

THE MINERAL INDUSTRY OF THE NETHERLANDS

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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 materials 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 Netherlands has a land area of 33,883 square kilometers and borders the North Sea. In 2003, the gross domestic product (GDP) at purchasing power parity was \$455 billion, and per capita income was \$31,660. The unemployment rate was 4.2% (International Monetary Fund, 2004§¹).

In 2003, the Dutch economy experienced declines in economic indicators. Production declined or remained about the same; output was lower in construction and practically every branch of industry and commercial services. Unemployment rose to 4.2% in 2003 from 2.3% in 2002, and the number of jobs declined for the first time since 1994. The growth in exports was static and that for reexports increased only slightly because of weak foreign demand for computers. Imports fell slightly to under 1%. The Dutch economy was heavily dependent on international developments and could benefit from a strong revival of the world economy (Holland Trade, 2003b§).

Rotterdam, which was the world's largest container port and a major European transportation hub, remained extremely important as a shipping and storage center. In 2003, 328,000,000 metric tons of cargo was handled in the port of Rotterdam; this was an increase of 2% compared with that of 2002. The increase was attributed to the throughput of agribulk (cattle feed, grains, and seeds) which increased by 14%; crude oil, 4%; other dry bulk, 8.5%; other general cargo, 14%; and other liquid bulk, 2.5%. The handling of ores and scrap declined by 1.5%, and petroleum products and petcoke declined by 21.5%. The transshipment of coal increased by 3.9%. Imports into the port increased by 3%, and exports decreased by 1.5% in terms of gross weight (Port of Rotterdam, 2003§).

In 2003, production of mineral commodities generally remained the same or decreased. The only nonfuel mining operations left in the Netherlands in 2003 were involved in the extraction of limestone, peat, salt, and sand and gravel. The metal processing sector relied almost exclusively on imported concentrates, ores, and scrap (table 1).

Since the 1980s, the Government has reduced its role in the economy, and privatization has continued with little debate or opposition. Nevertheless, the Government continues to dominate the energy sector and plays a large role in the aviation, chemicals, telecommunications, and transportation sectors (table 2).

¹References that include a section mark (§) are found in the Internet References Cited section.

Budel Zinc BV was surviving as a primary zinc producer in spite of low zinc prices and the restructuring of its parent company Pasminco Holdings Pty. of Australia. This smelter was important to Pasminco because it was closely tied to the Century Mine in Queensland. Budel was specifically redesigned in 1998-99 to process concentrate from Century and was dedicated to that feedstock. This pelletized concentrate, which is about 58% zinc, is unusual in that it contains very little iron and is not suitable for standard smelting/refining processes. The ore from Century contains 12% zinc, 1.7% lead, 50 grams per metric ton silver, and virtually no iron. Jarosite was not produced in the hydrometallurgical process, therefore, slag was not a problem. Budel was considered to be one of the most environmentally compatible zinc smelters in the world (Metal Bulletin Monthly, 2003).

The Brunner Mond Group was one of the world's five leading producers of sodium carbonate (soda ash), which is an essential constituent in the manufacture of glass and important in the production detergents and industrial chemicals. The lime kilns at the Delfziji plant were undergoing a \$1.3 million major rebuild to ensure that they will be in optimum condition when the factory begins running under purely ammonia-soda operating conditions (Solvay process) in 2004. The lime kilns deliver carbon dioxide at strengths of 41% to 42%, which is used to react with ammoniated brine to produce sodium bicarbonate. Any loss in common kiln gas strength ores, however, has a significant effect on production rates. The rebuild was expected to be completed by mid-2004 (Brunner Mond Group, 2003§).

When it came to the supply of energy, the Netherlands was active on the international scene in more than one respect. The country supplied energy to Europe, served as the entrepôt for oil products for the whole of northwestern Europe, and was an advocate for sustainable energy. Onshore natural gas reserves and offshore petroleum and gas reserves in the North Sea allow the Netherlands to make a significant contribution to the European energy supply. Its main customers were Belgium, France, Germany, Italy, and Switzerland (Holland Trade, 2004a§).

InterGen Co. announced the initiation of construction in August 2003 of the Rijnmond Energie Center, which will be a 790-megawatt natural-gas-fired combined heat and power facility that was projected to become operational in late 2004. Rijnmond will be the first independent powerplant constructed in northwestern Europe since the 1996 European Union Electricity Directive went into effect. The project will sell its entire power output to NV Nuon, which was a Dutch utility, under a 15-year power purchase agreement. InterGen was a global power generation firm and was a Royal Dutch/Shell—Bechtel Power venture (MBendi, 2003§).

Reference Cited

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Port of Rotterdam, 2003, About the port of Rotterdam, accessed May 10, 2004, at URL <http://www.portofrotterdam.com/abouttheport?UK?index.asp?Ing=UK>.

Major Sources of Information

National Geological Survey of the Netherlands
Princetonlaan 6
TA Utrecht
3508 The Netherlands

Ministry of Economic Affairs
EC The Hague
2500 The Netherlands

TABLE 1
NETHERLANDS: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons unless otherwise specified)

Commodity ²	1999	2000	2001	2002	2003 ^e	
METALS						
Aluminum, metal:						
Primary	286,400	301,700	294,100	284,000 ^r	285,000	
Secondary	88,000	119,000	120,000 ^e	120,000 ^e	120,000	
Cadmium, metal, primary	731	628	455	485	500	
Iron and steel:						
Ore, sintered, from imported ore ^e	3,094,000 ³	3,000,000	3,000,000	3,000,000	3,000,000	
Metal:						
Pig iron, including blast-furnace ferroalloys (if any)	5,307,000	4,969,000	5,305,000	5,000,000 ^e	5,000,000	
Steel:						
Crude	6,075,000 ^r	5,667,000	6,037,000	6,144,000 ^r	6,000,000	
Semimanufactures	4,786,000	4,956,000	5,335,000	5,300,000 ^e	5,300,000	
Lead, metal, refined, secondary	19,900	22,200	24,400	22,000 ^e	22,000	
Zinc, metal, primary	221,400	216,800	204,800	203,400	203,400 ^p	
INDUSTRIAL MINERALS						
Cement, hydraulic	thousand tons	3,480	3,450	3,400 ^e	3,400 ^e	3,400
Magnesium compounds: ^e						
Chloride	23,000	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 tons	2,428	2,543	1,939	2,053 ^r	1,750
Salt, all types ^e	do.	5,000	5,000	5,000	5,000	5,000
Sand, industrial ^e	do.	15	15	15	15	15
Sodium compounds, n.e.s.: ^e						
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: ^e						
Elemental byproduct:						
Of metallurgy	129,000	123,000 ³	126,000 ³	125,000	124,000	
Of petroleum and natural gas	445,000	428,000 ³	384,000 ³	385,000	373,000	
Total	574,000	551,000 ³	510,000 ³	510,000	497,000	
Sulfuric acid, 100% H ₂ SO ₄	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	
MINERAL FUELS AND RELATED PRODUCTS						
Coke, metallurgical ^e	2,247,000 ³	2,300,000	2,300,000	2,300,000	2,300,000	
Gas:						
Marketed ^e	million cubic meters	10,000	10,000	10,000	10,000	
Natural:						
Gross	do.	68,528	69,180	74,232	75,000 ^e	75,000
Marketed	do.	67,228	68,157	73,296	74,000 ^e	74,000
Natural gas liquids ^e	thousand 42-gallon barrels	160,000	170,000	160,000	160,000	160,000
Petroleum:						
Crude	do.	18,978	17,633	18,000 ^e	18,000 ^e	18,000
Refinery products:						
Liquefied petroleum gas	do.	44,904	42,711	42,000 ^e	42,000 ^e	42,000
Mineral jelly and wax	do.	927	896	900 ^e	900 ^e	900
Gasoline, motor	do.	112,651	121,669	120,000 ^e	120,000 ^e	120,000
Naphtha and white spirit	do.	77,537	96,076	90,000 ^e	90,000 ^e	90,000
Kerosene and jet fuel	do.	55,816	59,888	60,000 ^e	60,000 ^e	60,000
Refinery gas	do.	11,480	10,486	11,000 ^e	11,000 ^e	11,000
Diesel oil	do.	161,733	164,060	160,000 ^e	160,000 ^e	160,000
Residual fuel oil	do.	81,127	72,900	81,000 ^e	80,000 ^e	80,000
Bitumen	do.	4,260	4,130	4,200 ^e	4,200 ^e	4,200
Unspecified	do.	40,075	41,349	40,000 ^e	40,000 ^e	40,000
Total	do.	590,510	614,165	609,000 ^e	608,000 ^e	608,000

^eEstimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. ^pPreliminary.

¹Table includes data available through May 2004.

²In 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.

³Reported figure.

TABLE 2
NETHERLANDS: STRUCTURE OF THE MINERAL INDUSTRY IN 2003

(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%, and Kempensche Zinkmaatschappij Zincs de la Campine BV, 50%)	Plant at Budel-Dorplein	650
Cement		Eerste Nederlandse Cement Industrie NV	Ten plants at Maastricht	2,700
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 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 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)	Onshore fields: Berkel, DeLier, Ijselmonde, Meerkapelle, Pernis, West, Pinacke, Rotterdam, Schoonebeck, Werkendam, and Zoetemeer	20,500
Do.	do.	Veba Oil and Gas Netherlands	Hanze field, North Sea	31,500
Refineries		Six companies, of which the major ones are:	Refineries	1,230,500
			Of which:	
		Netherlands Refining Co.	Rotterdam	(446,000)
		Shell Nederland Raffinaderij BV	Pernis	(374,000)
		Esso Nederland BV	Rotterdam	(175,000)
		Total Raffinaderij Nederland NV	Vlissingen	(150,000)
Salt		Akzo Nobel Salt BV (Akzo Nobel BV, 100%)	Mines	4,100
			Of which:	
			Hengelo	(2,100)
			Delfzijl	(2,000)
Sand, silica		Lieben Mineraals 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	6,100
Zinc		Budel Zinc BV (Pasminco Europe BV)	Plant at Budel-Dorplein	215