



2019 Minerals Yearbook

NETHERLANDS [ADVANCE RELEASE]

THE MINERAL INDUSTRY OF THE NETHERLANDS

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The mineral industry of the Netherlands comprised primarily processing of metals, extraction of natural gas and petroleum, processing of nitrogen, and mining of industrial minerals, such as salt. In Europe, the Netherlands was the third-ranked producer and third-ranked exporter of natural gas and a significant producer of cadmium, lead, pig iron, steel, and zinc. In 2019, the country ranked 7th globally in the production of cadmium (not including that of the United States) and 15th in the production of nitrogen (N content of ammonia), accounting for 4.5% and 1.5% of world output, respectively (table 1; BP p.l.c., 2020, p. 34, 43; Ministry of Economic Affairs and Climate Policy, 2020, p. 7–8; World Steel Association, 2020, p. 9; Apodaca, 2021; Callaghan, 2021).

Minerals in the National Economy

The real gross domestic product (GDP) of the Netherlands increased by 1.8% in 2019; the nominal GDP was \$1.01 trillion.¹ Manufacturing accounted for 21.7% (estimated) of national output in 2019 compared with 22.8% in 2018, and mining and quarrying accounted for 0.6% (estimated) of national output compared with 0.7% in 2018. In 2019, manufacturing output decreased by 2% from that of 2018. Mining and quarrying output decreased by 19.7%, and the output of coke and petroleum and base metals and products both remained at near 2018 levels (International Monetary Fund, 2020; Statistics Netherlands, 2020b, p. 13, 48, 61).

The Netherlands remained a significant participant in global trade; mineral trade, however, made up an insignificant fraction of the country's trade. Of the total exports of goods, which were valued at \$576.4 billion in 2019, iron and steel accounted for 1.8%; natural gas, 1.7%; nonferrous metals, 1.1%; metalliferous ores and metal scrap, 1.0%; fertilizers, 0.6%; and nonmetallic mineral products, 0.5%. Of the total imports of goods, which were valued at \$514.4 billion in 2019, petroleum and petroleum products accounted for 13.2%; natural gas, 2.5%; iron and steel, 2.0%; nonferrous metals, 1.4%; metalliferous ores and metal scrap, 1.0%; nonmetallic mineral products, 0.8%; and fertilizers, 0.4% (Statistics Netherlands, 2020a).

In 2019, the Port of Rotterdam remained the largest port in northern Europe in terms of throughput by weight. Among the cargo throughput in the port were, in descending order by volume, crude petroleum; mineral oil products; other liquid bulk cargo, such as mineral fuel products; ore and scrap metal; coal; agricultural bulk; and liquefied natural gas. In 2019, biomass throughput increased by 63% compared with that of 2018 owing to increased imports of wood pellets used in coal-fired powerplants. Coal throughput fell by 4% compared with that of

2018 owing to increased renewable electricity generation (Port of Rotterdam Authority, 2020, p. 2, 14–16).

Production

In 2019, the production of primary aluminum was estimated to have increased by 11%. The production of petroleum condensate decreased by 36%; natural gas and primary zinc, by 16% each; crude petroleum, by 15%; and rock salt, by 12% (table 1).

Structure of the Mineral Industry

The mineral industry of the Netherlands was largely privately owned. The Government held ownership stakes in a few mineral-related companies that were involved in either mineral exploration or distribution of mineral fuels, including N.V. Nederlandse Gasunie and GasTerra B.V. (natural gas), Ultra Centrifuge Nederland N.V. and Urenco Nederland (uranium), and Energie Beheer Nederland B.V. (natural gas and energy). Table 2 is a list of the major mineral industry facilities in the Netherlands (Ministry of Finance, 2020, p. 68, 116, 121, 138).

Commodity Review

Metals

Aluminum.—In 2019, Damco Aluminum Delfzijl Cooperatie U.A., which was wholly owned by York Capital Management of the United States, operated the sole primary aluminum smelter in the country. The smelter had a total production capacity of 180,000 metric tons per year (t/yr) of aluminum billets and rolling slabs, of which 120,000 t/yr was for primary aluminum and 60,000 t/yr was for secondary aluminum. In January, the company announced the reopening of potline one, which was expected to increase aluminum production. The restart was part of ongoing capital investment in equipment after the company was acquired by York Capital in late 2017. The smelter had previously operated at one-third of its capacity. In 2019, the smelter employed 270 people, but at full capacity, was expected to directly employ more than 300 people. The plant was expected to serve an important role in balancing the country's energy grid with increased consumption of electricity from renewable sources (Kortes and van Dril, 2019, p. 10; Light Age Metal, 2019).

Iron and Steel.—In 2019, the Netherlands ranked 25th globally as a producer of raw steel; it produced about 6.7 million metric tons (Mt) of output compared with 6.8 Mt in 2018. All output was continuously cast steel and entirely produced using the basic oxygen process. Tata Steel Europe Ltd. operated the IJmuiden steel plant, which had the capacity to produce 7.5 million metric tons per year of raw steel; the company had incorporated HIsarna technology at the plant, which lowered the IJmuiden plant's carbon dioxide emissions by 20%. In 2019, production at the plant decreased compared with that of 2018 owing to decreased demand. In November, the company

¹Where necessary, values have been converted from euro area euros (EUR) to U.S. dollars (US\$) at an annual average exchange rate of EUR0.894=US\$1.00 for 2019.

announced job cuts across its European facilities, including the Netherlands, in response to decreased market demand, excess capacity, and trade issues. The company planned to increase sales of high-value products, improve efficiency, and reduce employment costs in response to lower demand (table 2; Meijer and Lewis, 2019; Tata Steel Ltd., 2020a; 2020b, p. 67, 116, 128; World Steel Association, 2020, p. 9–11).

In September, Van Merksteijn International of the Netherlands announced the halt of planned construction of a steel wire plant owing to uncertain future economic conditions. The postponement was expected to last a year or longer. The plant, which had a planned capacity of 900,000 t/yr, was expected to be located in Eemshaven (Tsai, 2019).

Zinc.—In July, Trifigura Group Pte. Ltd. of Singapore acquired a 98% equity interest in Nyrstar N.V. (Nyrstar) of Switzerland. The acquisition was made following a restructuring agreement with Nyrstar's creditors and bondholders. In 2019, Nyrstar was estimated to have produced 226,000 metric tons of zinc metal at its Budel smelter, which was a decrease of 16% from the amount produced in 2018. Nyrstar's financial challenges during the year resulted in reduced availability of raw materials and decreased zinc production (Nyrstar N.V., 2019, 2020; Trafigura Group Pte. Ltd., 2020).

Industrial Minerals

Salt.—In 2019, rock salt production decreased by 12% to 5.9 Mt from 6.7 Mt in 2018. At yearend, 16 salt production licenses were in force in northern and eastern Netherlands; no exploration licenses were active. In 2019, three salt wells were drilled by Nouryon Salt B.V. in the Twent-Rijn production area. Frisia Zout B.V. began drilling the first well in the Havenmond license area, but the well was not ready for production by yearend (Ministry of Economic Affairs and Climate Policy, 2020, p. 43–44, 120).

Mineral Fuels

Natural Gas and Petroleum.—In 2019, production of natural gas and crude petroleum continued to decrease in the Netherlands. In 2019, natural gas output decreased by 16% to 29.4 billion cubic meters owing largely to production decreases at the Groningen onshore gasfield, which was operated by Nederlandse Aardolie Maatschappij B.V. (NAM). In 2019, six natural gas fields ceased production and one field was brought into production. Production from various small gasfields also declined as a result of resource depletion. In 2019, crude petroleum production decreased by 15% to 5.67 million barrels (Mbb). Petroleum condensate production decreased by 36% to 1.08 Mbb. The decrease in petroleum production was attributed to reduced output in onshore production and, specifically, at the Rijswijk and Schoonebeek fields, which were operated by NAM (Ministry of Economic Affairs and Climate Policy, 2020, p. 7, 23).

Outlook

The Netherlands is expected to remain a significant producer of cadmium and nitrogen globally. The country's natural gas and petroleum output is likely to continue decreasing owing to the gradual depletion of the currently producing onshore fields.

Aluminum output is expected to increase with the ramping up of production in the aluminum smelter in Delfzijl. The country's energy mix is expected to continue to incorporate a larger share of renewable energy. Output of the metal processing and manufacturing sector is expected to remain stable, which could enable the switch towards greater renewable energy production.

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TABLE 1
NETHERLANDS: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons, gross weight, unless otherwise specified)

Commodity ²	2015	2016	2017	2018	2019
METALS					
Aluminum, primary, metal	27,660 ^r	36,021 ^r	29,325 ^r	90,000 ^r	100,000 ^e
Iron and steel:					
Pig iron, including blast-furnace	6,050	6,092	6,145	6,150	5,936
Steel:					
Raw steel	6,995	6,917	6,781	6,813	6,657
Products, semimanufactured	6,814	6,465	6,589	6,971	6,800 ^e
Lead, refinery, secondary ^e	30,000	33,000	36,000	36,000	36,000
Zinc, smelter, primary	291,000	283,000	248,000	268,000	226,000 ^e
INDUSTRIAL MINERALS					
Cement, hydraulic	2,260	2,930 ^r	2,030 ^r	2,390 ^{r,e}	2,350 ^e
Nitrogen, ammonia, N content	2,300	2,300	2,400 ^e	2,200 ^{r,e}	2,200 ^e
Salt, rock salt	6,743	6,625	6,935	6,744 ^r	5,914
Sand and gravel, industrial	71,239	54,725	54,000	54,000 ^e	54,000 ^e
Stone, sand, and gravel, construction:					
Sand and gravel, construction	17,683,000	15,821,000	16,000,000	16,000,000 ^e	17,300,000 ^e
Stone, crushed	8,020,463 ^r	8,436,130 ^r	8,400,000	8,400,000 ^e	8,400,000 ^e
MINERAL FUELS AND RELATED MATERIALS					
Natural gas, dry basis	49,690	47,900	41,800	35,100	29,400
Petroleum:					
Crude	10,416	7,145	7,070	6,690	5,670
Condensate	3,346	2,365	2,006	1,700	1,080
Refinery:					
Diesel	165,000 ^r	142,000 ^r	143,000 ^r	138,000 ^r	140,000 ^e
Gasoline	47,000 ^r	33,800 ^r	25,700 ^r	31,100 ^r	31,800 ^e
Kerosene, including jet fuel	57,300 ^r	57,900 ^r	58,700 ^r	67,400 ^r	68,800 ^e
Liquefied petroleum gas	20,200 ^r	19,100 ^r	18,100 ^r	16,900 ^r	17,300 ^e
Naphtha	70,400 ^r	83,500 ^r	90,400 ^r	95,000 ^r	97,000 ^e
Natural gas liquids	4,180 ^r	3,030 ^r	2,500 ^r	2,280 ^r	2,330 ^e
Residual fuel oil	56,000 ^r	79,700 ^r	77,800 ^r	73,800 ^r	75,300 ^e
Total	420,000 ^r	419,000 ^r	416,000 ^r	424,000 ^r	433,000 ^e

^eEstimated. ^rRevised. do. Ditto. NA Not available.

¹Table includes data available through August 19, 2020. All data are reported unless otherwise noted. Totals and estimated data are rounded to no more than three significant digits; may not add to totals shown.

²In addition to the commodities listed, magnesium compounds, sodium compounds, sulfur (as an elemental byproduct of metallurgy and of petroleum and natural gas) may have been produced, but available information was inadequate to make reliable estimates of output.

TABLE 2
NETHERLANDS: STRUCTURE OF THE MINERAL INDUSTRY IN 2019

(Thousand metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
Aluminum:				
Primary		Damco Aluminum Delfzijl Cooperatie U.A. (York Capital Management, 100%)	Smelter at Delfzijl	120
Secondary		do.	do.	60
Do.		Century Aluminum Vlissingen B.V.	Plant at Vlissingen	145
Do.		E-Max Billets B.V.	Smelter at Kerkade	60
Do.		Zeeland Aluminium Co. B.V. (ZALCO) (UTB Holding B.V., 100%)	Plant at Flushing (Vlissingen)	230
Cadmium	metric tons	Nyrstar N.V. (Trafigura Group Pte. Ltd., 98%, and other, 2%)	Smelter at Budel	1,200
Calcium carbonate, ground		Omya Netherlands B.V.	Plant at Moerdijk	500
Cement		Eerste Nederlandse Cement Industrie N.V. (HeidelbergCement Group, 100%)	Plants at IJmuiden, Maastricht, and Rotterdam	3,800
Do.		Orcem B.V. (Ecocem Materials Ltd., 100%)	Plant in Moerdijk	350
Iron and steel, steel		Tata Steel Europe Ltd. (Tata Steel Group)	Plant at IJmuiden	7,500
Lead		Nyrstar N.V. (Trafigura Group Pte. Ltd., 98%, and other, 2%)	Smelter at Budel	40
Magnesia		Nedmag Industries Mining & Manufacturing B.V.	Plant at Veendam	130
Do.		Van Mannekus and Co. B.V. (Grecian Magnesite S.A., 50%, and Roullier Group, 50%)	Plant at Schiedam	50
Natural gas	million cubic meters	Nederlandse Aardolie Maatschappij B.V. (NAM) (Exxon Mobil Corp., 50%, and Royal Dutch Shell plc., 50%)	Groningen, Noord-Friesland, and Schoonebeek, and other onshore gasfields and several offshore wells in the North Sea	38,000 ^e
Do.	do.	Vermilion Energy Netherlands B.V. (Vermilion Energy Inc., 100%)	Drenth, Steenwijk, and Tietjerksteradeel II and other gasfields	800
Nitrogen:				
Ammonia		Yara Sluiskil B.V. (Yara Nederland B.V., 100%)	Sluiskil Plant in Sluiskil	1,900
Nitric acid		do.	do.	3,400
Urea		do.	do.	1,300
Petroleum:				
Crude	42-gallon barrels per day	Dana Petroleum Netherlands B.V.	F02a and P11b fields	4,600 ^e
Do.	do.	Nederlandse Aardolie Maatschappij B.V. (NAM) (Exxon Mobil Corp., 50%, and Royal Dutch Shell plc, 50%)	Onshore fields: Botlek, Rijswijk, Schoonebeek	3,100 ^e
Do.	do.	Neptune Energy Netherlands B.V. (Neptune Energy Group Midco Ltd., 60%, and EBN B.V., 40%)	F03b field	6,000
Do.	do.	Neptune Energy Netherlands B.V. (Neptune Energy Group Midco Limited, 50%; EBN B.V., 40%; TAQA Offshore B.V., 10%)	Q13a and L5a-D fields	16,000
Do.	do.	Petrogas E & P Netherlands B.V.	P09c and Q01 fields	2,100 ^e
Do.	do.	TAQA Energy B.V.	P15a and P15b fields	1,100 ^e
Refined	do.	BP Raffinaderij Rotterdam B.V.	Rotterdam	400,000
Do.	do.	Esso Nederland B.V. (Exxon Mobil Corp., 100%)	Botlek	195,000
Do.	do.	GuN.V. or Petroleum Ltd. (GuN.V. or Group, 100%)	Rotterdam	80,000
Do.	do.	VPR Refining Group B.V. (Vital Holding S.A., 100%)	do.	85,000
Do.	do.	Shell Nederland Raffinaderij B.V.	Pernis	420,000
Do.	do.	Zeeland Refinery N.V. (Total Nederland N.V., 55%, and LUKOIL, 45%)	Vlissingen	166,000
Salt		Frisia Zout B.V.	Barradeel and Barradeel II Mines	180 ^e
Do.		Nedmag B.V.	Veendam Mine	300 ^e
Do.		Nouryon Salt B.V.	Mines in Adolf van Nassau and Twenthe-Rijn	1,100
Do.		do.	Mines in Twenthe-Rijn	2,000
Do.		do.	Mines in Twenthe-Rijn Oude Maten and Helmerzijde	200

See footnotes at end of table.

TABLE 2—Continued
 NETHERLANDS: STRUCTURE OF THE MINERAL INDUSTRY IN 2019

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity
Sand, silica	Lieben Minérals B.V.	Mines at South Limburg	150
Do.	Sigrano Nederland N.V. (Sibelco Group)	Mines and plants at Heerlen and Maastricht	500
Sodium:			
Carbonate, synthetic	Brunner Mond Group B.V.	Plant at Delfzijl	380
Sulfate, synthetic	do.	do.	600
Stone, limestone	Ankerpoort N.V. (Lhoist SA, 100%)	Mines at Maastricht and Winterswijk	600
Sulfuric acid	Nyrstar N.V. (Trafigura Group Pte. Ltd., 98%, and other, 2%)	Smelter at Budel-Dorplein	380 ^c
Zinc	do.	do.	300 ^c

^cEstimated. Do., do. Ditto.