,164 r/
Refinery products: e/	do.				
Liquefied petroleum gas	do.	3,600 r/	3,600 r/	3,600 r/	3,456 r/ 4/
Mineral jelly and wax	do.	600	600	600	936 r/ 4/
Gasoline, motor	do.	75,000	75,000	75,000	76,653 r/ 4/
Naphtha and white spirit	do.	50,000 r/	50,000 r/	50,000 r/	45,960 r/ 4/
Jet fuel	do.	40,000	40,000	40,000	50,808 r/ 4/
Kerosene	do.	500 r/	500 r/	500 r/	488 r/ 4/
Refinery gas	do.	20,000	20,000	20,000	11,858 r/ 4/
Lubricants	do.	3,800	3,800	3,800	4,459 r/ 4/
Residual fuel oil	do.	85,000	85,000	85,000	102,605 r/ 4/
Bitumen	do.	4,500	4,500	4,500	4,499 r/ 4/
Unspecified	do.	25,000	25,000	25,000	31,913 r/ 4/
Total	do.	308,000 r/	308,000 r/	308,000 r/	333,635 r/ 4/

e/ Estimated. r/ Revised.

1/ Table includes data available through August 2000.

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

3/ In addition to the commodities listed, the Netherlands produced construction materials, such as sand and gravel, but output was not reported, and no basis exists to make reliable estimates of output.

4/ Reported figure.

TABLE 2
THE NETHERLANDS: STRUCTURE OF THE MINERAL INDUSTRY IN 1999

(Thousand metric tons unless otherwise specified)

Commodity		Major operating companies	Location of main facility	Annual capacity
Aluminum				
Primary		Pechiney Nederland NV	Smelter at Vlissingen	175
Do.		Corus Group	Smelter at Delfzijl	100
Secondary		Alumax Recycling BV	Smelter at Kerkade	50
Cadmium	tons	Budelco BV (Australian Overseas Smelting Pty. Ltd., 50%; Kempensche Zinkmaatschappij Zincs de la Campine BV, 50%)	Plant at Budel-Dorplein	650
Cement		ENCI Nederland BV (Eerste Nederlandse Cement Industrie NV)	10 plants at Maastricht	2,700
Do.		Cementfabriek IJmuiden BV	3 plants at IJmuiden	1,600
Do.		Cementfabriek Rozenburg BV	2 plants at Rozenburg	920
Lead		Hollandse Metallurgische Industrie Billiton BV	Electrolytic plant at Arnhem	35
Do.		Billiton Witmetaal BV	Electrolytic plant at Naarden	6
Limestone		Ankerpoort NV (Lhoist SA, 100%)	Mines at Maastricht and Winterswijk	600
Magnesia		Nedmag Industries Mining & Manufacturing BV	Plant at Veendam	130
Do.		MAF Magnesite BV	Plant at Schiedam	40
Natural gas	million cubic meters per day	Nederlandse Aardolie Maatschappij BV (NAM)	Groningen, Leeuwarden, Assen, and other onshore gasfields and several offshore wells in the North Sea	225
Petroleum:				
Crude	barrels per day	AMOCO, CONOCO, and UNOCAL	766 wells (204 producing) including North Sea fields: Haven, Helder, Helm, Hoorn, Kotter, Logger, and Rijn	83,500 (63,000)
Do.	do.	NAM	Onshore fields: Berkel, DeLier, Ijselmonde, Meerkapelle, Pernis, West, Pinacke, Rotterdam, Schoonebeck, Werkendam, and Zoetemeer	(20,500)
Refineries		6 companies, of which the major ones are:		1,230,500
Do.	do.	Netherlands Refining Co.	Refinery at Rotterdam	(446,000)
Do.	do.	Shell Nederland Raffinaderij BV	Refinery at Pernis	(374,000)
Do.	do.	Esso Nederland BV	Refinery at Rotterdam	(175,000)
Do.	do.	Total Raffinaderij Nederland NV	Refinery at Vlissingen	(150,000)
Salt		Akzo Salt and Basic Chemicals BV	Mines at: Hengelo Delfzijl	4,000 (2,000) (2,000)
Sand, silica		Lieben Minerals BV	Mines at South Limburg	150
Sodium:				
Carbonate, synthetic		do.	Plant at Delfzijl	380
Sulfate, synthetic		do.	do.	600
Steel		Corus Group	Plant at IJmuiden	6,100
Zinc		Budel Zinc BV (Pasminco Europe BV)	Plant at Budel-Dorplein	215