



# 2015 Minerals Yearbook

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**NETHERLANDS [ADVANCE RELEASE]**

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# THE MINERAL INDUSTRY OF THE NETHERLANDS

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The real gross domestic product (GDP) of the Netherlands in 2015 increased to \$750.8 billion from \$737.3 billion in 2014, or by an estimated 1.9%. The country reported an estimated unemployment rate of 6.9% in 2015 and an inflation rate of 0.2% in the same year. The Federal budget deficit amounted to 2% of the GDP in 2015, and the national debt was equivalent to 68.9% of the GDP. The Netherlands ranked sixth in the European Union (EU) in terms of the GDP (following Spain) in 2015, and the output value of the Netherlands' industrial sector accounted for 18.8% of the GDP. The Netherlands' economic recovery continued at a moderate pace during 2015, and this level of recovery was expected to continue into 2016 (CPB Netherlands Bureau for Economic Policy Analysis, 2016a, p. 10, 13; 2016b; U.S. Central Intelligence Agency, 2016).

The mineral industry in the Netherlands was composed mostly of the manufacturing and processing of metals and steel, the production of gas and crude petroleum, and the mining of industrial minerals. The Netherlands did not mine for metals, so the raw materials necessary for its metal refining industry were imported or obtained from secondary scrap recovery. In 2015, the Netherlands was a significant processor in the EU of cadmium, lead, pig iron, steel, and zinc; a regionally relevant producer of crude petroleum; and a regionally important producer and distributor of natural gas; however, in terms of percentage of total world production of these mineral commodities, the Netherlands' was not among the most significant world producers. The Netherlands also produced petroleum refinery products, of which natural gas was its most significant commodity (tables 1, 2; CPB Netherlands Bureau for Economic Policy Analysis, 2016b).

In terms of surface area and population size, the Netherlands ranked 135th and 67th in the world, respectively; however, in terms of economic performance, the Netherlands (as of 2014) ranked 28th in the world. In 2015, the Netherlands accounted for 3.6% of the volume of world trade of goods and services and, with exports valued \$488.3 billion, was the ninth-ranked exporter of goods in the world in terms of value. The Netherlands also was a significant importer, importing \$157 billion worth of goods and services in 2014 (Netherlands Enterprise Agency, 2015; CPB Netherlands Bureau for Economic Policy Analysis, 2016b; U.S. Central Intelligence Agency, 2016).

## Minerals in the National Economy

The Staatstoezicht op de Mijnen [State Supervision of Mines] (SodM) is the agency within the Ministerie van Economische Zaken [Ministry of Economic Affairs] that oversees the production of minerals in the Netherlands and the Netherlands Continental Shelf. The agency is responsible for drafting and enforcing mining laws, mine safety, and mineral production regulations.

The mineral sector was dominated by natural gas and petroleum production, of which about 40% was from offshore fields. Mining was limited 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. In the nonfuel mineral sector, the Netherlands was engaged principally in downstream activities, including the chemical and metallurgical industries, which used mainly imported ores and industrial minerals (table 1; Staatstoezicht op de Mijnen, 2009).

## Production

In 2015, the Netherlands' produced 3.2% more lead metal, 3.1% more pig iron, and 1.4% more zinc than in the previous year. Production of steel semimanufactures decreased slightly, and the estimated production of cadmium and cement remained at about the same levels as in 2014. The refining of cadmium, lead, and zinc and the production of steel were the leading metal mineral industries in the Netherlands, and the production of natural gas was the most important mineral industry activity in the country in terms of value (table 1).

Rotterdam was an important shipping and storage center. In 2015, the throughputs (that is, the sum of the quantity of imports and exports) of the following mineral commodities were the most important: crude petroleum, 103.1 million metric tons (Mt); mineral oil products, 88.5 Mt; iron ore and scrap, 33.9 Mt; and coal, 30.7 Mt (Port of Rotterdam Authority, 2016, p. 2).

## Structure of the Mineral Industry

The Netherlands' mineral industry is mainly privately owned, although the Dutch Government owned or participated in the ownership of some important mineral-related companies. In 2015, these companies included N.V. Nederlandse Gasunie (Gasunie), which was the main gas transporter in the Netherlands and an important one in northern Germany; Ultra-Centrifuge Nederlands N.V., which partly owned Uranium Enrichment Corp. (URENCO Group); and Energie Beheer Nederland B.V., which was a major gas exploration, production, sales, and transportation company (Rijksoverheid Voor Nederland, 2016).

The Dutch Government also owned or participated in the ownership of the national rail system, N.V. Nederlandse Spoorwegen, which was the main electrical distribution company in the country; as well as of Tennet Holding B.V. and of GasTerra B.V. (GasTerra), which was the main natural gas trader and supplier in the country. GasTerra and Gasunie were one company until 2005, when, in accordance with EU regulations, the Government of the Netherlands separated its distribution and sales of gas from Gasunie, creating GasTerra, to sell and trade gas, and Gasunie, to distribute it (Rijksoverheid Voor Nederland, 2016).

According to the Netherlands Foreign Investment Agency, the country hosted about 6,300 foreign companies, including BASF AG of Germany; Cisco Systems Inc., Microsoft Corp., and Nike Inc. of the United States; Saudi Basic Industries Corp. of Saudi Arabia; Siemens AG of Germany; and Yakult Honsha Co., Ltd. of Japan. Foreign companies have made direct investments in the Netherlands worth \$589 billion. Dutch-based multinationals, such as Akzo Nobel NV, Heineken NV, ING NV, Koninklijke Philips N.V., KPN NV, Royal Dutch Shell plc, and Unilever NV, also have made significant foreign investments abroad. Mineral industry facilities in the Netherlands were mostly privately owned, although the Government was involved in the energy sector through the regulation and oversight of petroleum and natural gas operations (Netherlands Enterprise Agency, 2015). Table 2 is a list of the major mineral industry facilities.

## Commodity Review

### Metals

**Aluminum.**—On March 3, 2015, Klesch Aluminum Delfzijl B.V. (ALDEL) restarted operations after being closed since December 2013, when it had filed for bankruptcy at the court of Groningen. At that time, ALDEL had stated that it had been struggling with increasing power prices and their differentials between the Netherlands and surrounding countries. In 2015, the Netherlands produced an estimated 75,000 metric tons (t) of primary aluminum and had a total production capacity of 170,000 metric tons per year (tables 1, 2; Nederlandse Omroep Stichting, 2015; Klesch Aluminum Delfzijl BV, 2016).

**Iron and Steel.**—In 2015, Tata Steel Group of India announced that it was working with the sustainable energy developer Pure Energie N.V. to install 80,000 solar panels on the roofs of the IJmuiden steelworks. This installation would have 22 megawatts of capacity, and it would generate the amount of energy needed to power about 7,000 homes. Tata Steel's European operations indicated that the project would help minimize the company's carbon footprint. The company reported that, since 1990, it had reduced the amount of energy needed to produce steel at the IJmuiden site by more than 30%, claiming that it was one of the world's most energy-efficient steel plants. The company stated that the energy generated by the panels would be used in the steel manufacturing process and that the installation of the panels would take 2 years, commencing in the spring of 2016, and cover a total of 25 hectares. Tata Power Solar would supply the solar panels, and Pure Energie would fund the project (Eddie, 2015).

**Zinc.**—Nyrstar NV reported that its plant at Budel had increased its production to 290,000 t of zinc in 2014, setting a new production record. The increased production was the result of scheduled continuing improvements of its electrolysis processes. Nyrstar had stated that the Budel plant would continue to update its installations and processes throughout 2014 and 2015 with the aim of being able to handle a wider range of concentrates and increased production (Nyrstar NV, 2015, p. 25, 43; 2016).

### Mineral Fuels

**Natural Gas.**—The Dutch Minister of Economic Affairs stated in January 2014 that gas production from the Groningen field (located in the northeastern part of the Netherlands) would be reduced during the course of 3 years, starting in 2014, owing to the concern that local communities had expressed about tremors attributed to the exploitation of the field. The Groningen field was a major asset for its operators—Exxon Mobil Corp. of the United States and Royal Dutch Shell—as well as the Government of the Netherlands because of its flexible delivery profile and the revenue it produced. The field was also important as a supply source of gas for customers in northwestern Europe in the winter months. Groningen's gas output would be reduced to a maximum of 42.5 billion cubic meters per year of gas in 2014 and 2015, and a subsequent reduction to 40 billion cubic meters would take place in 2016. The Groningen field had produced nearly 54 billion cubic meters in 2013 (Platts, 2014).

### Outlook

The most important mineral production of the country is expected to continue to be related to the development and exploitation of the country's gas fields. The Netherlands is expanding its infrastructure to increase the volume of natural gas exports in the region. Renewable energy is being promoted by the Government so the Netherlands can meet European Commission targets by 2020. The Port of Rotterdam is expected to continue to be a leading European port, particularly in terms of container traffic, and to play a significant role in European trade.

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TABLE 1  
NETHERLANDS: PRODUCTION OF MINERAL COMMODITIES<sup>1</sup>  
(Metric tons unless otherwise specified)

Commodity <sup>2</sup>	2011	2012	2013	2014	2015	
<b>METALS</b>						
Aluminum, metal, primary	300,000	110,000	50,000	--	75,000 <sup>e</sup>	
Cadmium, metal, primary	570	560	610 <sup>r</sup>	640 <sup>r</sup>	640	
<b>Iron and steel:</b>						
Pig iron, including blast-furnace ferroalloys (if any)	thousand metric tons	5,943	5,909	5,686	5,868	6,050
<b>Steel:</b>						
Crude	do.	6,937	6,867	6,714	6,964	6,995
Semimanufactures	do.	6,765	6,739	6,580	6,839 <sup>r</sup>	6,800
Lead, metal, refined, secondary <sup>e</sup>		27,000	27,000	27,000	31,000 <sup>r</sup>	32,000
Zinc, metal, primary		261,000	257,000	284,000 <sup>r</sup>	291,000 <sup>r</sup>	295,000
<b>INDUSTRIAL MINERALS</b>						
Cement, hydraulic <sup>e</sup>	thousand metric tons	2,318	2,500	2,500	2,600	2,600
<b>MINERAL FUELS AND RELATED MATERIALS</b>						
Gas, dry natural:	million cubic meters	80,731	80,787	86,422	70,261 <sup>r</sup>	70,200 <sup>e</sup>
<b>Petroleum:</b>						
Crude	thousand 42-gallon barrels	8,121	8,212	7,556	7,738	7,700
<b>Refinery products:</b>						
Liquefied petroleum gas	do.	16,500 <sup>e</sup>	17,958	17,484	17,500 <sup>e</sup>	17,500 <sup>e</sup>
Gasoline, motor	do.	63,000 <sup>e</sup>	59,495	53,765	53,800 <sup>e</sup>	53,800 <sup>e</sup>
Kerosene and jet fuel	do.	51,700 <sup>e</sup>	55,991	53,801	53,800 <sup>e</sup>	53,800 <sup>e</sup>
Diesel oil	do.	159,000 <sup>e</sup>	151,511	150,599	151,000 <sup>e</sup>	151,000 <sup>e</sup>
Residual fuel oil	do.	63,000 <sup>e</sup>	55,918	54,385	54,500 <sup>e</sup>	54,500 <sup>e</sup>
Unspecified	do.	100,000 <sup>e</sup>	104,755	102,612	102,000 <sup>e</sup>	102,000 <sup>e</sup>
Total	do.	453,000 <sup>e</sup>	445,628	432,664	433,000 <sup>e,r</sup>	433,000 <sup>e</sup>

<sup>e</sup>Estimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. <sup>r</sup>Revised. do. Ditto. -- Zero.

<sup>1</sup>Table includes data available through June 1, 2016.

<sup>2</sup>In addition to the commodities listed, the Netherlands produced magnesium compounds, nitrogen, salt, sodium compounds, sulfur (as an elemental byproduct of metallurgy and of petroleum and natural gas), and construction materials, such as limestone, peat, and sand and gravel, but information was not available to make reliable estimates of output.

TABLE 2  
NETHERLANDS: STRUCTURE OF THE MINERAL INDUSTRY IN 2015

(Thousand metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
<b>Aluminum:</b>				
Primary		Klesch Aluminum Delfzijl BV (ALDEL) <sup>1</sup> (Klesch and Co. Ltd., 100%)	Smelter at Delfzijl	170
Secondary		Alumax Recycling BV	Smelter at Kerkade	50
Do.		Zeeland Aluminium Co. BV (ZALCO) (UTB Holding B.V., 100%)	Plant at Flushing (Vlissingen)	230
Cadmium	metric tons	Nyrstar NV	Plant at Budel	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
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%, and Royal Dutch Shell plc., 50%)	Groningen, Leeuwarden, Assen, and other onshore gasfields and several offshore wells in the North Sea	225
<b>Petroleum:</b>				
Crude	42-gallon barrels per day	BP p.l.c., ConocoPhillips Co., and Chevron Corp.	766 wells (204 producing), including the following North Sea fields: Haven, Helder, Helm, Hoorn, Kotter, Logger, and Rijn	83,500
Do.	do.	Nederlandse Aardolie Maatschappij BV (NAM) (Exxon Mobil Corp., 50%, and Royal Dutch Shell plc, 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
Refined	do.	Several companies, of which the four major ones are:	Refineries, including:	1,230,500
Do.		Netherlands Refining Co. (BP p.l.c., 69%, and Chevron Corp., 31%)	Rotterdam	(446,000)
Do.		Shell Nederland Raffinaderij BV	Pernis	(374,000)
Do.		Esso Nederland BV	Rotterdam	(175,000)
Do.		Zeeland Refinery NV (Total Nederland NV, 55%, and OAO LUKOIL 45%)	Vlissingen	(150,000)
Salt		Akzo Nobel Salt BV (Akzo Nobel NV, 100%)	Mines, of which:	4,100
Do.		do.	Hengelo	(2,100)
Do.		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
<b>Sodium:</b>				
Carbonate, synthetic		Brunner Mond Group BV	Plant at Delfzijl	380
Sulfate, synthetic		do.	do.	600
Steel		Tata Steel Europe Ltd. (Tata Steel Group)	Plant at IJmuiden	7,200
Zinc		Nyrstar NV	Plant at Budel	290

Do., do. Ditto.

<sup>1</sup>Klesch Aluminum Delfzijl BV (ALDEL) filed for bankruptcy December 30, 2013, and remained closed until March 2015, when it officially reopened.