



2007 Minerals Yearbook

NETHERLANDS

THE MINERAL INDUSTRY OF THE NETHERLANDS

By Harold R. Newman

The Netherlands was an important regional producer of natural gas and petroleum for the European market and played a major role as a transshipment center for mineral products that entered and left continental Europe. In terms of world production, however, it was a modest producer of metallic and nonmetallic minerals and mineral products. The Dutch economy had a strong international focus, as the Netherlands was one of the European Union's (EU) leading centers of trade and industry. Owing largely to its favorable location by the North Sea, the country played a key role as a main port and distribution center for companies operating worldwide. The Netherlands was the EU's third ranked exporting country after Germany and France (Holland Trade, 2007).

Minerals in the National Economy

Rotterdam, which was the world's leading container port and a major European transportation hub, remained extremely important as a shipping and storage center. In 2007, the Port of Rotterdam was the first European port to break through the barrier of 400 million metric tons (Mt). A record 406 Mt of cargo (6.4% more than in 2006) passed through the Port of Rotterdam. The trade balance was down for crude oil (-2%) but up for mineral oil products (+24%) and ore and scrap (+4%). Throughput of incoming and outgoing materials in 2007 included crude oil (97 Mt), mineral products (57 Mt), ores and scrap (40 Mt), and coal (28 Mt) (Port of Rotterdam Authority, 2007).

Production

The Staatstoezicht op de Minjnen (SodM) [State Supervision of Mines], which is an agency within the Ministerie van Economische Zaken (Ministry of Economic Affairs), oversees the production of minerals in the Netherlands and the Netherlands part of the continental shelf. The agency is responsible for ensuring that mineral production is carried out in a responsible manner.

The mineral sector was dominated by natural gas and petroleum production, of which about 40% was from offshore. Mining was confined to the extraction of limestone, peat, and sand and gravel by quarrying and solution mining of salt in the eastern and northern areas of the country. Downstream activities included metallurgical and chemical industries, which used mainly imported ores and industrial minerals. Production of most mineral commodities did not change significantly in 2007. There was a small decrease in the production of aluminum and zinc and an increase in steel production. Those three commodities were among the more important mineral commodities produced in the country in 2007 (table 1).

Structure of the Mineral Industry

Mineral industry facilities were mostly privately owned, although the Government continued to be involved in the energy sector through regulation and oversight of petroleum and natural gas operations. Table 2 is a list of the major mineral industry facilities in the Netherlands.

Commodity Review

Metals

Aluminum.—Alcan Inc. of Canada announced that it would sell its Vlissingen smelter to Klesh & Co. of the United Kingdom. Alcan held an 85% interest in the Vlissingen plant; the remaining 15% was held by Hunter Douglas NV, which also planned to sell its stake to Klesh. The terms of the purchase were not disclosed. The proposed sale of Vlissingen, which made billets for the European engineered products market, would include a commercial agreement that would ensure a continued supply of billet and sheet ingot to Alcan's engineered products plants (Metal Bulletin, 2007). If secondary aluminum was produced, it was not reported.

Zinc.—Nyrstar Budel B.V. was created in September 2007 with the merger of the lead and zinc assets of Umicore Zinc Alloys in Belgium and Ziniflex Ltd. in Australia. The zinc smelter at Budel produced zinc exclusively from zinc concentrates from Ziniflex's Century Mine in Queensland, Australia. The plant had the capacity to produce 260,000 metric tons per year (t/yr) of zinc using conventional roast-leach-electrowin technology and was considered one of Europe's most efficient zinc smelters in terms of metallurgical performance. Approximately 80% of total product sales was delivered to customers within 300 kilometers of the plant (Nyrstar Budel B.V., 2007).

Industrial Minerals

Calcium Carbonate.—Omya Netherlands BV's ground calcium carbonate (GCC) plant at Moerdijk started production in midyear 2005, and production continued through 2007. The initial capacity of the plant was 500,000 t/yr. GCC had become the leading filler in the production of wood-free paper owing to the paper's resulting pure white color and brightness. The marble used to produce the GCC was imported from Omya's mines in Turkey (Industrial Minerals, 2007).

Mineral Fuels and Other Sources of Energy

In energy supply, the Netherlands was active on the international scene in more than one respect. The country supplied energy to Europe, served as the entrepôt (transshipping center) for oil products for the whole of northwestern Europe,

and was an advocate for sustainable energy practices. Onshore natural gas reserves and offshore petroleum and gas reserves in the North Sea have allowed the Netherlands to make a significant contribution to the European energy supply. However, crude oil production was decreasing by about 1% per year in the North Sea area. Although exploration activity had increased, it was slowed by the lack of available deepwater drilling rigs (Petroleum Economist, 2007b).

The Netherlands' two leading energy companies, Essent BV and Nuon BV, reported that they had reached an agreement to merge and form a new company worth \$31.2 billion in equity. Essent and Nuon would hold a 55% and a 45% stake, respectively. The combined company, provisionally named EssentNuon, would be among the 10 leading energy companies in Europe with \$17 billion in sales and 5 million customers. The Dutch competition authority, as well as the Provinces and municipalities that had shares in the companies, would still have to approve the merger officially (International Herald Tribune, The, 2007).

Natural Gas.—Vinci Construction Group of France, which was the world's leading construction company in terms of revenue, was selected to build a liquefied natural gas (LNG) terminal in Rotterdam for oil-storage company Royal Vopak BV and pipeline manager Nederlandse Gasunie. The so-called Gate terminal would be able to convert between 8 billion and 12 billion cubic meters per year of LNG back to gas and was one of four facilities planned for Rotterdam as the Netherlands was seeking to become a hub for northwestern Europe. The Gate terminal was scheduled to open in 2010 (Bloomberg L.P., 2007).

The Government planned to spend up to 1.8 billion euros (€) (\$2.3 billion) on new gas-network capacity over the next few years. Domestic natural gas production was declining, and expanding the transport network would enable Nederlandse Gasunie to import more natural gas and export any surplus gas. The investment would include laying about 450 kilometers (km) of pipeline as well as the construction of several compressor stations. It was expected that the proposed infrastructure would enable new suppliers to enter the market and create access to the LNG market. The LNG supply was expected to surge when Gasunie's Gate import terminal starts operating in 2010 (Petroleum Economist, 2007a).

Renewable Energy.—Econcern NV and Eneco Energie NV were proceeding with the development of the €383 million (\$498 million) Q7 wind park development, which would be located 23 km from the Dutch North Sea coast. It was the farthest offshore wind park in the world. Wind energy was

expected to be an important source of renewable energy in the Netherlands as well as throughout Europe; more offshore wind farms are likely to be built off European coastlines as Governments seek to increase the use of renewable energy without angering their citizens by placing giant turbines on their doorsteps (Hudson, 2007).

Outlook

The Port of Rotterdam is expected to continue to be a leading European port, particularly in terms of container traffic, and to play a very important role in the European import and export market. Almost as much cargo is expected to pass through Rotterdam as the numbers two, three, and four ports in Europe—Antwerp, Hamburg, and Marseille—combined. The trend toward increased use of the Port of Rotterdam for cargo handling is expected to continue. A significant percentage of the cargo coming into the port will be processed at the port. The Netherlands is expected to continue to be an exporter of natural gas in the region.

References Cited

- Bloomberg L.P., 2007, Vinci and partners to build gas terminal in the Netherlands: Alexander's Gas & Oil Connections, July 20. (Accessed November 9, 2008, at <http://www.gasandoil.com/goc/company/cne73479.htm>.)
- Holland Trade, 2007, Economic development: Antwerp, Netherlands, Holland Trade. (Accessed November 8, 2008, at <http://www.hollandtrade.com/vko/zoeken/showbouwsteen.asp?bstnum=2562>.)
- Hudson, Alexandra, 2007, Dutch build towering wind turbines out at sea, New York, New York, Thomson Reuters, September 3. (Accessed November 9, 2008, at <http://www.reuters.com/article/scienceNews/idUSL3192557920070903>.)
- Industrial Minerals, 2007, Netherlands: Industrial Minerals, January, p. 27.
- International Herald Tribune, The, 2007, Two big utilities to merge in Netherlands: New York, New York, International Herald Tribune, January 2. (Accessed November 9, 2008, at <http://www.iht.com/articles/2007/02/01/bloomberg/bxnnuon.php>.)
- Metal Bulletin, 2007, Alcan to sell majority stake in Vlissingen smelter: Metal Bulletin, no. 8998, June 4, p. 8.
- Nyrstar Budel B.V., 2007, Budel overview: Budel-Dorplein, Netherlands, Nyrstar Budel B.V. (Accessed November 9, 2008, at <http://www.budelzink.nl/en/maininhoud.htm>.)
- Petroleum Economist, 2007a, Gasunie to invest up to €1.8bn on gas infrastructure: Petroleum Economist, v. 74, no. 5, p. 31.
- Petroleum Economist, 2007b, Production decline kicks in: Petroleum Economist, April, v. 74, no. 4, p. 8.
- Port of Rotterdam Authority, 2007, Port of Rotterdam well exceeds expectations, Rotterdam, Netherlands, Port of Rotterdam Authority. (Accessed November 9, 2008 at http://www.portofrotterdam.com/en/news/pressreleases/2007/20071228_06.jsp.)

TABLE 1
NETHERLANDS: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons unless otherwise specified)

Commodity ²	2003	2004	2005	2006	2007 ^e
METALS					
Aluminum, metal:					
Primary	277,900	326,300	340,700	312,300	301,200 ³
Secondary ^e	50,000 ³	50,000	50,000	25,000 ^f	--
Cadmium, metal, primary	480 ^r	493 ^r	494 ^r	524 ^r	495 ³
Iron and steel:					
Ore, sintered, from imports ^e	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000
Metal, pig iron, including blast-furnace ferroalloys (if any)	5,846,000	6,011,000	6,031,000	5,417,000	6,400,000
Steel:					
Crude	6,587,000	6,848,000	6,919,000 ³	6,372,000	7,368,000 ³
Semimanufactures	5,870,000	6,285,000	6,134,000	6,394,000	6,800,000
Lead, metal, refined, secondary ^e	22,000	20,000	17,000 ³	17,000	16,000
Zinc, metal, primary	222,700	228,100	231,800 ³	235,913	231,652 ³
INDUSTRIAL MINERALS					
Cement, hydraulic ^e	thousand metric tons	2,450	2,380	2,400	2,400
Magnesium compounds:^e					
Chloride	25,000	25,000	25,000	25,000	25,000
Oxide	10,000	10,000	10,000	10,000	10,000
Nitrogen, N content of ammonia	thousand metric tons	1,750	1,970	1,700 ^e	1,800 ^e
Salt, all types	do.	5,980 ^r	5,896 ^r	6,155 ^r	6,056 ^r
Sodium compounds, n.e.s.:^{e,4}					
Carbonate, synthetic	350,000	350,000	350,000	350,000	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:					
Elemental byproduct:					
Of metallurgy	131,000	137,000	141,000 ^r	111,000 ^r	115,000
Of petroleum and natural gas	408,000	410,000	400,000	400,000	400,000
Total	539,000	547,000	541,000 ^r	511,000 ^r	515,000
MINERAL FUELS AND RELATED MATERIALS					
Gas, dry natural:					
Gross	million cubic meters	85,714	101,099	83,498 ³	84,000 ^e
Marketed ^e	do.	74,000	89,800 ^r	74,460 ³	73,300 ³
Petroleum:					
Crude	thousand 42-gallon barrels	17,134	15,564	11,858	11,250 ³
Refinery products:					
Liquefied petroleum gas	do.	55,443	55,000 ^e	53,118	54,000
Gasoline, motor	do.	132,933	130,000 ^e	120,278	120,000 ^r
Naphtha and white spirit ^e	do.	90,000	90,000	90,000	90,000
Kerosene and jet fuel	do.	56,466	55,000 ^e	58,772	55,000
Refinery fuel and loss ^e	do.	27,046 ³	30,000	30,000	30,000
Diesel oil	do.	155,086	150,000 ^e	157,563	150,000
Residual fuel oil	do.	79,862	80,000 ^e	79,771	80,000
Unspecified	do.	179,653	175,000 ^e	211,993	200,000
Total	do.	776,489	765,000 ^e	801,495	779,000 ^r

^eEstimated; data are rounded to no more than three significant digits; may not add to total shown. ^fRevised. do. Ditto. -- Zero.

¹Table includes data available through October 31, 2008.

²In addition to the commodities listed, the Netherlands produced limestone, peat, and construction materials, such as sand and gravel, but output was not reported and information was not available to make reliable estimates of output.

³Reported figure.

⁴Not elsewhere specified.

TABLE 2
NETHERLANDS: STRUCTURE OF THE MINERAL INDUSTRY IN 2007

(Thousand metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facility	Annual capacity
Aluminum:				
Billets		Pechiney Nederland NV (Alcan Inc., 85%)	Plant at Flushing (Vlissingen)	213
Primary		do.	do.	230
Do.		Corus Group	Smelter at Delfzijl	100
Secondary		Alumax Recycling BV	Smelter at Kerkade	50
Cadmium	metric tons	Nyrstar Budel B.V. (Ziniflex Ltd.)	Plant at Budel-Dorplein	650
Calcium carbonate, ground		Omya Netherlands BV	Plant at Moerdijk	500
Cement		Eerste Nederlandse Cement Industrie NV (HeidelbergCement Group, 100%)	Plants at IJmuiden, Maastricht, and Rotterdam	3,700
Do.		Cementfabriek IJmuiden BV	Three plants at IJmuiden	1,600
Do.		Cementfabriek Rozenburg BV	Two 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	Nederlandse Aardolie Maatschappij BV (NAM) (Exxon Mobil Corp., 50%)	Groningen, Leeuwarden, Assen, and other onshore gasfields and several offshore wells in the North Sea	225
Petroleum:				
Crude	42-gallon barrels per day	Amoco Inc., Conoco Inc., and Unocal Inc.	766 wells (204 producing) including North Sea fields: Haven, Helder, Helm, Hoorn, Kotter, Logger, and Rijn	83,500
Do.	do.	Nederlandse Aardolie Maatschappij BV (NAM) (Exxon Mobil Corp., 50%)	Onshore fields: Berkel, DeLier, Ijselmonde, Meerkapelle, Pernis, Pinacke, Rotterdam, Schoonebeck, West, Werkendam, and Zoetemeer	20,500
Do.	do.	Veba Oil and Gas Netherlands BV	Hanze field, North Sea	31,500
Refineries		Six companies, of which the major ones are: Netherlands Refining Co. (BP p.l.c., 69%, and Chevron Corp., 31%) Shell Nederland Raffinaderij BV Esso Nederland BV Total Raffinaderij Nederland NV	Refineries, of which: Rotterdam Pernis Rotterdam Vlissingen	1,230,500 (446,000) (374,000) (175,000) (150,000)
Salt		Akzo Nobel Salt BV (Akzo Nobel NV, 100%)	Mines, of which:	4,100
		do.	Hengelo	(2,100)
		do.	Delfzijl	(2,000)
Sand, silica		Sigrano Nederland NV (Sibelco Group)	Mines and plants at Heerlin and Maastricht	500
Do.		Lieben Minerals BV	Mines at South Limburg	150
Sodium:				
Carbonate, synthetic		Brunner Mond Group	Plant at Delfzijl	380
Sulfate, synthetic		do.	do.	600
Steel		Corus Group	Plant at IJmuiden	7,000
Zinc		Nyrstar Budel B.V. (Ziniflex Ltd.)	Plant at Budel-Dorplein	260
Do., do. Ditto.				