Country Analysis Brief: Indonesia

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Map 1: Indonesia (as of July 2025)

Data source: U.S. Energy Information Administration and World Bank

Overview

Table 1. Indonesia energy indicators, 2023

	Petroleum and other liquids	Natural gas	Coal	Nuclear	Hydro	Other renewables	Total
Primary energy production (quads)	1.3	2.3	14.9	0.0		0.8	19.2
Primary energy production (percentage)	7%	12%	77%	0%		4%	100%
Primary energy consumption (quads)	3.2	1.5	5.4	0.0		0.4	10.5
Primary energy consumption (percentage)	30%	14%	52%	0%		4%	100%
Generation (billion kWh)	7.4	59.8	246.5	0	24.6	44.5	328.8
Generation (percentage)	2%	16%	64%	0%	6%	12%	100%

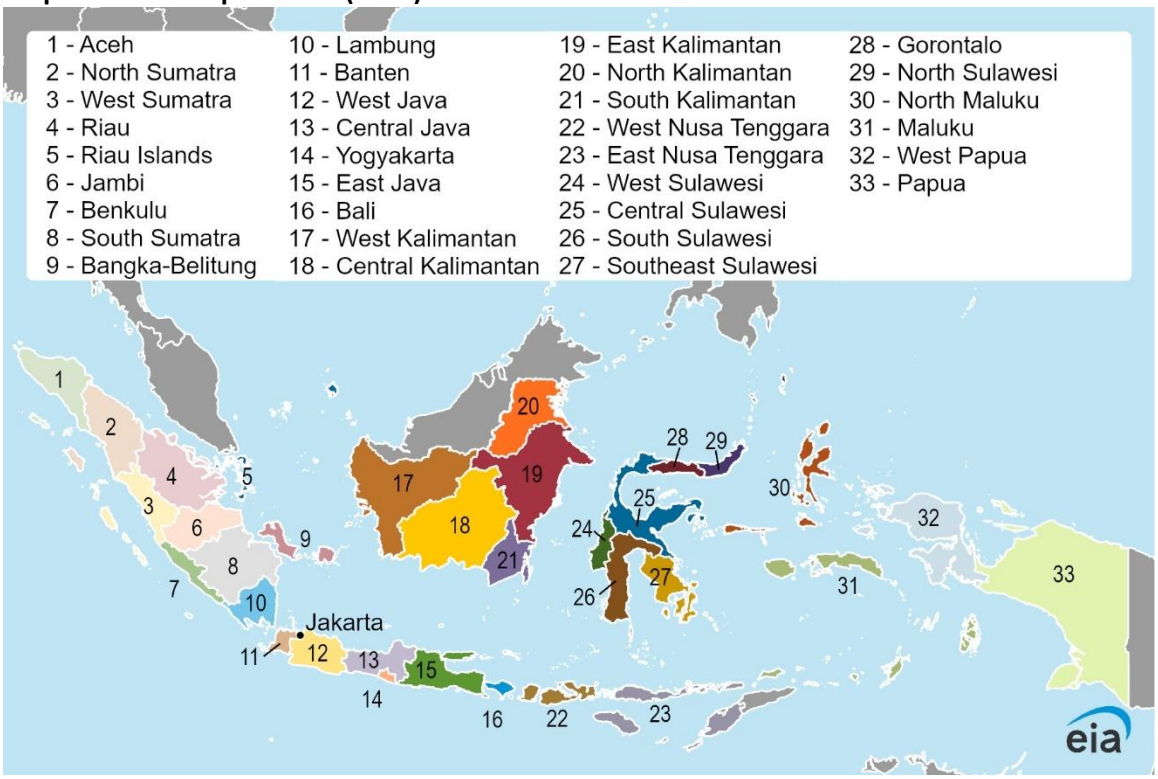
Data source: U.S. Energy Information Administration, International Energy Statistics and estimates
Note: Total may not equal 100% due to independent rounding. Quads=quadrillion British thermal units, kWh=kilowatthours

- Indonesia was the world's fourth-most populous country in 2024, with a population of 283 million. Its gross domestic product (GDP) grew 5% from the previous year, according to

government statistics. The primary contributors to Indonesia's growth were manufacturing, trade, and agriculture.[1]

- Indonesia's total primary energy production increased 8.8% to 19.3 quadrillion British thermal units (quads) in 2023 from the previous year (Table 1). Increases in coal (10.5%) accounted for most of the growth. Renewables (16.0%) and natural gas (2.2%) also contributed to the increase.[2]
- In 2023, Indonesia accounted for 5.8% of total global biodiesel production, making it the world's third-highest producer of biodiesel after the United States (8.3%) and Brazil (6.1%).[3]

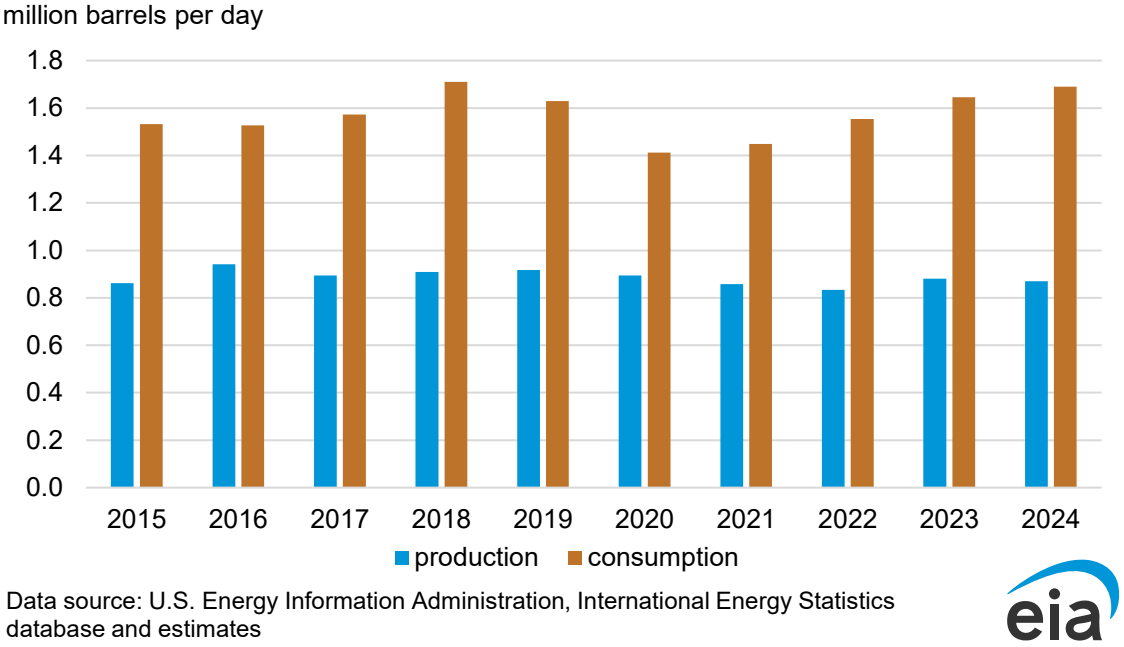
Map 2: Indonesia provinces (2025)



Data source: U.S. Energy Information Administration and World Bank

Petroleum and Other Liquids

Figure 1. Indonesia's petroleum and other liquids production and consumption, 2015–2024

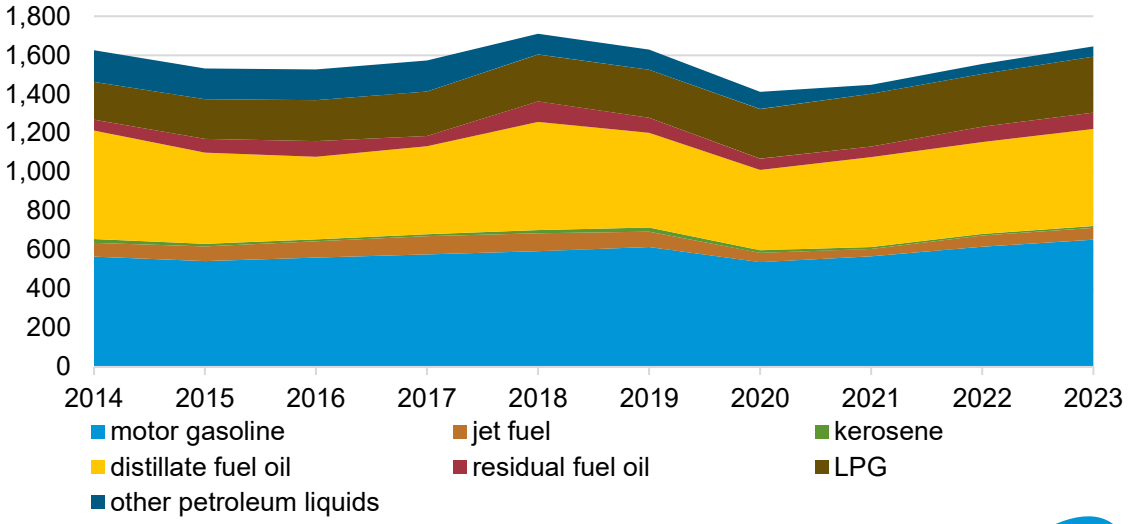


Data source: U.S. Energy Information Administration, International Energy Statistics database and estimates

- In 2024, Indonesia had proven crude oil reserves of 2.3 billion barrels, a 2.8% (67 million barrels) decline from the previous year.[4]
- Indonesia's total petroleum and other liquids production decreased approximately 13,000 barrels per day (b/d) to 868,000 b/d in 2024 from the preceding year (Figure 1). Declining crude oil and condensate production, which fell by 4% (26,000 b/d) to 582,000 b/d in 2024, accounts for most of the decrease.[5] The decline in crude oil and condensate production is attributed to several factors, including maturing fields, a lack of new exploration, and risks stemming from uncertain oil and natural gas policy.[6]
- Indonesia's Special Task Force for Upstream Oil and Gas Business Activities (SKK Migas) set a crude oil production target for 2025 at 605,000 b/d. To achieve this target, Indonesia seeks to increase international collaboration, optimize its mature fields, create incentives for companies to fulfill exploration contracts, and use joint projects with international entities for transferring knowledge to their workforce.[7]
- Indonesia's consumption of petroleum and other liquids reached 1.7 million b/d, a 2.5% increase from the previous year and its highest level since 2018.[8]

Figure 2. Indonesia's refined petroleum product consumption, 2014–2023

thousand barrels per day



Data source: U.S. Energy Information Administration, International Energy Statistics database

- There are eight refineries with a total capacity of 1.2 million b/d in Indonesia, all of which are partially or fully owned by Pertamina, Indonesia's state-owned oil and natural gas company (Table 2). The average refinery utilization rate was approximately 79% in 2024. A plan to expand the capacity of the Cilicap refinery from 348,000 b/d to 370,000 b/d has been delayed to 2027. Similarly, completion of the 90,000 b/d Balongan refinery expansion was also delayed to 2027.[9]
- Indonesia's petroleum product production declined 3% in 2024 from the previous year to 1 million b/d. Diesel production decreased 14% from 2023 to 300,000 b/d. The decline was driven by an increase in domestic biodiesel consumption. Gasoline and diesel production accounted for 60% of refined petroleum product production in 2024. Liquefied petroleum gases were 2.2% of production and mainly came from liquefied natural gas (LNG) facilities.[10]

Table 2. Operating refineries in Indonesia, 2025

Refinery name	Refinery location	Crude oil refining capacity (thousand barrels per day)
Balikpapan	Java	360
Cilicap	West Papua	348
Dumai	Sumatra	170
Balongan	Sumatra	150
Plaju	Java	126
Sungai Pakning	Ulsan	50
Kasin	Ulsan	10
Cepu	Ulsan	4

Total	**1,218**

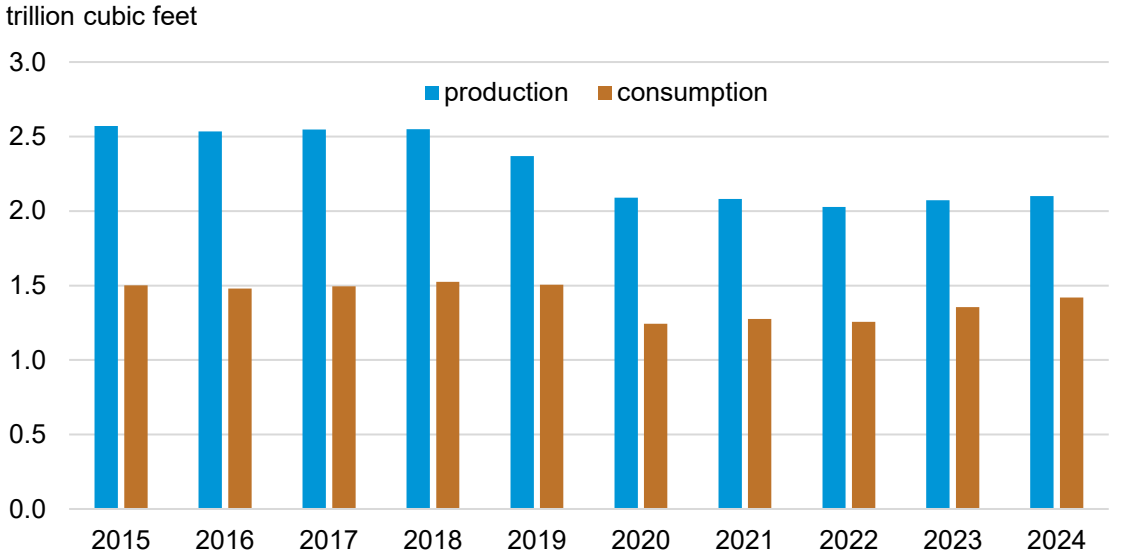
Data source: BMI FitchSolutions Inc. and Pertamina

Biofuels

- Indonesia's mandatory biodiesel blending program (B40), which went into effect in July 2025, requires a 40% blending rate of domestic biodiesel. The blending rate had been 35% since 2023, and a 50% blending rate mandate is set to take effect in 2028.[11] Use of biodiesel was 211,000 b/d in 2023 which was driven by the blending mandates.
- In 2023, 34 biorefineries were operating in Indonesia and had a refining capacity of 320,000 b/d. Biodiesel production increased 1.6% from the previous year, reaching 217,000 b/d in 2023.[12]
- Twenty-seven government-appointed fuel retailers are responsible for allocating biodiesel. The retailers blend the biodiesel with conventional fossil-fuel diesel and then retail the blended fuel through their distribution network. State-owned Pertamina is allocated most of the biodiesel volume, receiving an 81% share in 2023.[13]

Natural gas

Figure 3. Indonesia's natural gas production and consumption, 2015–2024

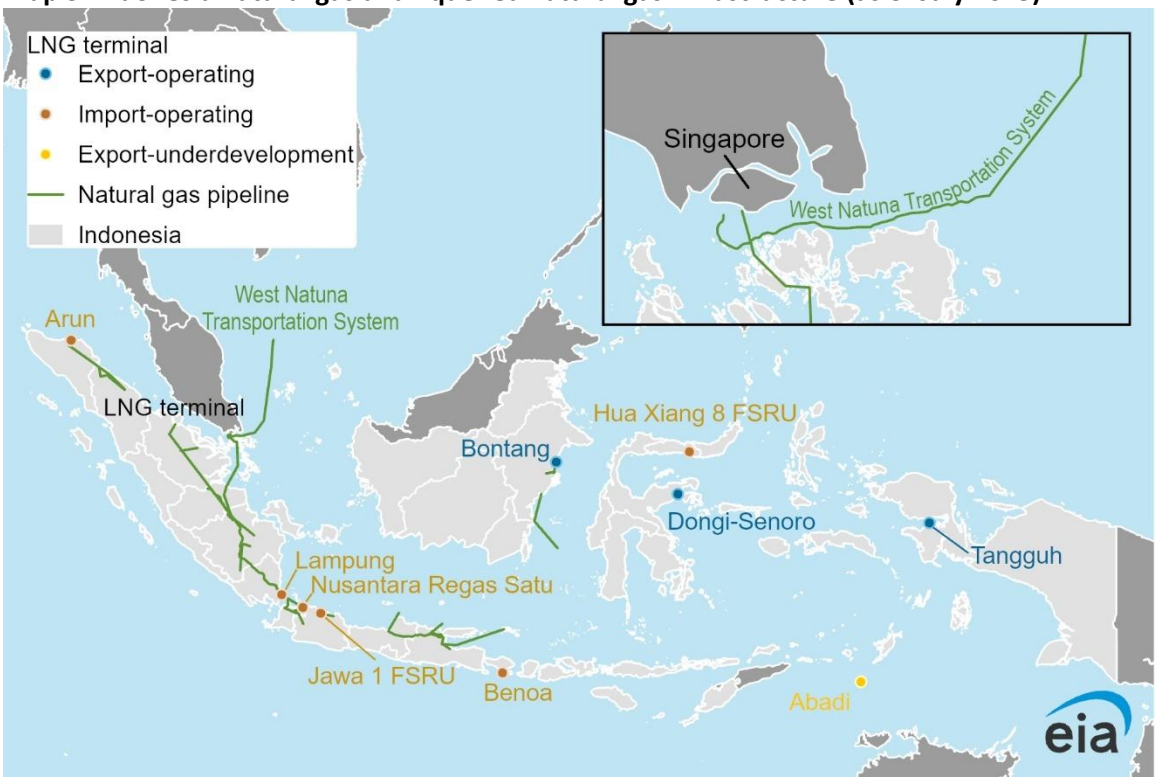


Data source: U.S. Energy Information Administration, International Energy Statistics database and estimates

- Indonesia had 33.8 trillion cubic feet (Tcf) in proved natural gas reserves in 2024, most of which were in the Maluka and Papua regions. Indonesia also has the sixth-largest coalbed methane reserves in the world, at 454 Tcf, most of which are found in the provinces of South Sumatra and South and East Kalimantan. Indonesia's Ministry of Energy and Natural Resources estimates that it could have up to 572 Tcf of shale gas reserves.[14]

- In 2024, Indonesia's natural gas production increased 1.5% from the previous year to 2.1 Tcf, mainly because of increased drilling by Pertamina (Figure 3). From January through October of 2024, Pertamina drilled 31 exploration and 728 development wells.[15]
- Indonesia has many natural gas projects in various stages of development, including deepwater projects, such as the Indonesia Deepwater Development projects (IDD). The IDD, which will add to mid-term natural gas production growth, consists of projects in the Bangka and Gendalo-Genhem fields, which have a combined natural gas reserve of 3 Tcf and production that could reach 2.5 billion cubic feet per day (Bcf/d) by 2028.[16]

Map 3: Indonesia natural gas and liquefied natural gas infrastructure (as of July 2025)



Data source: U.S. Energy Information Administration; Global Energy Monitor, Global Gas Infrastructure Tracker; and the World Bank

- Indonesia's 1.5 Tcf of operating LNG liquefaction capacity was the fifth-largest globally in 2024 (Table 3). In 2023, the Tannguh LNG T3 project came online (Map 3). Its 0.2 Tcf of capacity was the only liquefaction production to be added in 2023 worldwide. Indonesia has 0.6 Tcf in projects in various stages of development. Most of this capacity comes from the Abadi LNG project (0.5 Tcf). However, this project has been delayed several times, and in early 2025, Inpex, Japan's largest oil and natural gas exploration and production company, delayed its final investment decision to 2027 and the target date to start production to the early 2030s.[17]
- With 548 Bcf of capacity (Table 4), Indonesia had the seventeenth-largest regasification capacity in operation globally in 2023, with a terminal utilization rate of 37%.[18]

Table 3. Indonesia's operating liquefaction terminals

Project name	Owners	Peak output (billion cubic feet per year)	Target start year
Bontang LNG TC-TD	Pertamina (55%); Japan Indonesia LNG Co. (20%); PT VICO Indonesia (15%); TotalEnergies (10%)	269	1983
Bontang LNG TE	Pertamina (55%); Japan Indonesia LNG Co. (20%); PT VICO Indonesia (15%); TotalEnergies (10%)	134	1989
Bontang LNG TF	Pertamina (55%); Japan Indonesia LNG Co. (20%); PT VICO Indonesia (15%); TotalEnergies (10%)	134	1993
Bontang LNG TG	Pertamina (55%); Japan Indonesia LNG Co. (20%); PT VICO Indonesia (15%); TotalEnergies (10%)	134	1998
Bontang LNG TH	Pertamina (55%); Japan Indonesia LNG Co. (20%); PT VICO Indonesia (15%); TotalEnergies (10%)	142	1999
Tangguh LNG T1	BP (40.22%); CNOOC (13.9%); JOGMEC (11.07%); Mitsubishi Corp (9.92%); Inpex (7.79%); JX Nippon Oil and Gas (7.46%); Sojitz (3.67%); Sumitomo (3.67%); Mitsui (2.3%)	183	2009
Tangguh LNG T2	BP (40.22%); CNOOC (13.9%); JOGMEC (11.07%); Mitsubishi Corp (9.92%); Inpex (7.79%); JX Nippon Oil and Gas (7.46%); Sojitz (3.67%); Sumitomo (3.67%); Mitsui (2.3%)	183	2009
Donggi-Senoro LNG T1	Donggi-Senoro LNG (DSLNG) (0%); Mitsubishi Corp (44.92%); Pertamina (29%); Korea Gas (14.98%); MedcoEnergi (11.1%)	96	2015
Tangguh LNG T3	BP (40.22%); CNOOC (13.9%); JOGMEC (11.07%); Mitsubishi Corp (9.92%); Inpex (7.79%); JX Nippon Oil and Gas (7.46%); Sojitz (3.67%); Sumitomo (3.67%); Mitsui (2.3%)	183	2023
Total		**1,458**	

Data source: International Gas Union, *2025 World LNG Report*

Table 4. Indonesia's operating regasification terminals

Project name	Owners	Peak output (billion cubic feet per year)	Target start year
Nusantara Regas Satu—FSRU Jawa Barat	Pertamina (60%); PGN (40%)	183	2012
Lampung LNG—PGN FSRU Lamung	LNG Indonesia (100%)	86	2014
Arun LNG	Pertamina (70%); Aceh Regional Government (30%)	144	2015
Benoa LNG (Bali)	PT Pelindo (50%); JSK Group (50%)	14	2016
Powership Zeynep Sultan Amurang—Hua Xiang 8 FSRU	PLT (50%); PT Humpuss (50%)	5	2020
Cilamaya—Jawa 1 FSRU	Pertamina (26%); Humpuss (25%); Marubeni (20%); MOL (19%); Sojitz (10%)	115	2021

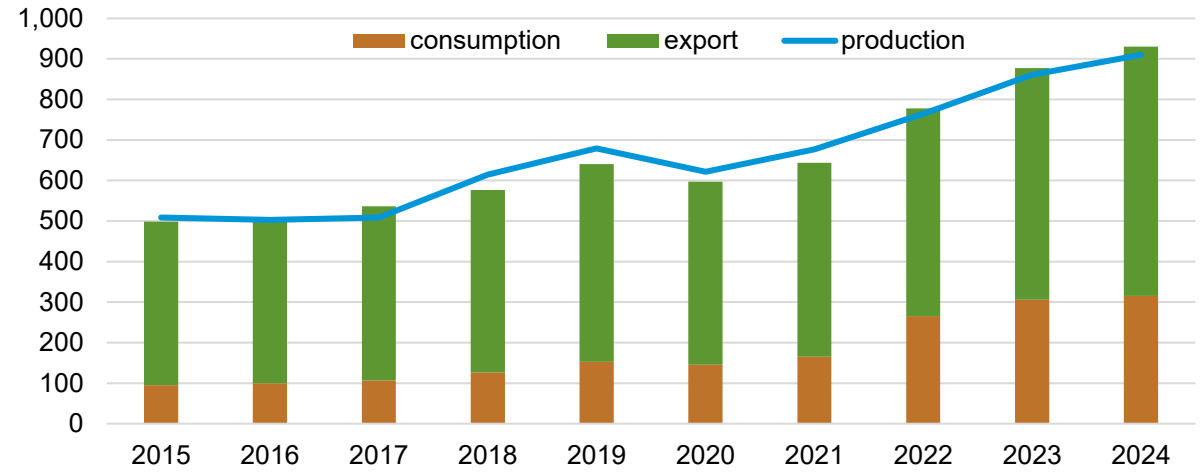
Total	**548**

Data source: International Gas Union, *2025 World LNG Report*
Note: FSRU=floating storage and regasification unit

Coal

Figure 4. Indonesia's production, consumption, and exports of coal, 2015–2024

million short tons



Data source: U.S. Energy Information Administration, International Energy Statistics database, Global Trade Tracker, and Handbook of Energy and Economic Statistics of Indonesia
Note: Numbers for 2024 are from the Handbook of Energy and Economic Statistics of Indonesia

- Indonesia was the third-highest producer of coal globally in 2023. In 2024, President Subianto announced plans to phase out coal-fired power generation by 2040. However, Indonesia's national electricity master plan (RUKN 2024–2060) aims to increase coal capacity by 26.8 gigawatts (GW) over the next seven years to reach a total capacity of 76.5 GW by 2031. Captive coal capacity makes up over 20 GW of the increase.[19]
- At 32.2 billion short tons, Indonesia had the seventh-largest coal reserves in the world in 2024. The majority of the reserves are in East Kalimantan (38.2%), South Sumatra (29.3%), and South Kalimantan (12.5%).[20]
- Indonesia's coal production has been increasing since 2021 and reached a peak of 917 million short tons in 2024 (Figure 4), a 6.6% increase from 2023 and 17% higher than the government target of 783 million short tons for the year. Production increased to meet growing domestic and foreign demand, especially in China and other Asian markets. The production target for 2025 is 810 million short tons.[21]
- Annual growth in Indonesia's coal consumption slowed to 3.1% in 2024, after a 15.4% increase in 2023, and a 60.3% increase in 2022. Consumption growth is mainly driven by power generation and the expansion of mineral smelting facilities, especially nickel.[22]

- In 2024, Indonesia's power generation facilities accounted for the largest share of domestic coal use (57.4%). The iron, steel, and metallurgy industry followed with 29.9% of all domestic coal purchases. The industry's coal demand has increased significantly over the past decade from 440,000 short tons in 2015 to almost 77 million short tons in 2024.[23]

Critical minerals

Table 5. Highest nickel producing countries, 2024

Country	2023 production (tons)	2024 production (tons)	Reserves (tons)
Indonesia	2,030,000	2,200,000	55,000,000
Philippines	413,000	330,000	4,800,000
Russia	210,000	210,000	8,300,000
Canada	159,000	190,000	2,200,000
China	117,000	120,000	4,400,000
World total	**3,750,000**	**3,700,000**	**130,000,000**

Data source: U.S. Geological Survey, Mineral Commodities Summary 2025

- Indonesia had the world's largest reserves of nickel in 2024, at 55 million tons, according to estimates from the U.S. Geological Survey. These reserves account for 42.3% of global reserves and are more than twice those of Australia, the country with the next-largest reserves. Nickel is used in the energy sector in steels and alloys, energy storage technologies, electric vehicle batteries, wind turbines, solar panels, and as a catalyst in green hydrogen production.[24]
- Indonesia produced 2.2 million tons of nickel in 2024, which was 59% of global production and an 8.4% increase from 2023.[25]

Table 6. Indonesia's five highest-producing nickel mines, 2024

Project name	Mining production (tons), 2023	Ownership	Location
Weda Bay Project	570,000	Tsingshan Group (China)	Maluku
PT Halmahera Persada Lygend Project	105,000	Ningbo Lygend Minnig (China)	North Maluku
Sorowako Mine	71,000	Vale (Brazil)	South Sulawesi
PT Huayue Nickel Cobalt project	46,000	Huayou Cobalt (China)	Central Sulawesi

Pakal Island Mine	40,000	Mining Industry Indonesia (Indonesia)	North Maluku

Data source: Discovery Alert

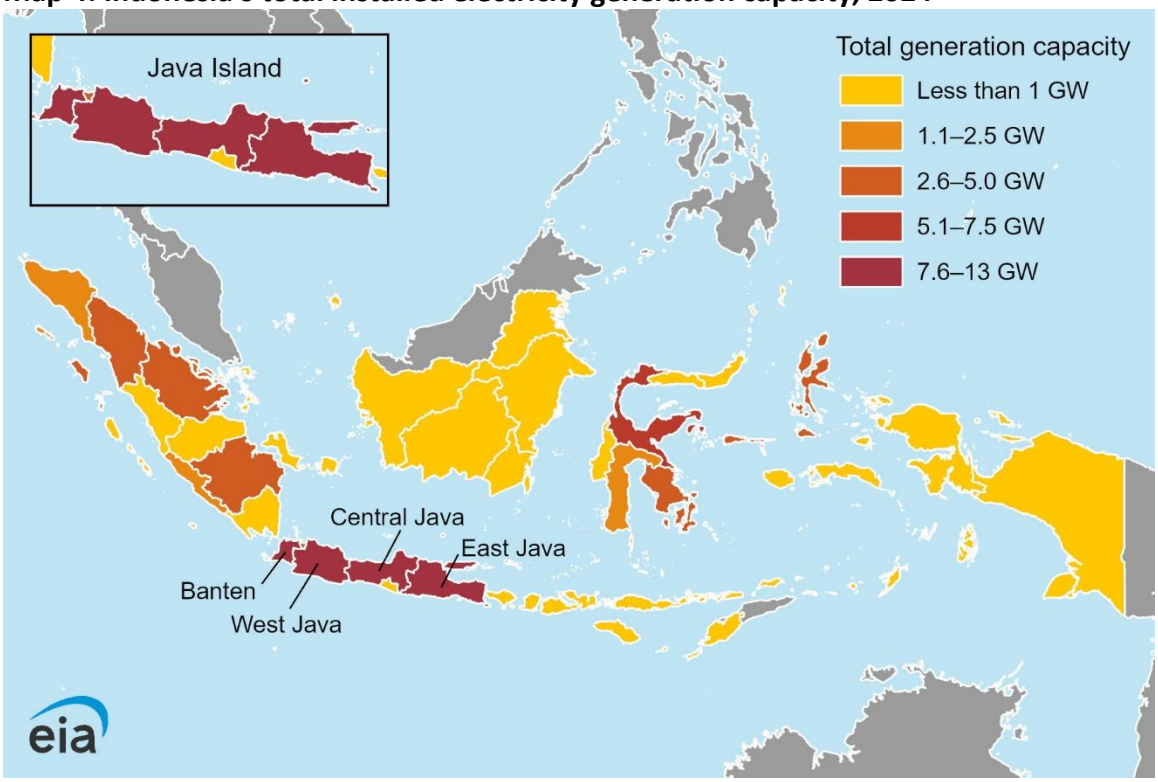
- The Weda Bay project is the world's highest-producing nickel mine, producing 570,000 tons in 2023 (Table 5). This project is larger than the total production of the Philippines, the second-highest producing country (441,000 tons).
- In early 2025, Indonesia had 44 nickel smelters in operation and another 21 under construction. Prior to 2014, it had only 2 smelters.[26]
- Foreign direct investment (FDI) has driven the growth of Indonesia's nickel sector, and China is the largest source of investment. The share of China's $7.3 billion of investment into Indonesia from the Belt and Road Initiative (BRI) that was slated for the nickel sector is unclear, but Indonesia was the BRI's top recipient of total funds in 2023. Chinese companies built over 90% of the nickel smelters, which separate nickel from other components, operating in Indonesia.[27]
- In 2023, Indonesia had 8.8 million tons of nickel refining capacity. Nickel refineries further process the nickel from smelters to a high-purity nickel. Chinese companies and/or shareholders controlled 61% of this capacity, compared with just 13% by Indonesian companies and/or shareholders.[28]
- In 2024, Indonesia had the fourth-largest cobalt reserves in the world, at 640 million metric tons. Cobalt production increased from 19,000 tons in 2023 to 28 million tons in 2024, equivalent to 10% of global production, making Indonesia the second-highest producer globally. Cobalt is used in battery storage and wind turbines.[29]
- Indonesia's copper reserves ranked tenth in the world in 2024, at 21 million tons. Mine production increased by more than 21% in 2024 from the previous year to 1.1 million tons, tying Indonesia with the United States for fifth-highest producing country globally. In addition, copper refinery production in 2024 increased from the previous year by more than 55% to 350,000 tons. Copper is used to construct solar panels, wind turbines, energy storage, power grids, and electric vehicles.[30]

Electricity

- Indonesia's installed generation capacity grew by 1.2% in 2023 to 70.8 gigawatts (GW) from the previous year. Although fossil fuels accounted for the largest share of capacity, capacity growth is attributed to non-hydroelectric renewables, which increased almost 1 GW in 2023 (Figure 6). Biomass and waste accounted for 0.4 GW of the increase, followed by solar (0.3 GW) and geothermal (0.2 GW).[31]
- The provinces with the most installed capacity in 2024 were West Java, Central Java, East Java, and Banten (Map 4). These provinces are some of Indonesia's most populous, and the Java Island grid system interconnects with Madura and Bali islands, which is a significant driver of installed capacity growth.[32]
- Indonesia's electricity generation reached a new high of 382.8 terawatthours in 2023, but year-on-year growth slowed to 1.8%, a notable decrease from the nearly 22% increase in generation

from 2021 to 2022. The vast majority of generation (82%) came from fossil fuels: coal accounted for more than 64% of the total, followed by natural gas (16%) (Figure 6). Among renewable sources, biomass and waste, as well as hydroelectricity, accounted for 18% of generation. Solar and wind generation had the largest growth rates from the previous year, 61% and 36%, respectively, but together these two sources still accounted for less than 1% of total generation.[33]

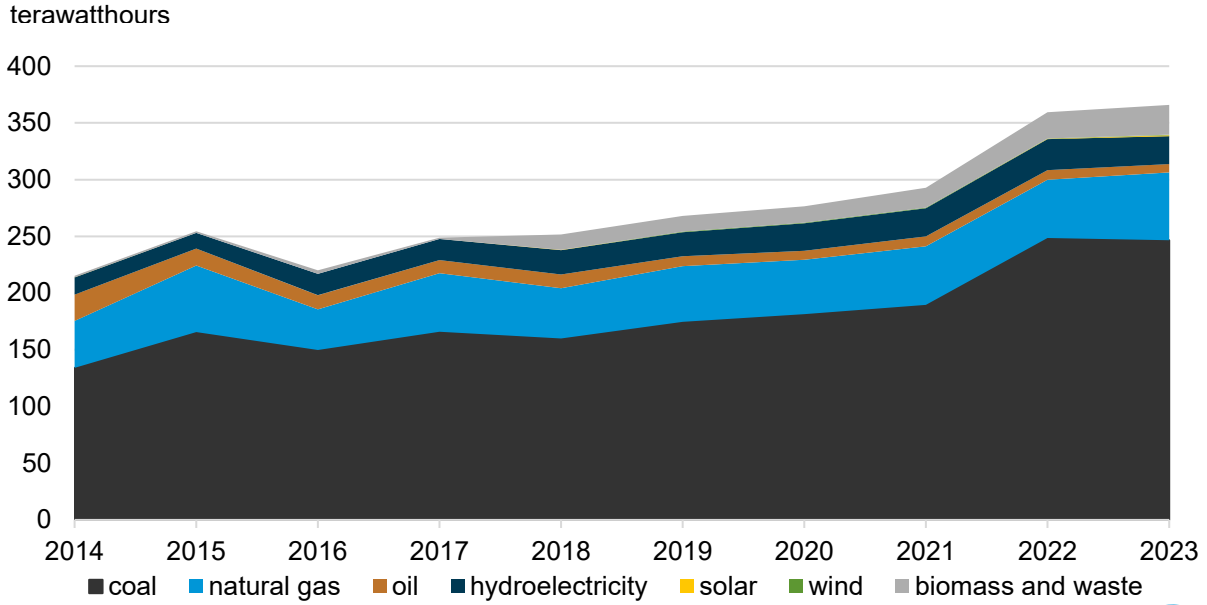
Map 4: Indonesia's total installed electricity generation capacity, 2024



Data source: U.S. Energy Information Administration; Global Energy Monitor, Global Integrated Power Tracker; and World Bank
Note: GW=gigawatt

- Indonesia’s electricity generation from geothermal grew 4.4% to almost 17 gigawatthours (GWh), making it the highest geothermal-producing country in 2023. This volume accounted for 18.6% of total geothermal generation globally. Indonesia’s installed geothermal capacity of 2.6 GW was second globally, behind the United States.[34]

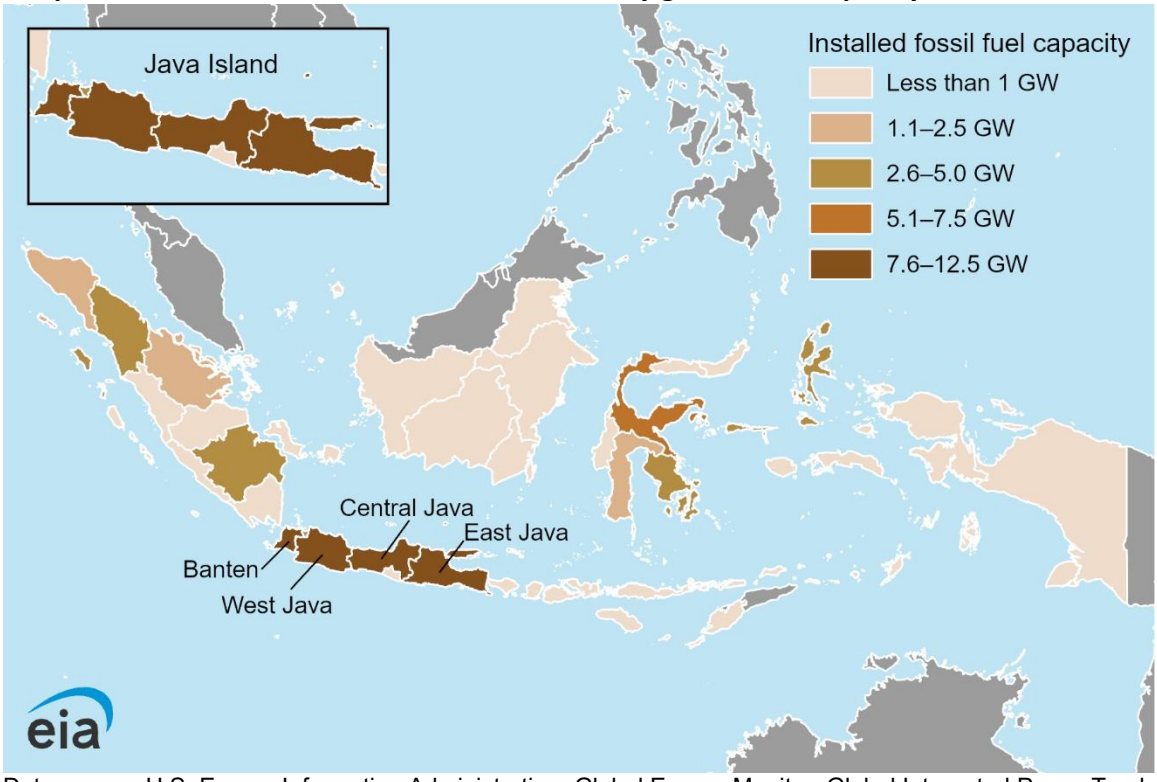
Figure 5. Indonesia's generation by source, 2014–2023



Data source: U.S. Energy Information Administration, International Energy Statistics

- The industrial sector consumed about 49% of electricity generation in 2023, followed by the residential sector at more than 30% and commercial and public services at about 19%.[35] According to PT Perusahaan Listrik Negara, Indonesia's primary electricity supplier, increases in residential and commercial consumption were the primary drivers for electricity demand growth in 2023.[36]

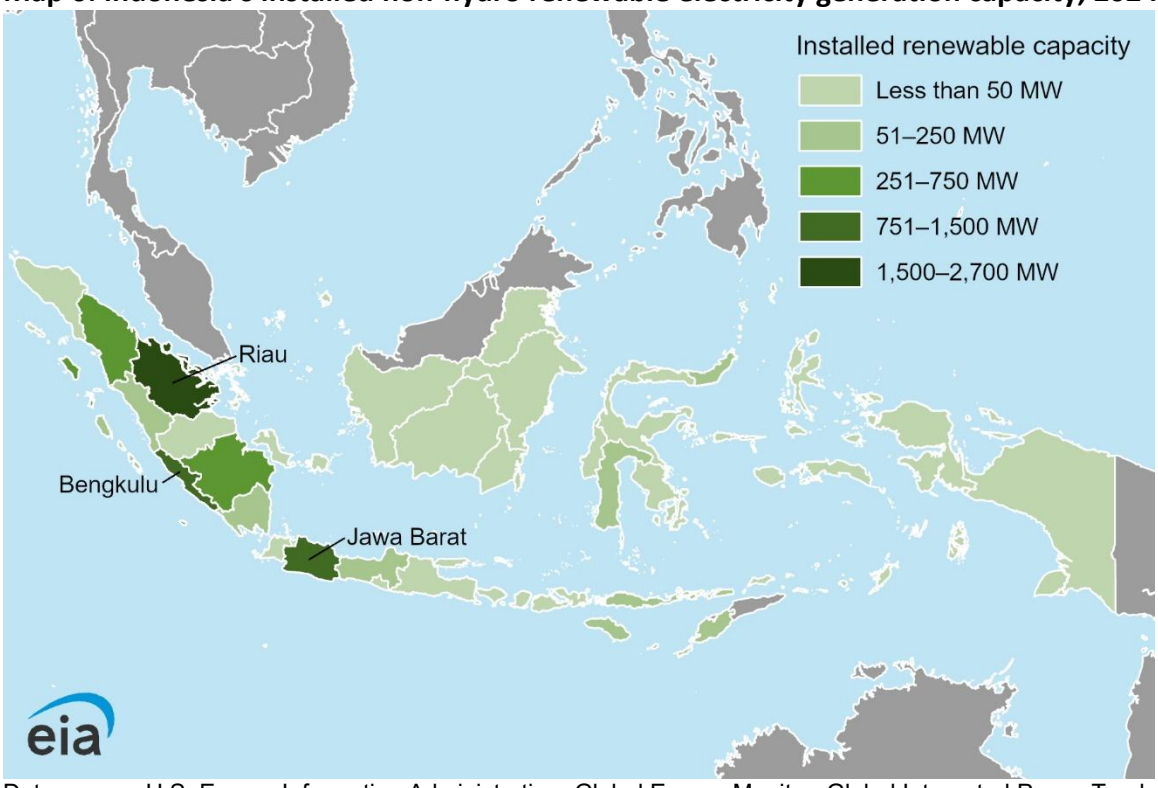
Map 5: Indonesia's installed fossil fuel electricity generation capacity, 2024



Data source: U.S. Energy Information Administration; Global Energy Monitor, Global Integrated Power Tracker; and World Bank

- Java Island holds the highest concentration of fossil fuel electricity generation capacity (Map 4). The coal-fired Paiton power station complex in East Java is Indonesia's largest, at 4 GW.[37]

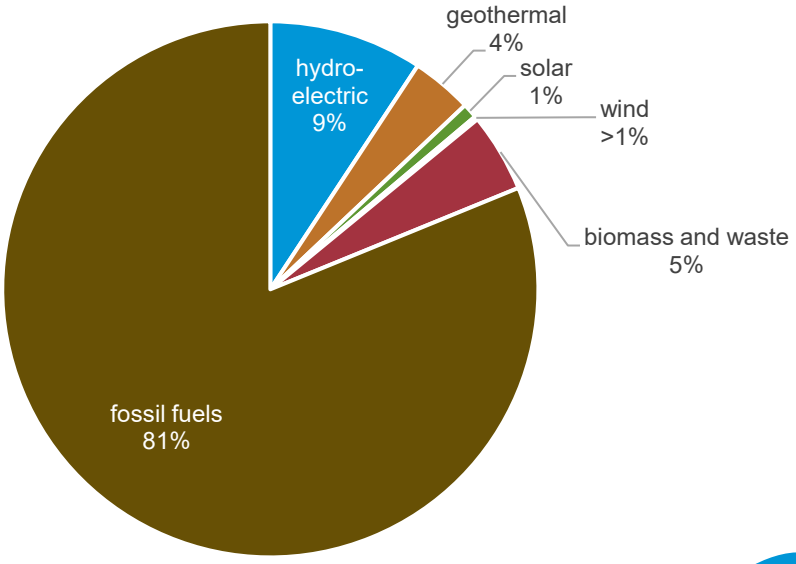
Map 6: Indonesia's installed non-hydro renewable electricity generation capacity, 2024



Data source: U.S. Energy Information Administration; Global Energy Monitor, Global Integrated Power Tracker; and World Bank

- The Riau province has Indonesia’s highest amount of installed renewable generation capacity (Map 5). The province has high solar irradiance potential and has a joint project with Singapore under development that will supply 1 GW of renewable electricity to Singapore.[38]

Figure 6. Indonesia's electric generation capacity, 2023

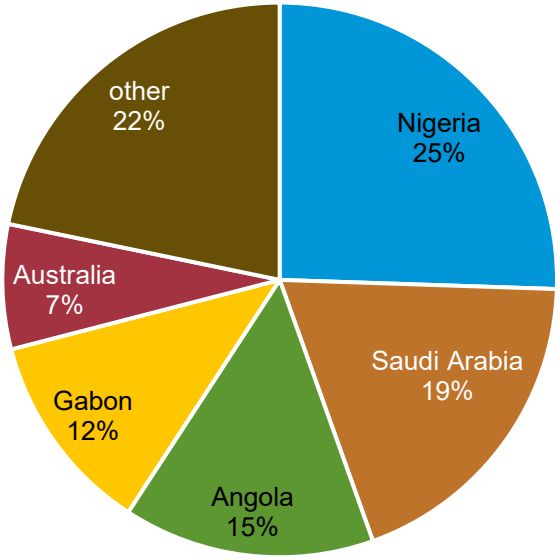


Data source: U.S. Energy Information Administration, International Energy Statistics database
Note: Numbers may not equal 100% due to independent rounding.

Energy Trade

Petroleum and other liquids

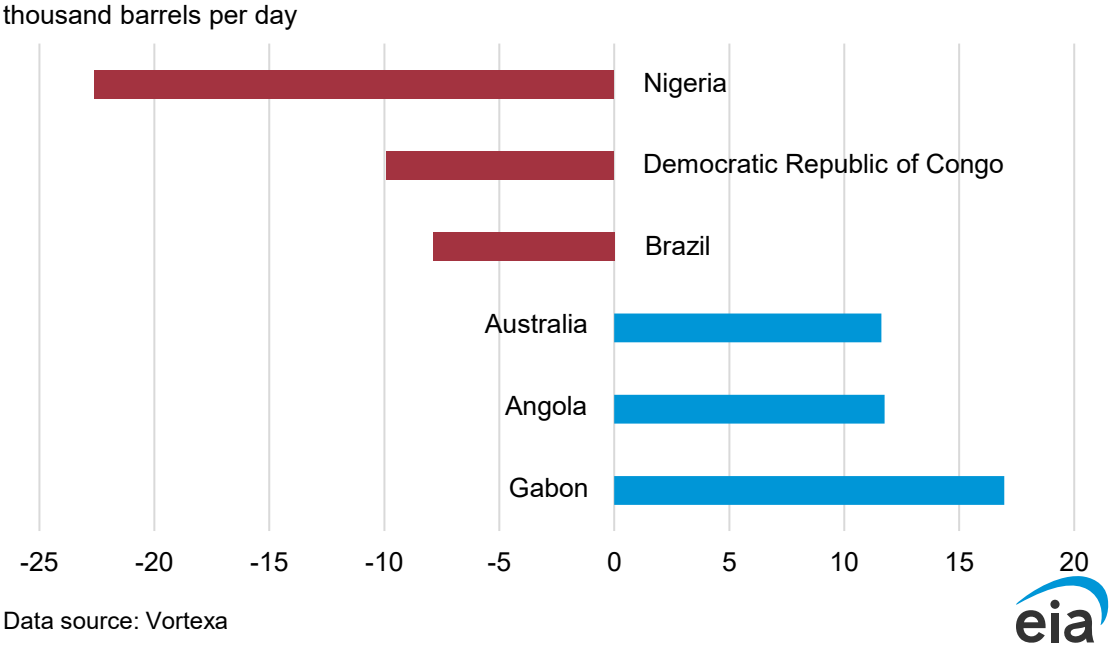
Figure 7. Indonesia crude oil and condensate imports by source, 2024



Data source: Vortexa

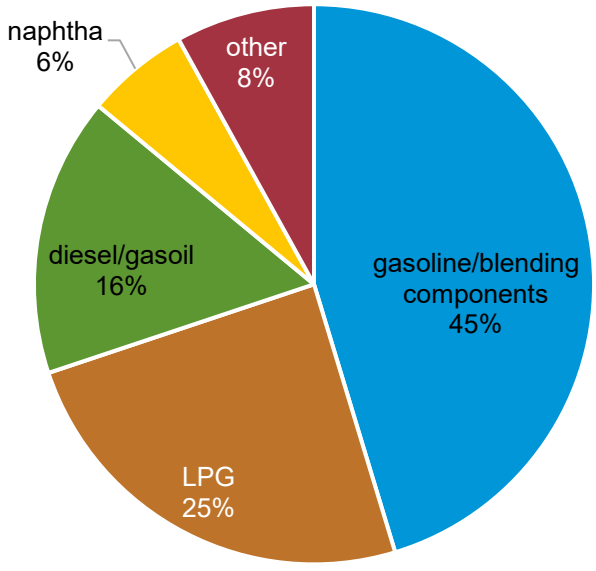
- Indonesia's crude oil and condensate imports only slightly increased (<1%) in 2024 compared with the previous year, to 354,000 b/d. Indonesia's crude oil and condensate imports have been increasing steadily since 2021.[39]
- Although Nigeria remained the largest source of Indonesia's crude oil and condensate imports, accounting for 25% in 2024 (Figure 7), this share was much lower than its 32% share in 2023. This decline was primarily due to an overall drop in Nigeria's crude oil exports. Much of the decrease in imports from Nigeria was offset by increased shipments from Gabon (Figure 8).[40]

Figure 8. Largest changes in crude oil and condensate imports year over year by country, 2024



Data source: Vortexa

Figure 9. Indonesia's petroleum product imports by type, 2024



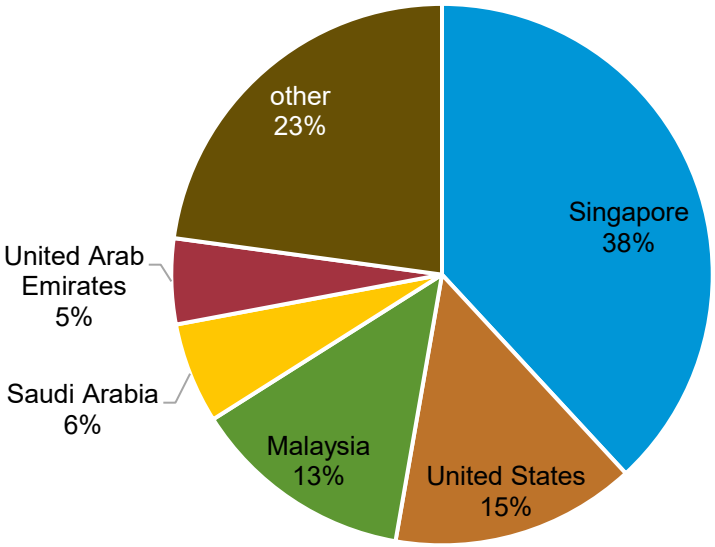
Data source: Vortexa
Note: LPG=liquid petroleum gas

- Indonesia's petroleum product imports increased 6.4% in 2024 from the previous year to 791,000 b/d. Gasoline accounted for almost half (45%) of all petroleum product imports in 2024

(Figure 9). Transportation fuels (diesel, gasoline, and jet fuel) accounted for most of the increase, offsetting decreases in imports of other product types.[41]

- Singapore was the top source of Indonesia's petroleum product imports, accounting for both the largest share of imports (38%) in 2024 (Figure 9) and the largest year-on-year increase (46,000 b/d). The United States was the second-highest source overall and was also the source of the second-highest year-on-year increase (20,000 b/d) (Figure 10).[42]

Figure 10. Indonesia's petroleum product imports by source, 2024

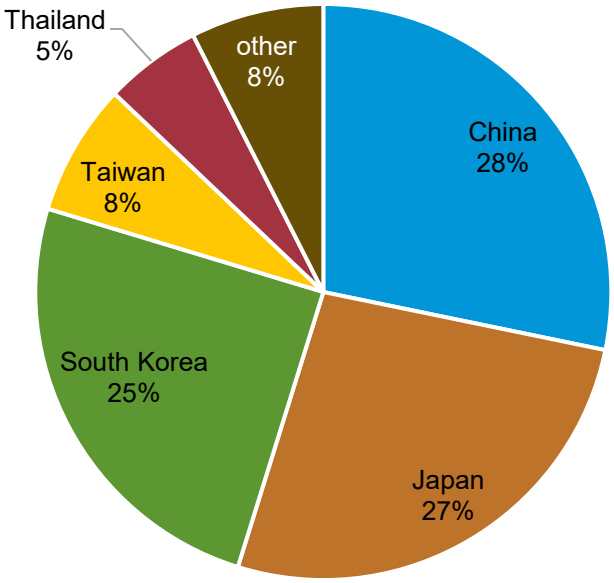


Data source: Vortexa

Natural gas

- Indonesia exported the world's sixth most LNG exports in 2024, accounting for 4.3% of global trade. LNG exports increased 3.0% from the previous year to 845.8 Bcf.[43]
- Virtually all of Indonesia's LNG exports went to Asia (97.5%)—China, Japan, and South Korea together accounted for 79% (Figure 11).
- Indonesia also exports some volumes of piped natural gas. In 2024, exports totaled 145.3 Bcf of natural gas to Singapore, an 11.8% decrease from 2023.[44] Indonesia supplies Singapore with natural gas produced from the West Nantuna field in the South China Sea via the West Nantuna Transportation System Gas Pipeline (Map 4).[45]

Figure 11. Indonesia's liquefied natural gas exports by destination, 2024



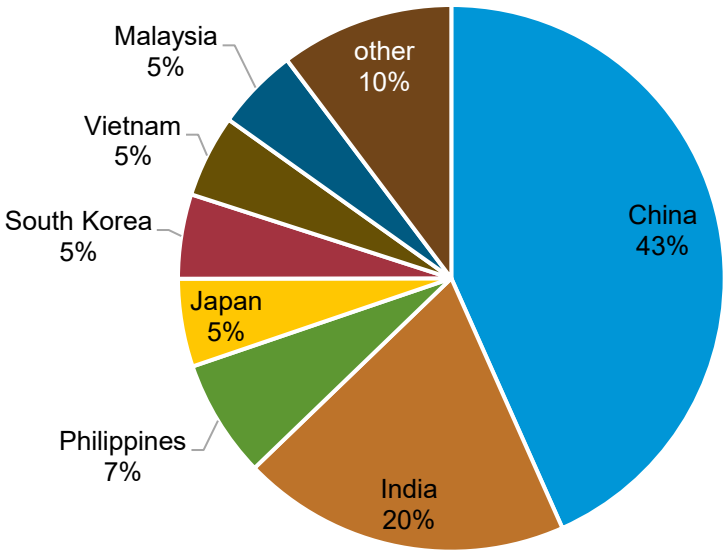
Data source: Vortexa

Note: Numbers may not equal 100% due to independent rounding

Coal

- Indonesia's coal exports grew by 7.7% in 2024 to 615 million short tons, a new record high. Indonesia remained the top coal exporter by weight in the world.[46]
- The Asia and Oceania region was the destination of virtually all of Indonesia's coal exports (99.7%) in 2024—China (43.3%) and India (19.5%) were the top two destination countries (Figure 12).[47]

Figure 12. Indonesia's coal exports by destination, 2024



Data source: Global Trade Tracker

Electricity

- Indonesia imported 957.5 GWh of electricity in 2024, a 7.2% increase from the previous year. Malaysia was the sole source of electricity imports.[48]

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