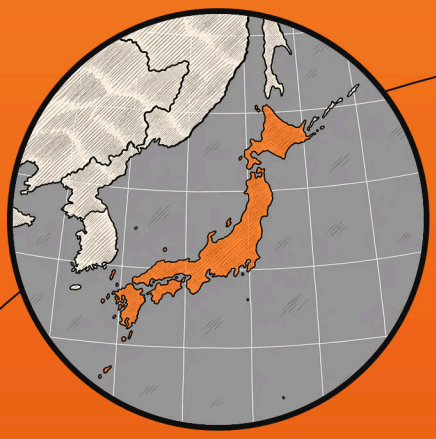
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Advanced Edition

Japan

ENERGY PRICES & MARKETS

May 2026







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Preamble

THE ENERGY PRICES & MARKETS PROGRAM

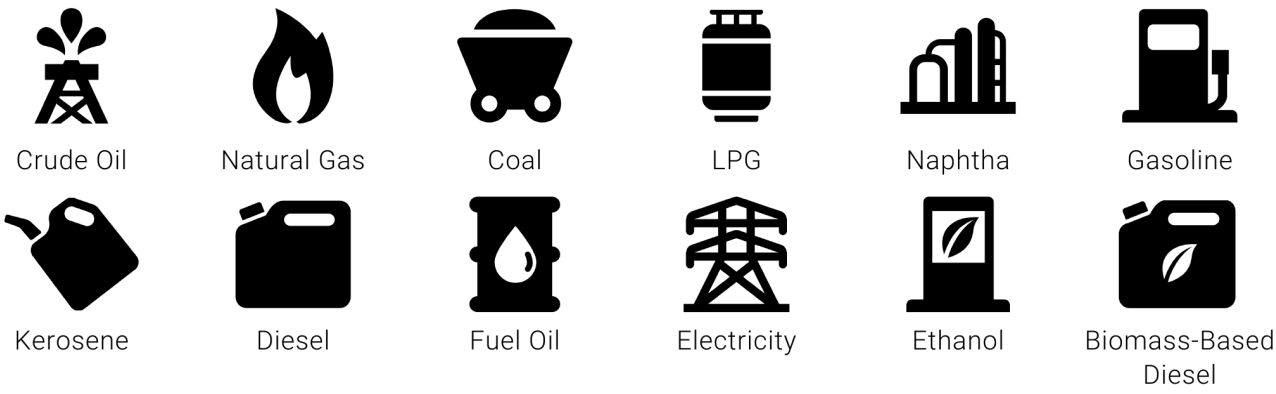
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* How much of the energy it uses does the country produce?
* Who are its main energy trade partners?
* How do freight and insurance costs change the cost of energy imports?

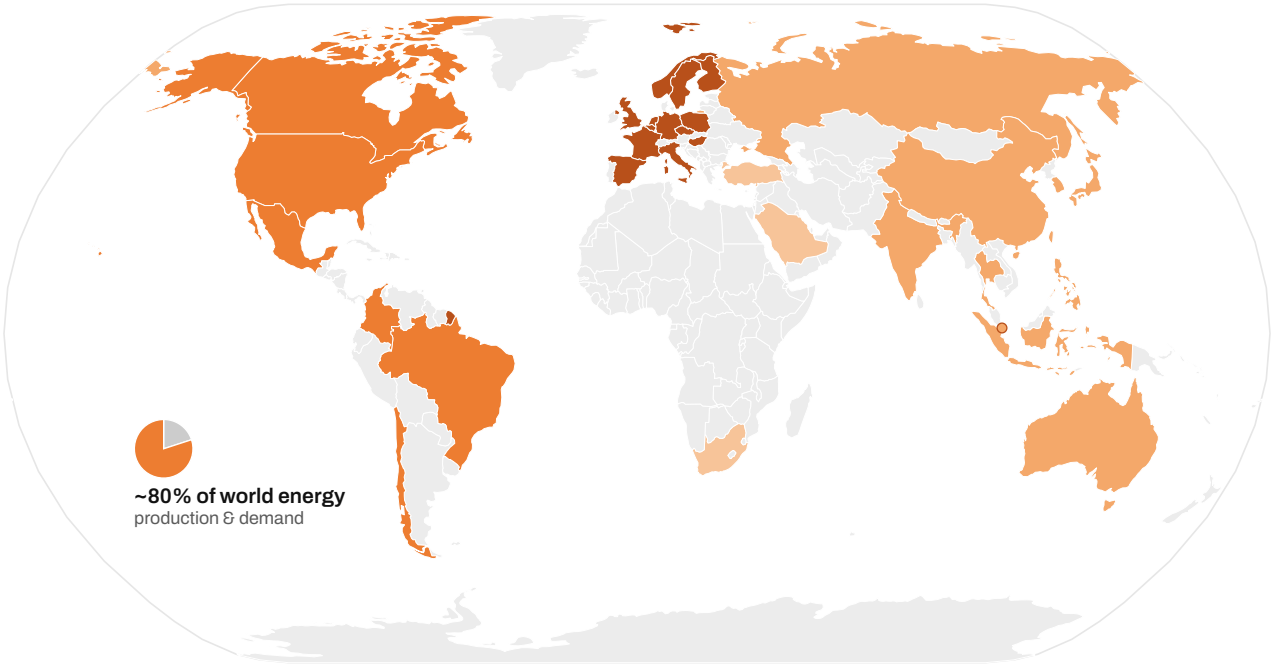
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INTRATEC-IEP-2605-USA-ADV

INTRATEC-IEP	**Solution**	Intratec Energy Prices & Markets, the program the report belongs to.
2605	**Issue**	Release year and month, in YYMM format (e.g., 2605 = May 2026).
USA	**Location**	The ISO three-letter code of the country the report covers.
ADV	**Edition**	The subscription plan: STA (Starter), PRO (Pro) or ADV (Advanced).

PARTS OF THIS REPORT

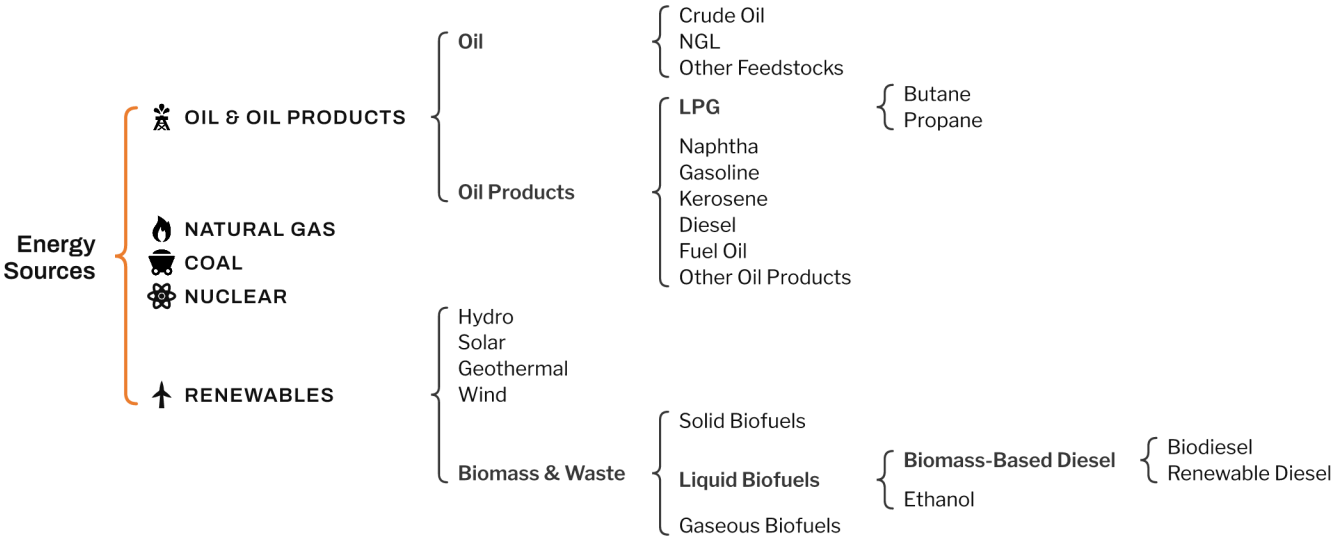
This report covers Japan and was released in May 2026. Its parts:

* Executive Summary: the month's main changes in energy prices and markets.
* Current Prices: every price and its change from the previous quarter and year.
* Historical Prices: price history by month, quarter and year.
* Price Forecasts: monthly forecasts for the next six months. Only in Pro & Advanced Plans.
* Energy Supply and Demand: trade, production, demand and self-sufficiency. Only in Advanced Plan.
* Freight and Insurance: costs on the main trade routes. Only in Advanced Plan.
* Appendixes: Glossary and Methodology, Currency and Conversion Factors, Alternative Data Delivery Methods, Price Models Accuracy, Price Forecasts Accuracy (Only in Pro & Advanced Plans), Global Prices Comparison (Only in Advanced Plan), Frequently Asked Questions, General Terms and Conditions, Report Use Restrictions.

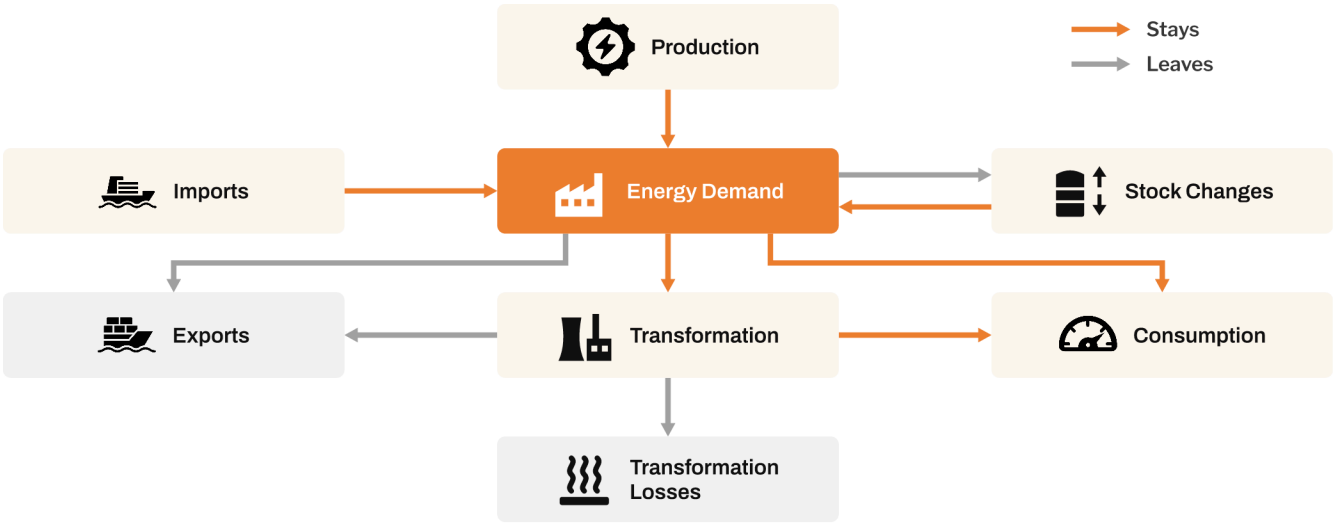
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HOW TO READ AND USE THIS REPORT

Energy sources. Market data group energy sources in five families: oil and oil products, natural gas, coal, nuclear and renewables. Oil and renewables split into the products under them, from crude oil and diesel to the biofuels. The Energy Supply and Demand chapter reports production and demand for each family.



Energy flows. Production and imports, less exports and stock changes, make up a country's energy demand. Part goes straight to consumption; power plants and refineries transform the rest. Orange arrows show energy that stays; gray arrows, energy that leaves as exports, stock builds or transformation losses.



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FREIGHT GROUPS

Freight costs group energy commodities by the vessel that carries each one:

CATEGORY AND VESSEL	ENERGY COMMODITIES IN THE CATEGORY
Heavy Oils Tanker	Crude Oil, Fuel Oil
Liquid Fuels Tanker	Naphtha, Gasoline, Kerosene, Diesel, Biodiesel, Renewable Diesel, Ethanol
Hydrocarbon Gas Liquids (HGL) Specialized tanker	Propane, Butane, Natural Gas Liquids
Liquefied Natural Gas (LNG) LNG carrier	Liquefied Natural Gas
Coal Products Bulk carrier	Solid Coal Products, Coal Derivatives

PRICES AND DATA

Intratec prices come from official trade statistics and Intratec's price models, not from quotes. Most rest on closed international trade deals, so each price can be traced to the trade data behind it. Subscribers use the reports to track and compare prices, plan energy costs and follow freight rates.

Price names. Each price names the product, the market and, for traded prices, the trade term. The glossary in Appendix A defines each one.

Preliminary prices and final prices. A price marked (P) is preliminary. Intratec's price model sets it until the official statistics arrive, usually one to three months later; a later edition then prints the final price. Appendix D shows how far preliminary prices have been from final prices.

Where the data is. Each edition is online at www.intratec.us. The Advanced Plan adds the same prices in Excel, in Power BI and through a Web API, at no additional cost; Appendix C describes each format.

This is a preview. For the full version, visit: https://intrat.ec/iep

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1

Executive Summary

1.1 THE MONTH AT A GLANCE

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Figure 1.1 Japan Prices and Market This Month

Natural Gas, import price

[redacted]

April 2026, from March 2026

All energy prices

[redacted]

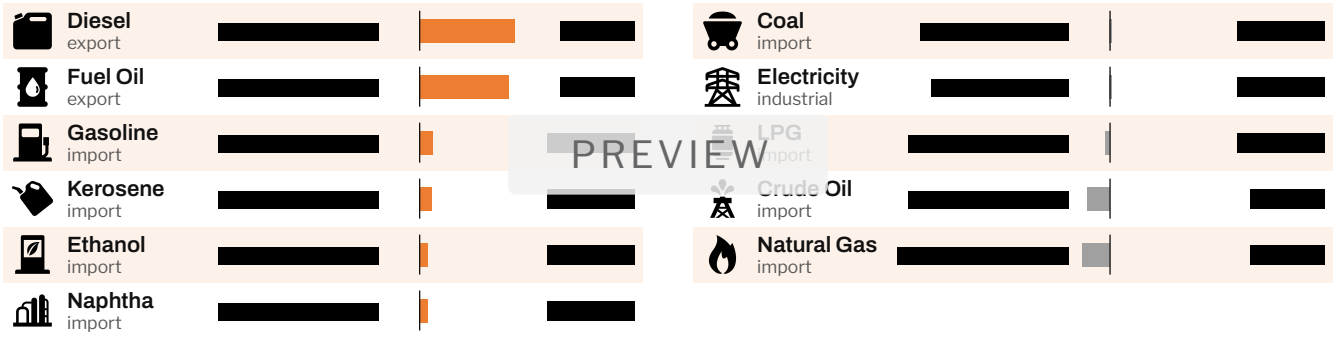
April 2026, from March 2026

Average energy price

[redacted]

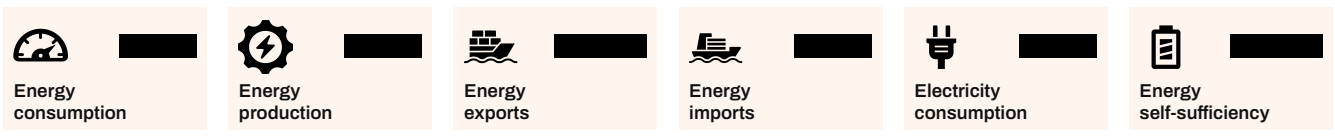
May 2026, from April 2026

[redacted]



PREVIEW

Market, change from November 2025 to December 2025



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1.2 CURRENT PRICES

The table shows the main energy prices of Japan in April 2026, in JPY and USD, and their change over 1, 3 and 12 months.

Figure 1.2 Japan Energy Prices in National Currency and US Dollars, April 2026, Changes in National Currency

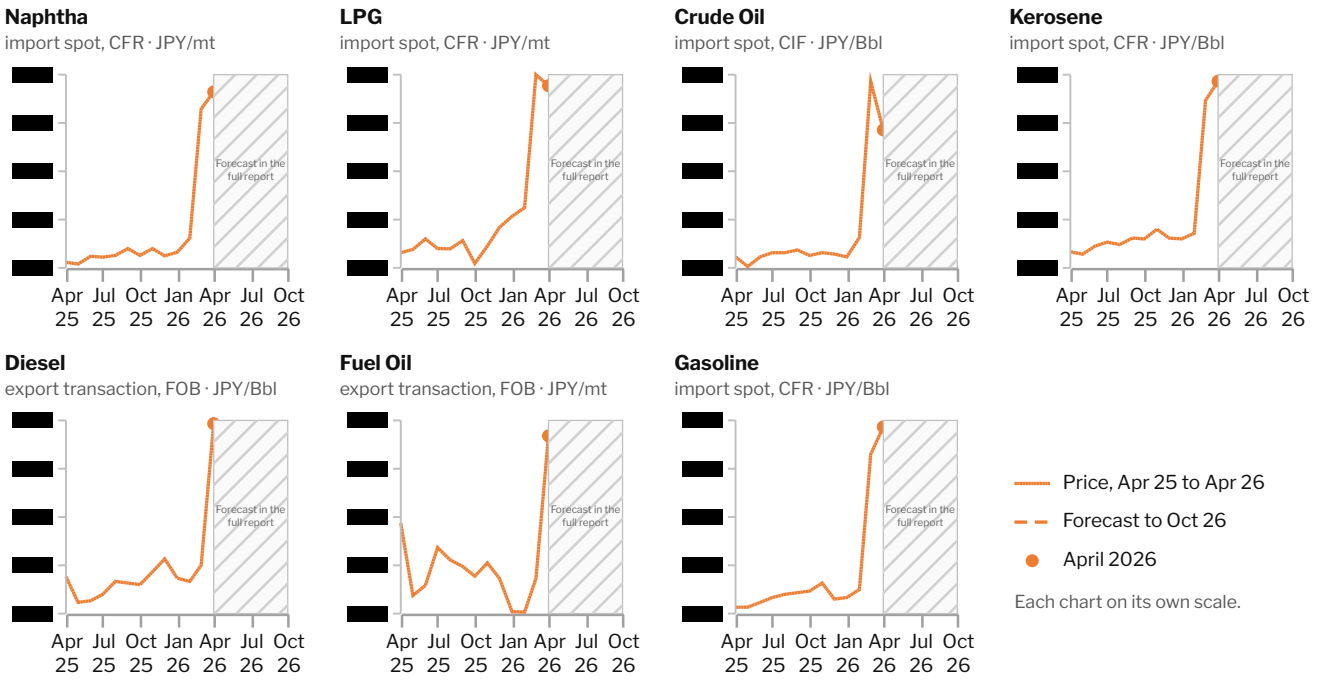
Energy	Price, April 2026	Change, in JPY			
		1-Month (%)	3-Month (%)	12-Month (%)	Change from March 2026 (%)
Natural Gas import spot, DPU					
Naphtha import spot, CFR					
Gasoline import spot, CFR					
Diesel export transaction, FOB					
Fuel Oil export transaction, FOB					
Electricity industrial sector					
Ethanol import spot, CIF					
Coal import spot, CIF					

PREVIEW

1.3 PRICE FORECAST

[redacted]

Figure 1.3 Japan Headline Prices, April 2025 to April 2026, and the Forecast to October 2026



Energy	Price, April 2026	Forecast, May 2026	Change to May 26, in JPY
Naphtha import spot, CFR	[redacted]	[redacted]	[redacted]
LPG import spot, CFR	[redacted]	[redacted]	[redacted]
Crude Oil import spot, CIF	[redacted]	[redacted]	[redacted]
Kerosene import spot, CFR	[redacted]	[redacted]	[redacted]
Diesel export transaction, FOB	[redacted]	[redacted]	[redacted]
Fuel Oil export transaction, FOB	[redacted]	[redacted]	[redacted]
Gasoline import spot, CFR	[redacted]	[redacted]	[redacted]

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1.4 MARKET

Figure 1.4 Energy Balance in Japan (Jan 25 to Dec 25)

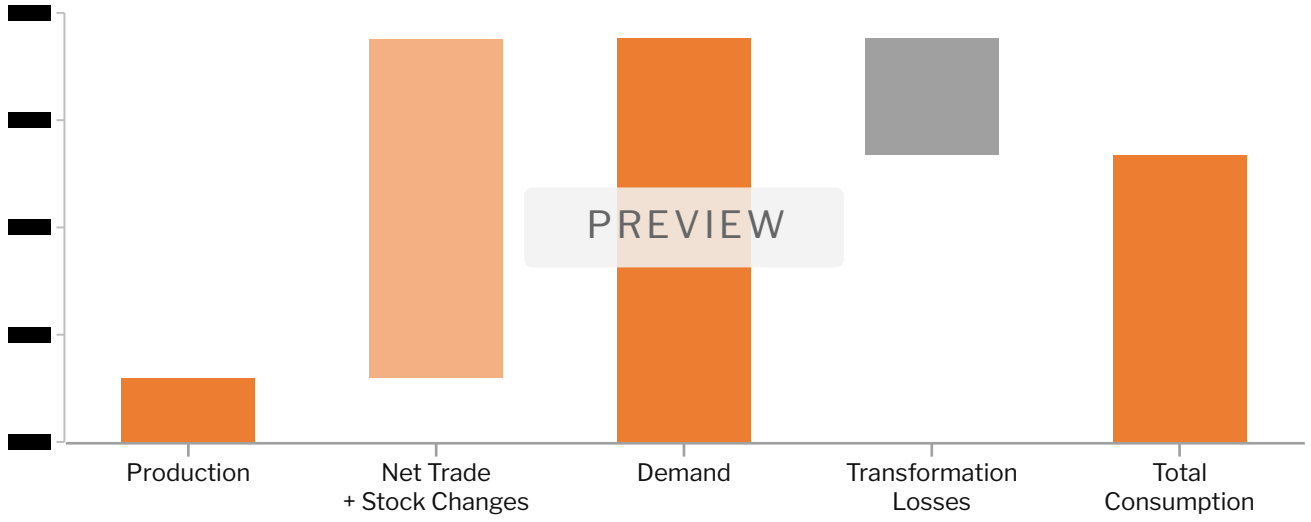


Figure 1.5 Electricity Generation by Source in Japan (Jan 25 to Dec 25)

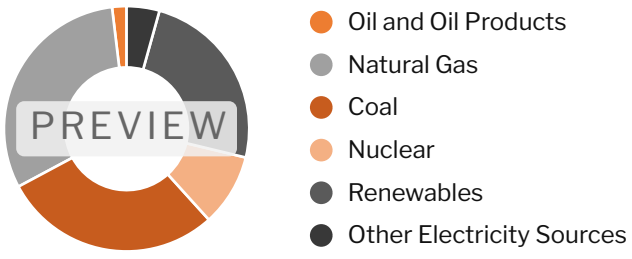


Figure 1.6 Energy Self-Sufficiency in Japan (Jan 25 to Dec 25)



This is a preview. For the full version, visit: https://intrat.ec/iep

1.5 MARITIME FREIGHT

[redacted]

Figure 1.7 Japan Maritime Freight Rates, One Route per Cargo, April 2025 to April 2026

Route	Apr 25 to Apr 26	Rate, April 2026	Change, in JPY (%) 1-Month	3-Month	12-Month
Heavy oils United Arab Emirates to Japan vessel 270,000 mt	Apr 25 – Apr 26 no forecast	[redacted]	[redacted]	[redacted]	[redacted]
Coal products Australia to Japan vessel 161,500 mt	Apr 25 – Apr 26 no forecast	[redacted]	[redacted]	[redacted]	[redacted]
Gas liquids Saudi Arabia to Japan vessel 44,000 mt	Apr 25 – Apr 26 no forecast	[redacted]	[redacted]	[redacted]	[redacted]
Light fuels Algeria to Japan vessel 80,000 mt	Apr 25 – Apr 26 no forecast	[redacted]	[redacted]	[redacted]	[redacted]
LNG Indonesia to Japan vessel 93,500 mt	Apr 25 – Apr 26 no forecast	[redacted]	[redacted]	[redacted]	[redacted]

PREVIEW

Freight rate Forecast to Apr 26 April 2026

Each chart on its own scale, in JPY per metric ton.

[redacted]

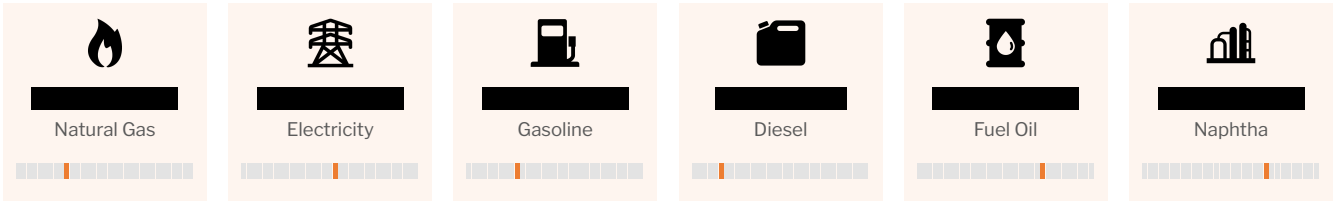
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1.6 GLOBAL PRICES COMPARISON

[redacted]

Figure 1.8 Where Japan Stands among the 33 Countries

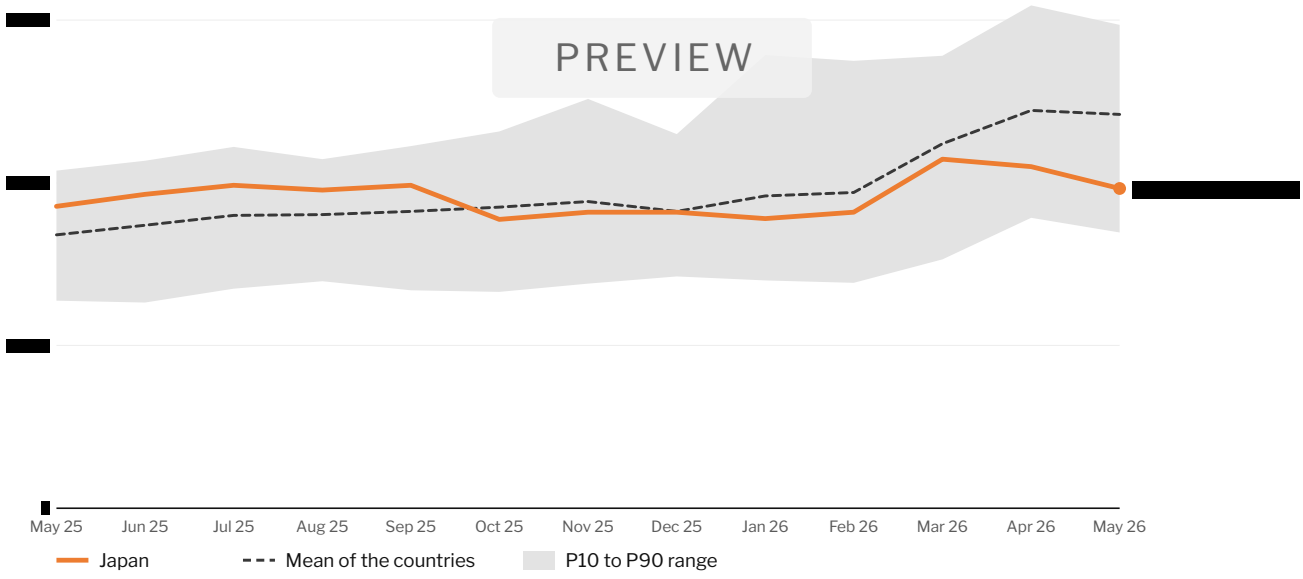
How Japan ranks in each energy price, April 2026 (1st = lowest price)



Each mark on the strip is one country, from the lowest price on the left to the highest on the right; the orange mark is Japan.

Average energy price against the mean of the countries, May 25 to May 26

JPY/MMBtu



Figures for Japan for April 2026 stand at [redacted].

This is a preview. For the full version, visit: https://intrat.ec/iep

2

Current Prices

This chapter shows the latest energy prices in Japan, for April 2026. Each energy has its own section, with a table of its prices in the last three months and a chart of the last year. Each price is a market reference to compare with a supplier's quote.

Prices differ by type of sale (for example, "contract", "spot" or "transaction"), delivery term, tax treatment, currency and unit; "Appendix A. Glossary and Methodology" explains these terms. A price marked "(P)" is preliminary and may change in a later issue. For Intratec's methodology and the specification of each price, see:

Methodology: https://intrat.ec/iep-methodology

Assessment Guides:
► https://intrat.ec/iep-assessments-catalog/japan

THIS MONTH

In April 2026, 14 of 25 Japan energy prices rose from March 2026. Industrial natural gas rose 22% to 1,800 JPY/MMBtu. Industrial electricity fell 0.5% to 17.5 JPY/kWh. Imported crude oil fell 15% to 20,000 JPY/Bbl, 86% above April 2025.

LARGEST RISES			FROM A YEAR EARLIER
↑ Diesel, export transaction, fob	+62%	14,000 → 22,800 JPY/Bbl	+71%
↑ Fuel Oil (heavy), export transaction, fob	+58%	64,100 → 101,000 JPY/mt	+29%
↑ Natural Gas, industrial sector, dpu	+22%	1,480 → 1,800 JPY/MMBtu	-13%

LARGEST FALLS			FROM A YEAR EARLIER
↓ Natural Gas (liquified), import spot, dpu	-18%	3,170 → 2,610 JPY/MMBtu	+58%
↓ Crude Oil (sour), import spot, cif	-15%	23,500 → 20,000 JPY/Bbl	+86%
↓ Butane (n-butane), import spot, cfr	-11%	135,000 → 120,000 JPY/mt	+61%

Prices of March 2026 → April 2026.

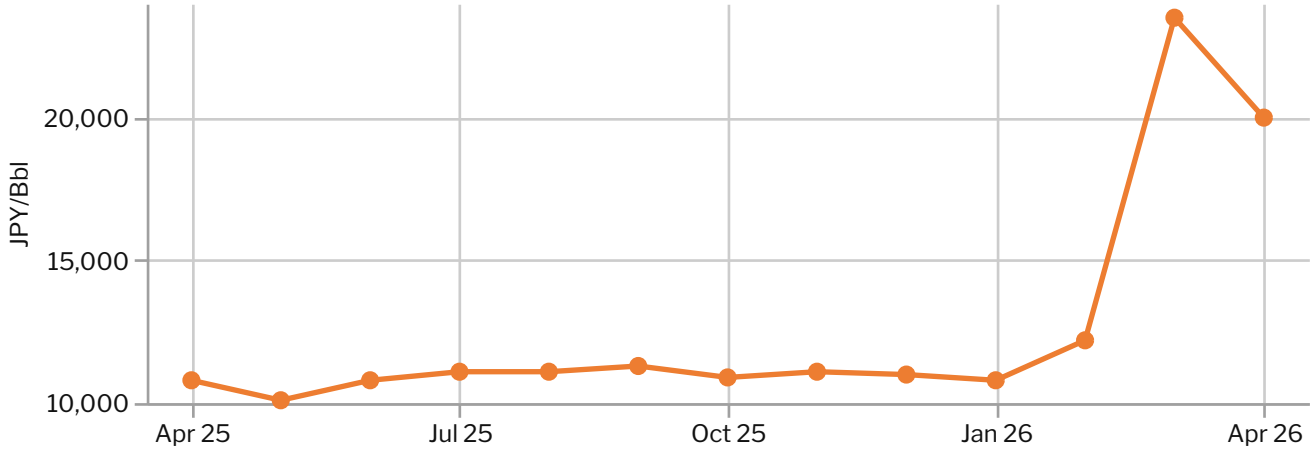
This is a preview. For the full version, visit: https://intrat.ec/iep

2.1 CRUDE OIL PRICES

Table 2.1 Japan Crude Oil Prices, Feb 2026 to Apr 2026

Apr 2026	Mar 2026	Feb 2026	3-month change (%)	12-month change (%)
Crude Oil (sour), import spot, cif (JPY/Bbl)				
20,000	23,500	12,200	+85 ↑	+86 ↑

Figure 2.1 Japan Crude Oil Prices, Apr 2025 to Apr 2026



Imported sour crude oil fell 15% from March 2026 to 20,000 JPY/Bbl in April 2026 and was 86% above April 2025.

HOW TO USE THIS PRICE

Intratec's prices can work as an index: a market reference that shows how much a price went up or down, so you can update a price or check whether a supplier's price followed the market.

Here is an example. Imagine a company in Japan that received a crude oil quote of JPY 12,700 per barrel in February 2026. That month, Intratec's crude oil price ("Crude Oil (sour), import spot, cif") was JPY 12,200 per barrel. By April 2026, it had risen to JPY 20,000 per barrel, about 64% more.

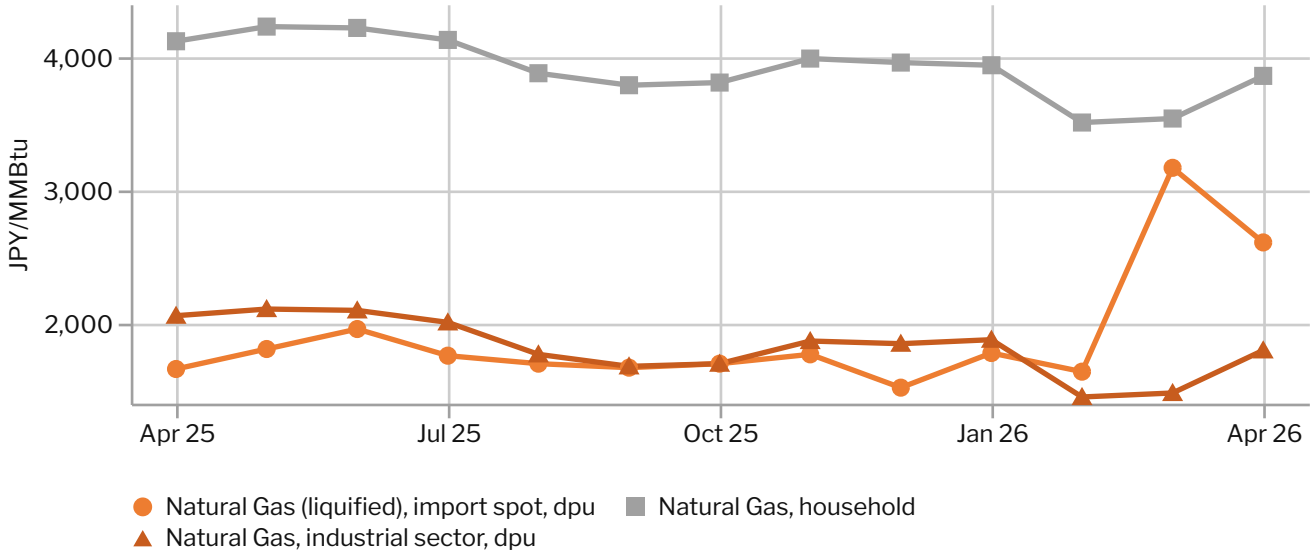
If the quote had followed the market, it would now be about JPY 20,800 per barrel (JPY 12,700 plus about 64%). If your supplier asks for much more than that, it is worth asking why.

2.2 NATURAL GAS PRICES

Table 2.2 Japan Natural Gas Prices, Feb 2026 to Apr 2026

Apr 2026	Mar 2026	Feb 2026	3-month change (%)	12-month change (%)
Natural Gas (liquified), import spot, dpu (JPY/MMBtu)				
2,610	3,170	1,640	+47 ↑	+58 ↑
Natural Gas, household (JPY/MMBtu)				
3,860	3,540	3,510	-1.7 ↓	-6.1 ↓
Natural Gas, industrial sector, dpu (JPY/MMBtu)				
1,800	1,480	1,450	-4.0 ↓	-13 ↓

Figure 2.2 Japan Natural Gas Prices, Apr 2025 to Apr 2026



Industrial natural gas rose 22% from March 2026 to 1,800 JPY/MMBtu in April 2026, 13% below April 2025. Household natural gas rose 9.4% to 3,860 JPY/MMBtu, 6.1% below. Imported liquefied natural gas fell 18% to 2,610 JPY/MMBtu, 58% above.

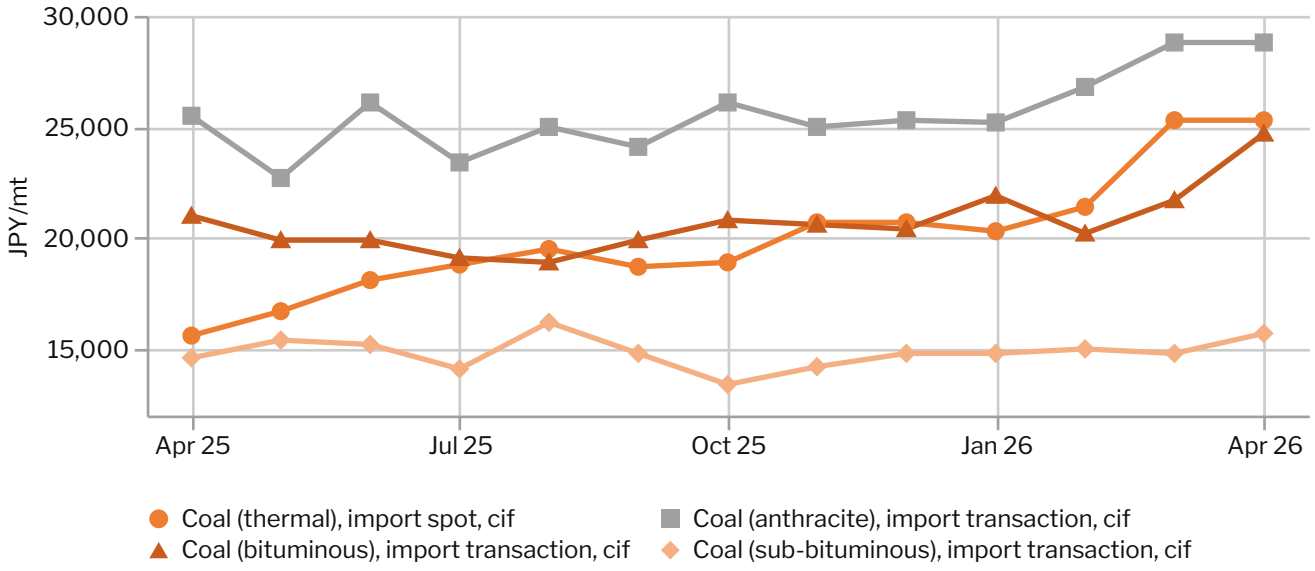
This is a preview. For the full version, visit: https://intrat.ec/iep

2.3 COAL PRICES

Table 2.3 Japan Coal Prices, Feb 2026 to Apr 2026

Apr 2026	Mar 2026	Feb 2026	3-month change (%)	12-month change (%)
Coal (thermal), import spot, cif (JPY/mt)				
25,300	25,300	21,400	+25 ↑	+63 ↑
Coal (anthracite), import transaction, cif (JPY/mt)				
28,800	28,800	26,800	+14 ↑	+13 ↑
Coal (bituminous), import transaction, cif (JPY/mt)				
24,700	21,700	20,200	+13 ↑	+17 ↑
Coal (sub-bituminous), import transaction, cif (JPY/mt)				
15,700	14,800	15,000	+6.1 ↑	+7.1 ↑

Figure 2.3 Japan Coal Prices, Apr 2025 to Apr 2026



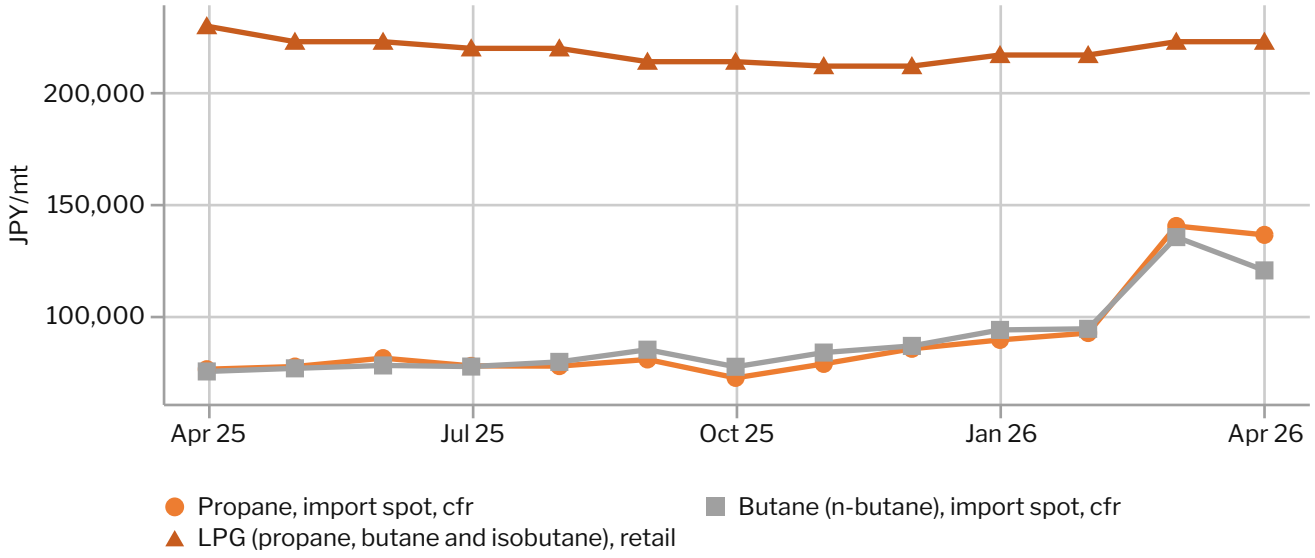
Bituminous coal climbed 14% from March 2026 to 24,700 JPY/mt in April 2026, its highest in a year and 17% above April 2025. Thermal coal slipped 0.2% to 25,300 JPY/mt, 63% above.

2.4 LPG PRICES

Table 2.4 Japan LPG Prices, Feb 2026 to Apr 2026

Apr 2026	Mar 2026	Feb 2026	3-month change (%)	12-month change (%)
Propane, import spot, cfr (JPY/mt)				
136,000	140,000	91,800	+53 ↑	+80 ↑
Butane (n-butane), import spot, cfr (JPY/mt)				
120,000	135,000	93,700	+29 ↑	+61 ↑
LPG (propane, butane and isobutane), retail (JPY/mt)				
223,000	223,000	217,000	+2.6 ↑	-2.7 ↓

Figure 2.4 Japan LPG Prices, Apr 2025 to Apr 2026



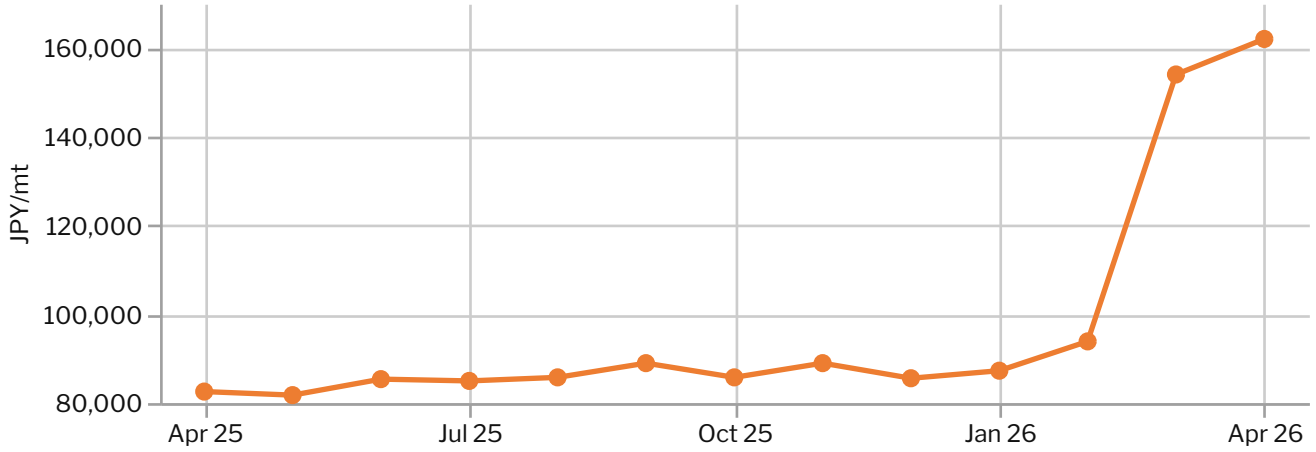
Propane fell 3.1% from March 2026 to 136,000 JPY/mt in April 2026, 80% above April 2025. Butane fell 11% to 120,000 JPY/mt, 61% above. Retail LPG rose 0.4% to 223,000 JPY/mt, 2.7% below.

2.5 NAPHTHA PRICES

Table 2.5 Japan Naphtha Prices, Feb 2026 to Apr 2026

Apr 2026	Mar 2026	Feb 2026	3-month change (%)	12-month change (%)
Naphtha (heavy), import spot, cfr (JPY/mt)				
162,000	154,000	93,900	+86 ↑	+97 ↑

Figure 2.5 Japan Naphtha Prices, Apr 2025 to Apr 2026



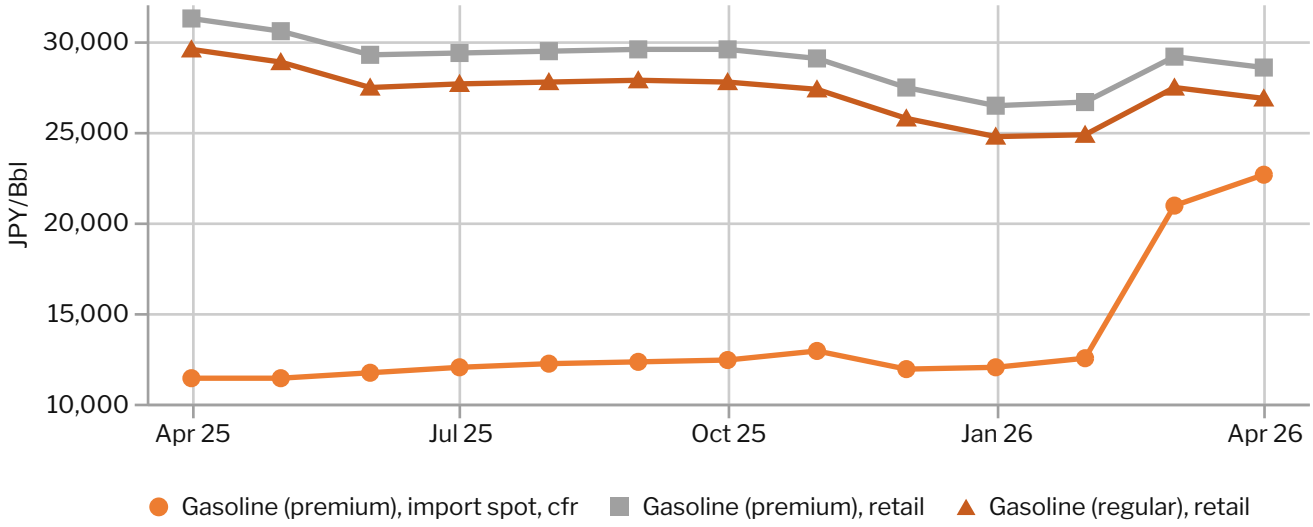
Heavy naphtha rose 5.2% from March 2026 to 162,000 JPY/mt in April 2026, its highest in a year and 97% above April 2025.

2.6 GASOLINE PRICES

Table 2.6 Japan Gasoline Prices, Feb 2026 to Apr 2026

Apr 2026	Mar 2026	Feb 2026	3-month change (%)	12-month change (%)
Gasoline (premium), import spot, cfr (JPY/Bbl)				
22,600	20,900	12,500	+88 ↑	+98 ↑
Gasoline (premium), retail (JPY/Bbl)				
28,500	29,100	26,600	+8.8 ↑	-8.2 ↓
Gasoline (regular), retail (JPY/Bbl)				
26,800	27,400	24,800	+8.7 ↑	-9.2 ↓

Figure 2.6 Japan Gasoline Prices, Apr 2025 to Apr 2026



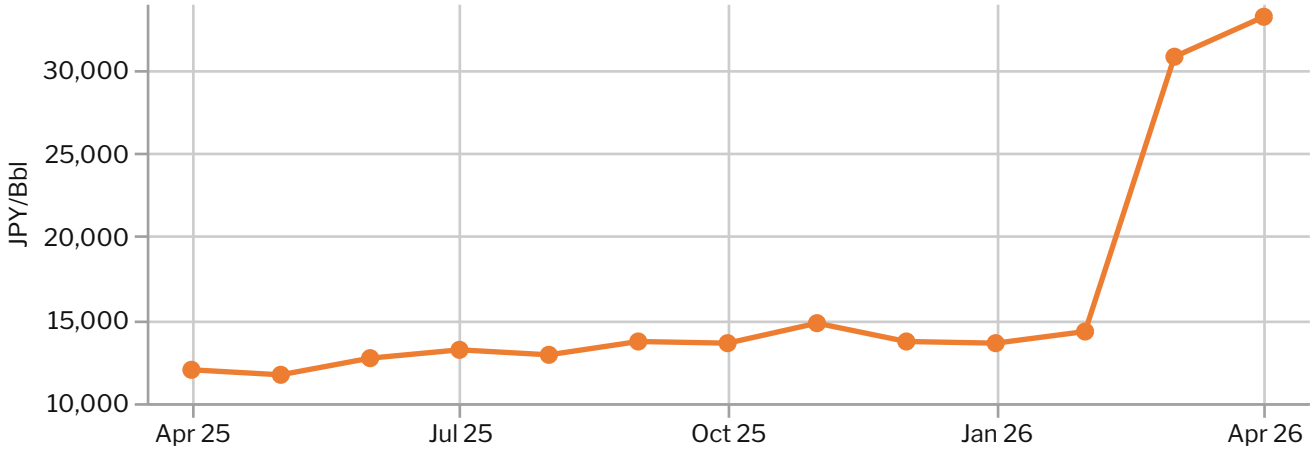
Imported premium gasoline rose 8.4% from March 2026 to 22,600 JPY/Bbl in April 2026, its highest in a year and 98% above April 2025. Retail premium gasoline fell 1.3% to 28,500 JPY/Bbl, 8.2% below, and retail regular gasoline fell 2.4% to 26,800 JPY/Bbl, 9.2% below.

2.7 KEROSENE PRICES

Table 2.7 Japan Kerosene Prices, Feb 2026 to Apr 2026

Apr 2026	Mar 2026	Feb 2026	3-month change (%)	12-month change (%)
Kerosene (jet fuel), import spot, cfr (JPY/Bbl)				
33,200	30,800	14,300	+144 ↑	+176 ↑

Figure 2.7 Japan Kerosene Prices, Apr 2025 to Apr 2026



Imported jet fuel rose 7.9% from March 2026 to 33,200 JPY/Bbl in April 2026, its highest in a year and 176% above April 2025.

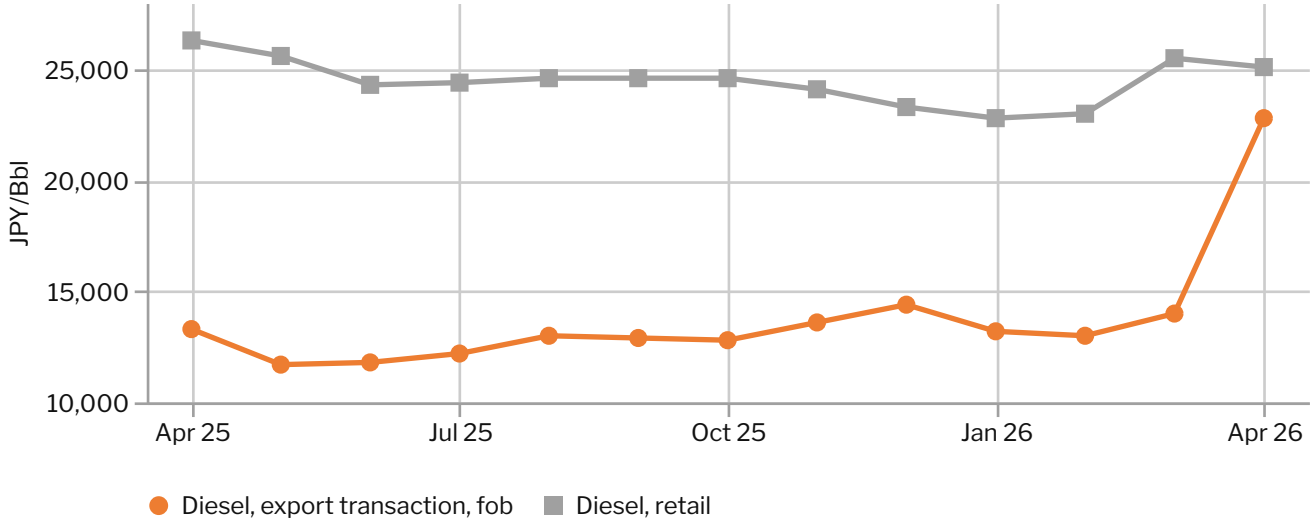
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2.8 DIESEL PRICES

Table 2.8 Japan Diesel Prices, Feb 2026 to Apr 2026

Apr 2026	Mar 2026	Feb 2026	3-month change (%)	12-month change (%)
Diesel, export transaction, fob (JPY/Bbl)				
22,800	14,000	13,000	+73 ↑	+71 ↑
Diesel, retail (JPY/Bbl)				
25,100	25,500	23,000	+10 ↑	-4.8 ↓

Figure 2.8 Japan Diesel Prices, Apr 2025 to Apr 2026



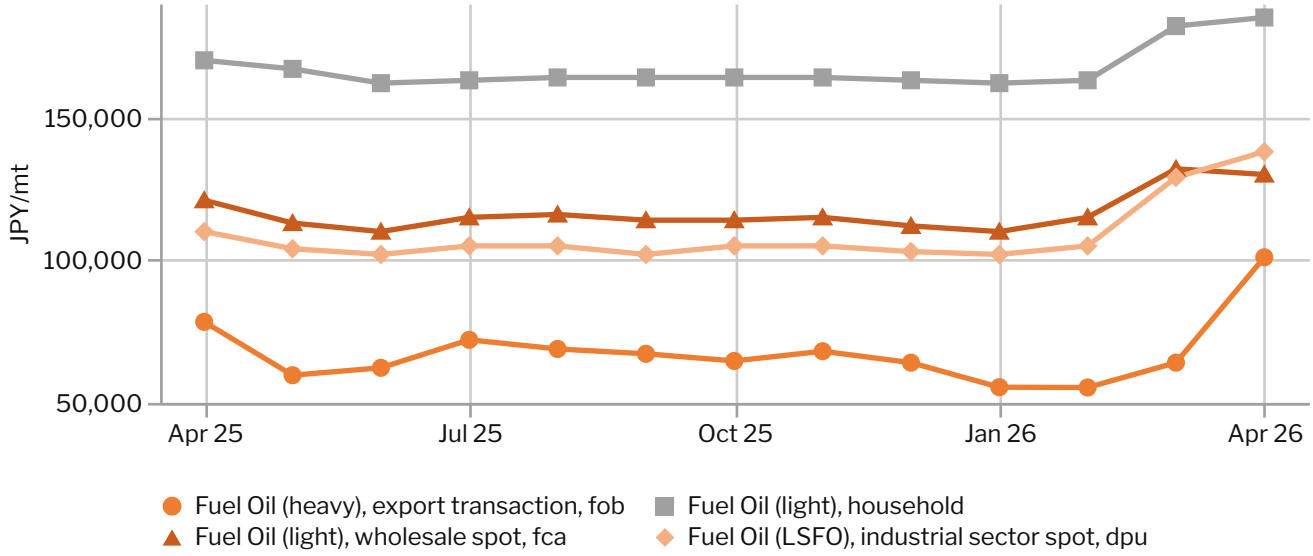
Export diesel climbed 62% from March 2026 to 22,800 JPY/Bbl in April 2026, its highest in a year and 71% above April 2025. Retail diesel fell 1.5% to 25,100 JPY/Bbl, 4.8% below.

2.9 FUEL OIL PRICES

Table 2.9 Japan Fuel Oil Prices, Feb 2026 to Apr 2026

Apr 2026	Mar 2026	Feb 2026	3-month change (%)	12-month change (%)
Fuel Oil (heavy), export transaction, fob (JPY/mt)				
101,000	64,100	55,400	+83 ↑	+29 ↑
Fuel Oil (light), household (JPY/mt)				
185,000	182,000	163,000	+14 ↑	+8.6 ↑
Fuel Oil (light), wholesale spot, fca (JPY/mt)				
130,000	132,000	115,000	+18 ↑	+7.2 ↑
Fuel Oil (LSFO), industrial sector spot, dpu (JPY/mt)				
138,000	129,000	105,000	+35 ↑	+26 ↑

Figure 2.9 Japan Fuel Oil Prices, Apr 2025 to Apr 2026



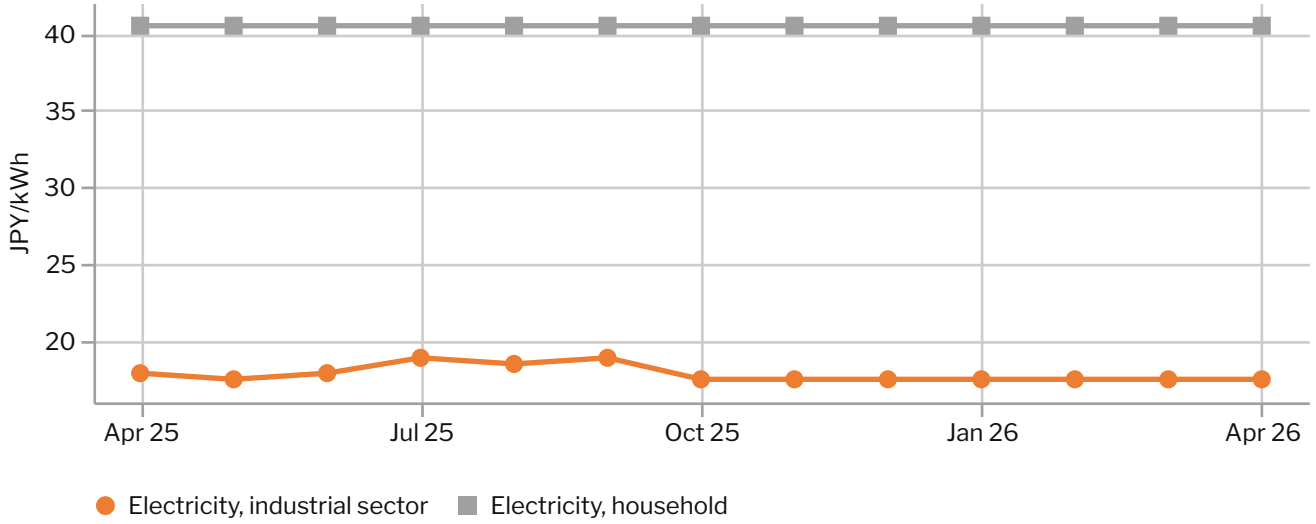
Heavy export fuel oil climbed 58% from March 2026 to 101,000 JPY/mt in April 2026, its highest in a year and 29% above April 2025. Low-sulfur industrial fuel oil rose 6.4% to 138,000 JPY/mt, its highest in a year and 26% above.

2.10 ELECTRICITY PRICES

Table 2.10 Japan Electricity Prices, Feb 2026 to Apr 2026

Apr 2026	Mar 2026	Feb 2026	3-month change (%)	12-month change (%)
Electricity, industrial sector (JPY/kWh)				
17.5	17.5	17.5	+0.2 ↑	-2.0 ↓
Electricity, household (JPY/kWh)				
40.5	40.5	40.5	-0.1 ↓	-0.1 ↓

Figure 2.10 Japan Electricity Prices, Apr 2025 to Apr 2026



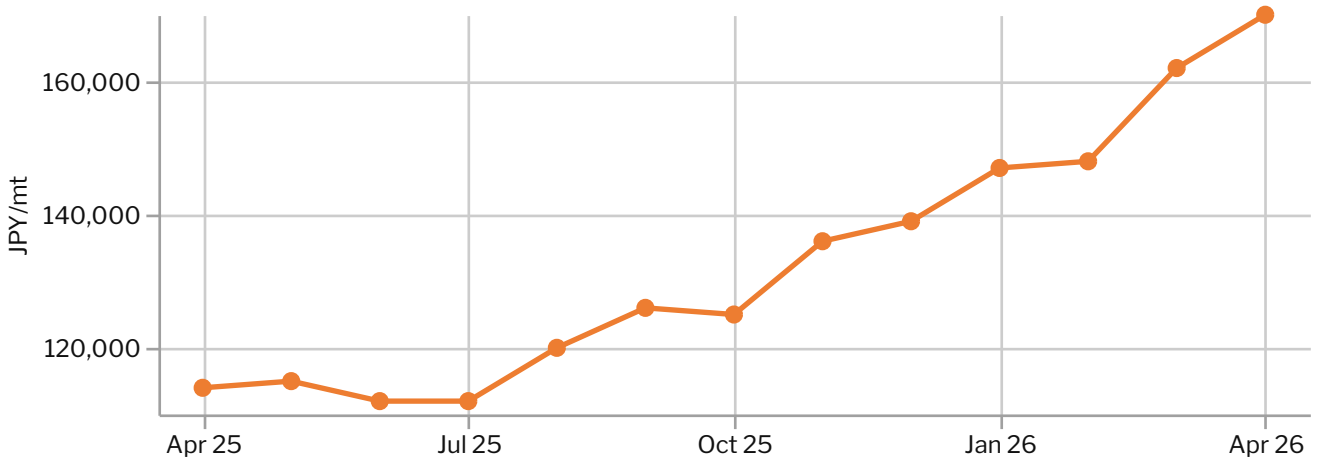
Industrial electricity slipped 0.5% from March 2026 to 17.5 JPY/kWh in April 2026, 2.0% below April 2025. Household electricity held steady at 40.5 JPY/kWh, 0.1% below.

2.11 ETHANOL PRICES

Table 2.11 Japan Ethanol Prices, Feb 2026 to Apr 2026

Apr 2026	Mar 2026	Feb 2026	3-month change (%)	12-month change (%)
Ethanol (anhydrous), import spot, cif (JPY/mt)				
170,000	162,000	148,000	+16 ↑	+50 ↑

Figure 2.11 Japan Ethanol Prices, Apr 2025 to Apr 2026



Anhydrous ethanol rose 5.3% from March 2026 to 170,000 JPY/mt in April 2026, its highest in a year and 50% above April 2025.

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3

Historical Prices

This chapter shows how energy prices in Japan have moved over time, so you can compare today's prices with their own past: whether a price is high or low for its history, and how much it changes from one period to the next.

The history comes in three views, each with a table of every price and a chart of the main prices: month by month for the year to April 2026, quarter by quarter since January 2023, and year by year since January 2016. Quarterly and yearly prices are the averages of their months.

Prices in Japan through April 2026 moved by [redacted].

Each section and the subscriptions that include it:

* Monthly Price History: every subscription.
* Quarterly Price History: Pro and Advanced.
* Annual Price History: Advanced.

3.1 MONTHLY PRICE HISTORY

[redacted]

Figure 3.1 **Japan Key Energy Prices, Apr 2025 to Apr 2026**

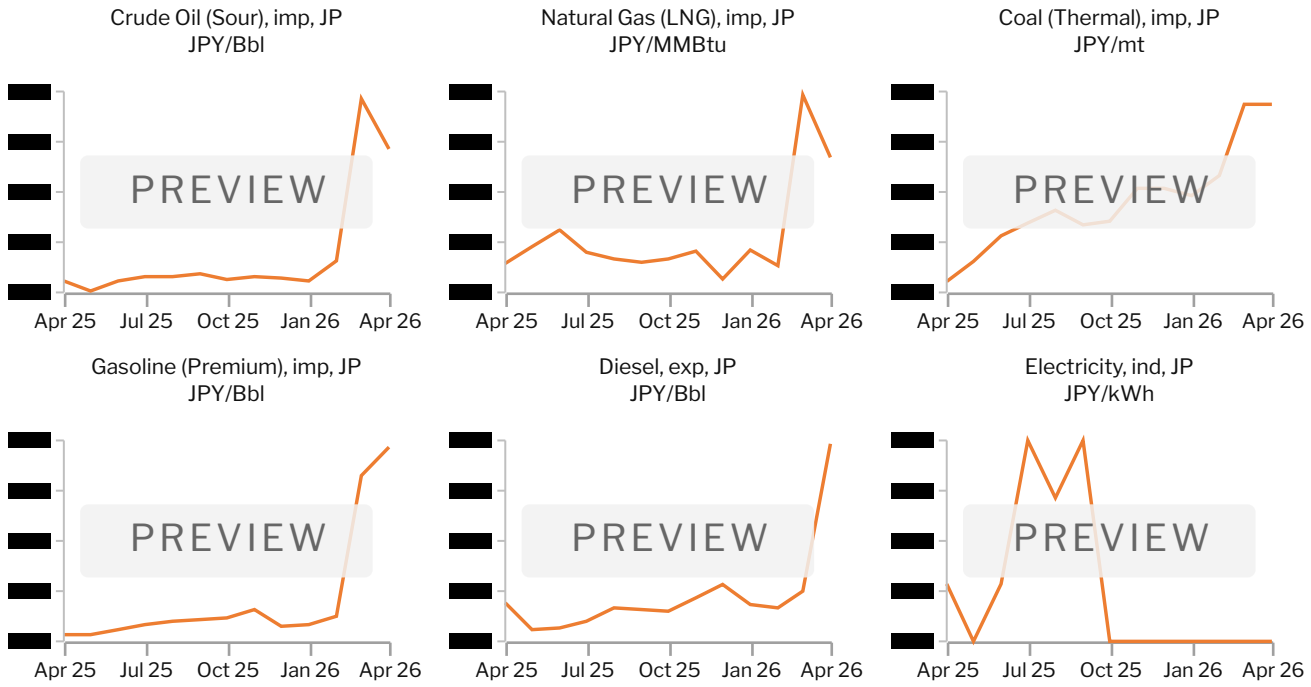


Table 3.1 **Japan Monthly Price History**

Apr 26	Mar 26	Feb 26	Jan 26	Dec 25	Nov 25	Oct 25	Sep 25	Aug 25	Jul 25	Jun 25	May 25	Apr 25
Crude Oil (sour), import spot, cif (JPY/Bbl)												
Natural Gas (liquified), import spot, dpu (JPY/MMBtu)												
Natural Gas, household (JPY/MMBtu)												
Natural Gas, industrial sector, dpu (JPY/MMBtu)												
Coal (thermal), import spot, cif (JPY/mt)												
Coal (anthracite), import transaction, cif (JPY/mt)												
Coal (bituminous), import transaction, cif (JPY/mt)												
Coal (sub-bituminous), import transaction, cif (JPY/mt)												

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Apr 26	Mar 26	Feb 26	Jan 26	Dec 25	Nov 25	Oct 25	Sep 25	Aug 25	Jul 25	Jun 25	May 25	Apr 25
Propane, import spot, cfr (JPY/mt)												
Butane (n-butane), import spot, cfr (JPY/mt)												
LPG (propane, butane and isobutane), retail (JPY/mt)												
Naphtha (heavy), import spot, cfr (JPY/mt)												
Gasoline (premium), import spot, cfr (JPY/Bbl)												
Gasoline (premium), retail (JPY/Bbl)												
Gasoline (regular), retail (JPY/Bbl)												
Kerosene (jet fuel), import spot, cfr (JPY/Bbl)												
Diesel, export transaction, fob (JPY/Bbl)												
Diesel, retail (JPY/Bbl)												
Fuel Oil (heavy), export transaction, fob (JPY/mt)												
Fuel Oil (light), household (JPY/mt)												
Fuel Oil (light), wholesale spot, fca (JPY/mt)												
Fuel Oil (LSFO), industrial sector spot, dpu (JPY/mt)												
Electricity, industrial sector (JPY/kWh)												
Electricity, household (JPY/kWh)												
Ethanol (anhydrous), import spot, cif (JPY/mt)												

INTRATEC DATA IN YOUR OWN TOOLS

To work with these prices in your own spreadsheet or dashboard, Advanced subscribers can bring them in directly: the Excel Add-in brings up to 1 year of monthly price history, and the Web API and Power BI bring up to 10 years. "Appendix C. Alternative Data Delivery Methods" explains each one.

3.2 QUARTERLY PRICE HISTORY

Figure 3.2 Japan Key Energy Prices in Their Own Units, Jan 2023 to Apr 2026

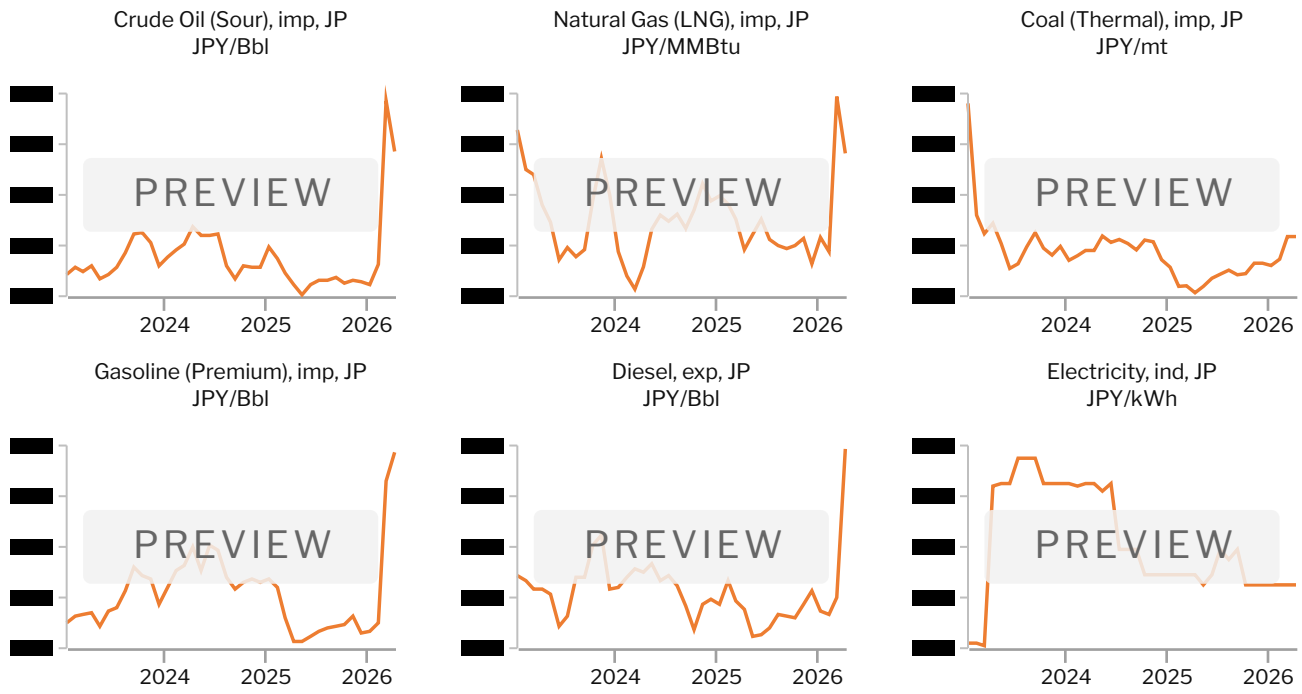


Table 3.2 Japan Quarterly Price History

Q4 25	Q3 25	Q2 25	Q1 25	Q4 24	Q3 24	Q2 24	Q1 24	Q4 23	Q3 23	Q2 23	Q1 23
Crude Oil (sour), import spot, cif (JPY/Bbl)											
Natural Gas (liquified), import spot, dpu (JPY/MMBtu)											
Natural Gas, household (JPY/MMBtu)											

This is a preview. For the full version, visit: https://intrat.ec/iep

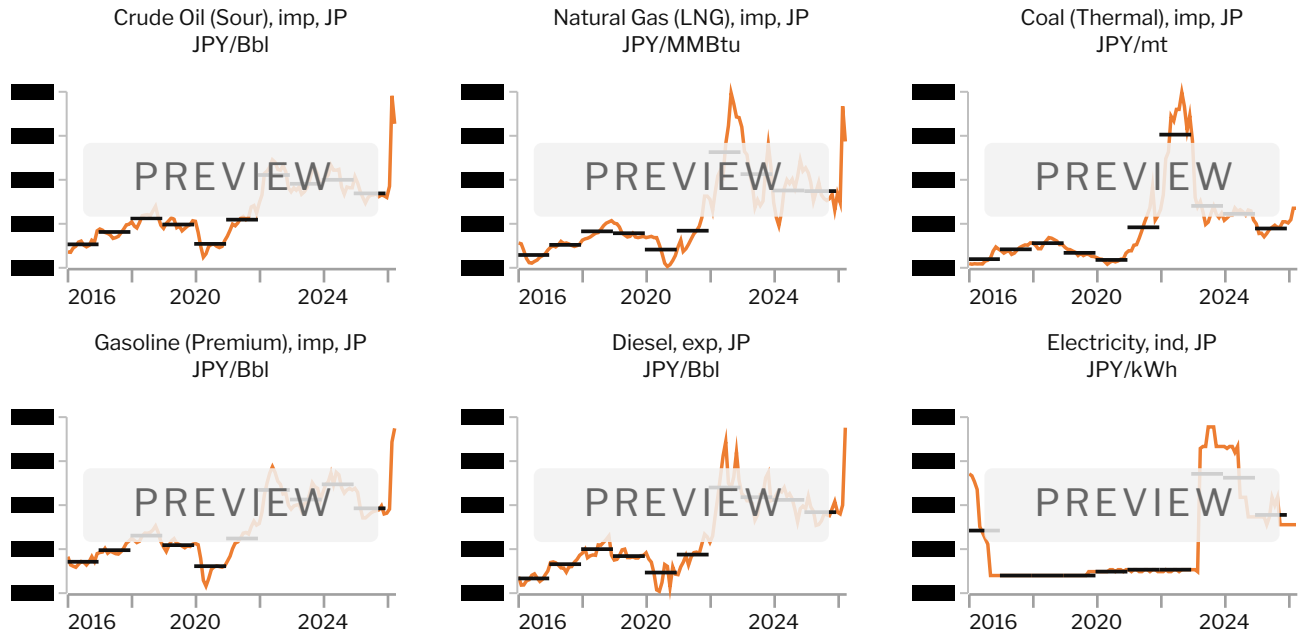
Q4 25	Q3 25	Q2 25	Q1 25	Q4 24	Q3 24	Q2 24	Q1 24	Q4 23	Q3 23	Q2 23	Q1 23
Natural Gas, industrial sector, dpu (JPY/MMBtu)											
Coal (thermal), import spot, cif (JPY/mt)											
Coal (anthracite), import transaction, cif (JPY/mt)											
Coal (bituminous), import transaction, cif (JPY/mt)											
Coal (sub-bituminous), import transaction, cif (JPY/mt)											
Propane, import spot, cfr (JPY/mt)											
Butane (n-butane), import spot, cfr (JPY/mt)											
LPG (propane, butane and isobutane), retail (JPY/mt)											
Naphtha (heavy), import spot, cfr (JPY/mt)											
Gasoline (premium), import spot, cfr (JPY/Bbl)											
Gasoline (premium), retail (JPY/Bbl)											
Gasoline (regular), retail (JPY/Bbl)											
Kerosene (jet fuel), import spot, cfr (JPY/Bbl)											
Diesel, export transaction, fob (JPY/Bbl)											
Diesel, retail (JPY/Bbl)											
Fuel Oil (heavy), export transaction, fob (JPY/mt)											
Fuel Oil (light), household (JPY/mt)											

This is a preview. For the full version, visit: https://intrat.ec/iep

Q4 25	Q3 25	Q2 25	Q1 25	Q4 24	Q3 24	Q2 24	Q1 24	Q4 23	Q3 23	Q2 23	Q1 23
Fuel Oil (light), wholesale spot, fca (JPY/mt)											
Fuel Oil (LSFO), industrial sector spot, dpu (JPY/mt)											
Electricity, industrial sector (JPY/kWh)											
Electricity, household (JPY/kWh)											
Ethanol (anhydrous), import spot, cif (JPY/mt)											

3.3 ANNUAL PRICE HISTORY

Figure 3.3 Japan Key Energy Prices in Their Own Units with Each Year's Average, Jan 2016 to Apr 2026



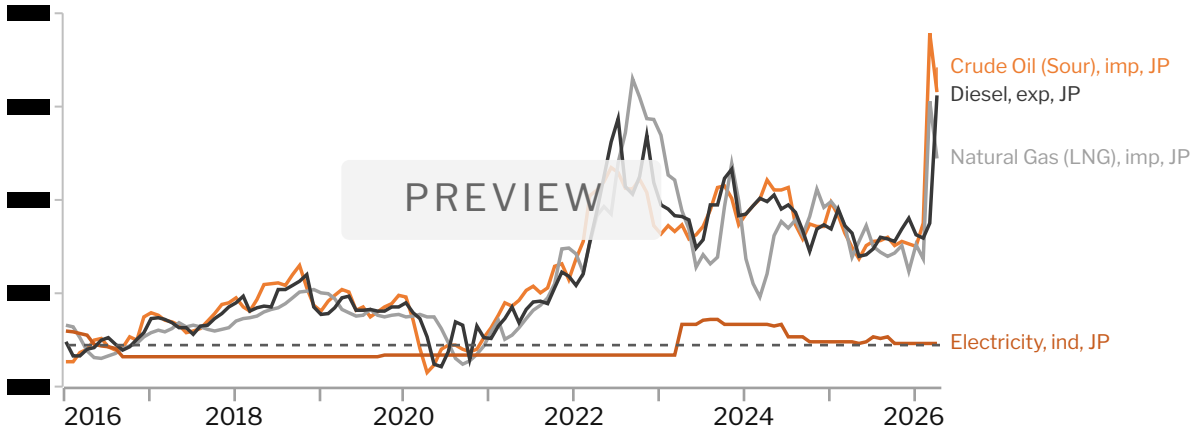
Line: each month to Apr 2026. Black bar: the average of each whole year.

This is a preview. For the full version, visit: https://intrat.ec/iep

Prices in Japan through April 2026 moved by [redacted].

[redacted]

Figure 3.4 Japan Key Energy Prices as an Index, 2016 Average = 100, Jan 2016 to Apr 2026



[redacted]

Figure 3.5 Japan Natural Gas and Electricity by Month against Each Year's Average, 2016 to 2025

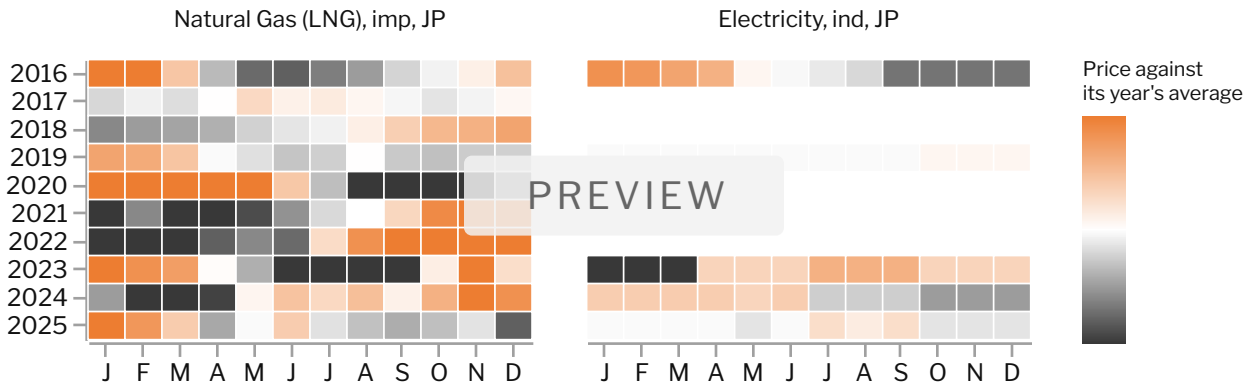


Table 3.3 Japan Annual Price History

2025	2024	2023	2022	2021	2020	2019	2018	2017	2016
Crude Oil (sour), import spot, cif (JPY/Bbl)									
[redacted]									
Natural Gas (liquified), import spot, dpu (JPY/MMBtu)									
[redacted]									
Natural Gas, household (JPY/MMBtu)									
[redacted]									
Natural Gas, industrial sector, dpu (JPY/MMBtu)									
[redacted]									
Coal (thermal), import spot, cif (JPY/mt)									
[redacted]									
Coal (anthracite), import transaction, cif (JPY/mt)									
[redacted]									
Coal (bituminous), import transaction, cif (JPY/mt)									
[redacted]									
Coal (sub-bituminous), import transaction, cif (JPY/mt)									
[redacted]									
Propane, import spot, cfr (JPY/mt)									
[redacted]									
Butane (n-butane), import spot, cfr (JPY/mt)									
[redacted]									
LPG (propane, butane and isobutane), retail (JPY/mt)									
[redacted]									
Naphtha (heavy), import spot, cfr (JPY/mt)									
[redacted]									
Gasoline (premium), import spot, cfr (JPY/Bbl)									
[redacted]									
Gasoline (premium), retail (JPY/Bbl)									
[redacted]									
Gasoline (regular), retail (JPY/Bbl)									
[redacted]									
Kerosene (jet fuel), import spot, cfr (JPY/Bbl)									
[redacted]									
Diesel, export transaction, fob (JPY/Bbl)									
[redacted]									

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2025	2024	2023	2022	2021	2020	2019	2018	2017	2016
Diesel, retail (JPY/Bbl)									
[redacted]									
Fuel Oil (heavy), export transaction, fob (JPY/mt)									
[redacted]									
Fuel Oil (light), household (JPY/mt)									
[redacted]									
Fuel Oil (light), wholesale spot, fca (JPY/mt)									
[redacted]									
Fuel Oil (LSFO), industrial sector spot, dpu (JPY/mt)									
[redacted]									
Electricity, industrial sector (JPY/kWh)									
[redacted]									
Electricity, household (JPY/kWh)									
[redacted]									
Ethanol (anhydrous), import spot, cif (JPY/mt)									
[redacted]									

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4

Price Forecasts

This chapter gives Intratec's short-term price forecasts for the main energies in Japan over the next six months, from May 2026 to October 2026. The forecasts are organized by energy, one section each: Crude Oil, Natural Gas, Coal, LPG, Naphtha, Gasoline, Kerosene, Diesel, Fuel Oil, Electricity, and Ethanol.

Each section has a table of the forecasts and a chart that joins the recent prices to the forecast.

Prices are in JPY, each in its own unit; "Appendix A. Glossary and Methodology" explains the terms, such as FOB, and "Appendix E" shows how close past forecasts came to the actual prices. For Intratec's methodology and the specification of each price, see:

Methodology: https://intrat.ec/iep-methodology

Assessment Guides:
► https://intrat.ec/iep-assessments-catalog/japan

NEXT MONTH

[redacted]

LARGEST RISES

↑ [redacted]
↑ [redacted]
↑ [redacted]

LARGEST FALLS

↓ [redacted]
↓ [redacted]
↓ [redacted]

Prices of April 2026 → forecasts for May 2026, then the direction through October 2026.

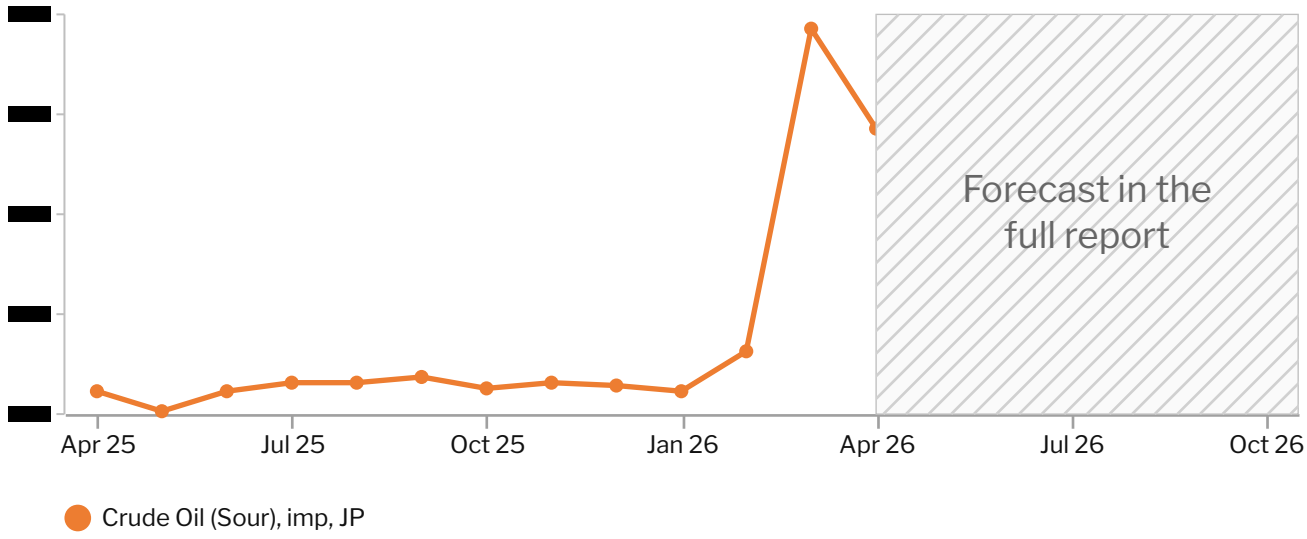
4.1 CRUDE OIL PRICE FORECAST

[redacted]

Table 4.1 Japan Crude Oil Price Forecast

May 2026	Jun 2026	Jul 2026	Aug 2026	Sep 2026	Oct 2026
Crude Oil (sour), import spot, cif (JPY/Bbl)					
[redacted]					

Figure 4.1 Japan Crude Oil Prices and Forecast, Apr 2025 to Oct 2026



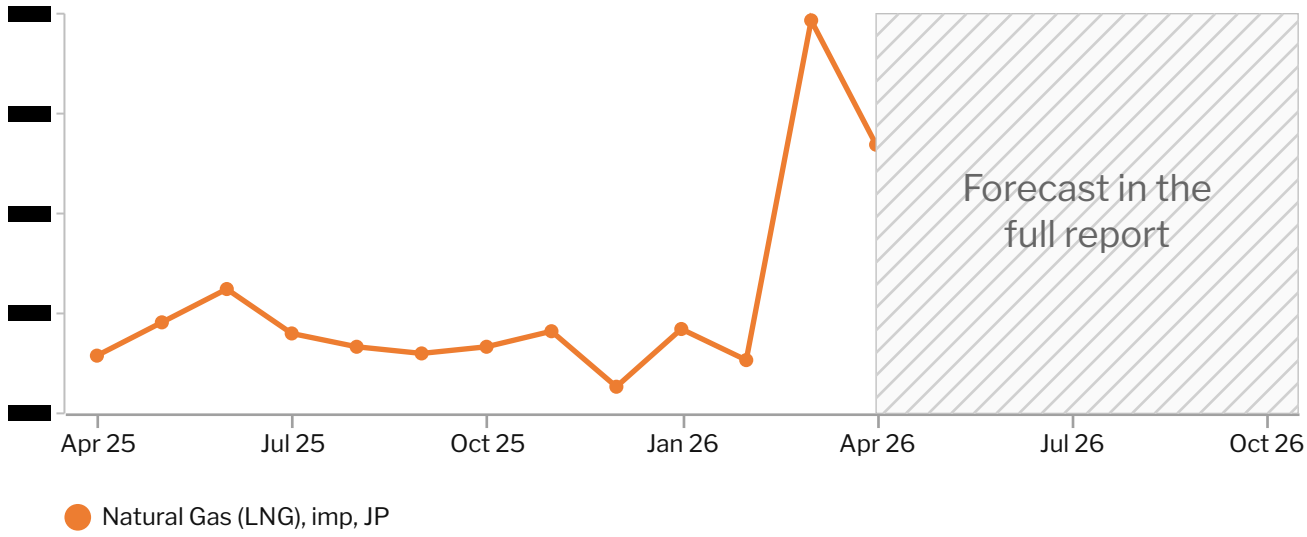
4.2 NATURAL GAS PRICE FORECAST

[redacted]

Table 4.2 Japan Natural Gas Price Forecast

May 2026	Jun 2026	Jul 2026	Aug 2026	Sep 2026	Oct 2026
Natural Gas (liquified), import spot, dpu (JPY/MMBtu)					
[redacted]					

Figure 4.2 Japan Natural Gas Prices and Forecast, Apr 2025 to Oct 2026



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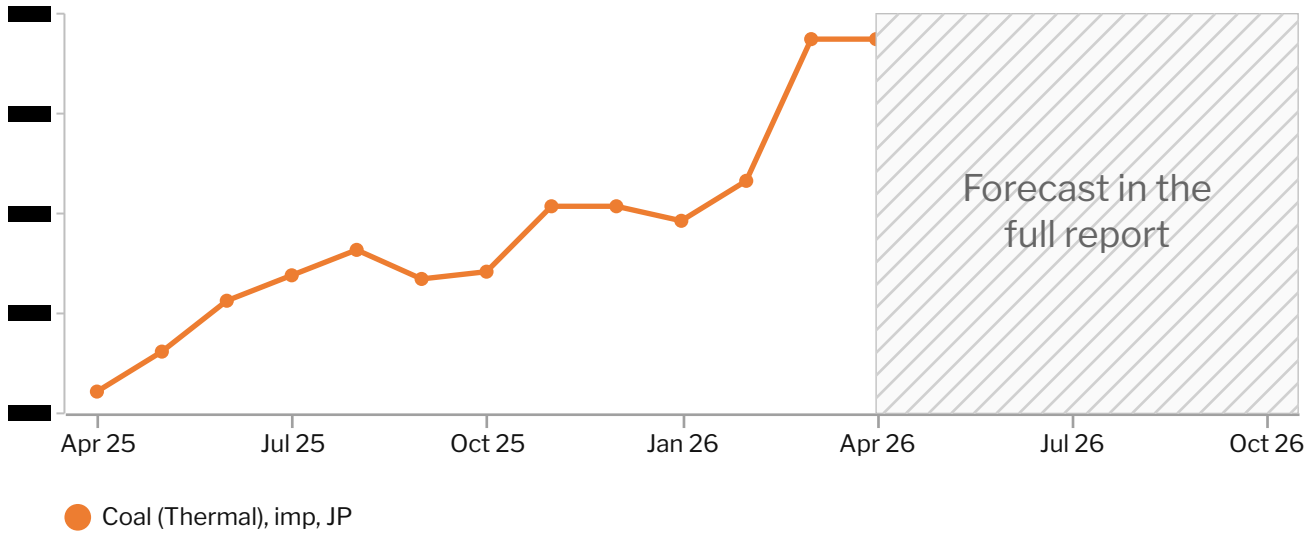
4.3 COAL PRICE FORECAST

[redacted]

Table 4.3 Japan Coal Price Forecast

May 2026	Jun 2026	Jul 2026	Aug 2026	Sep 2026	Oct 2026
Coal (thermal), import spot, cif (JPY/mt)					
[redacted]					

Figure 4.3 Japan Coal Prices and Forecast, Apr 2025 to Oct 2026



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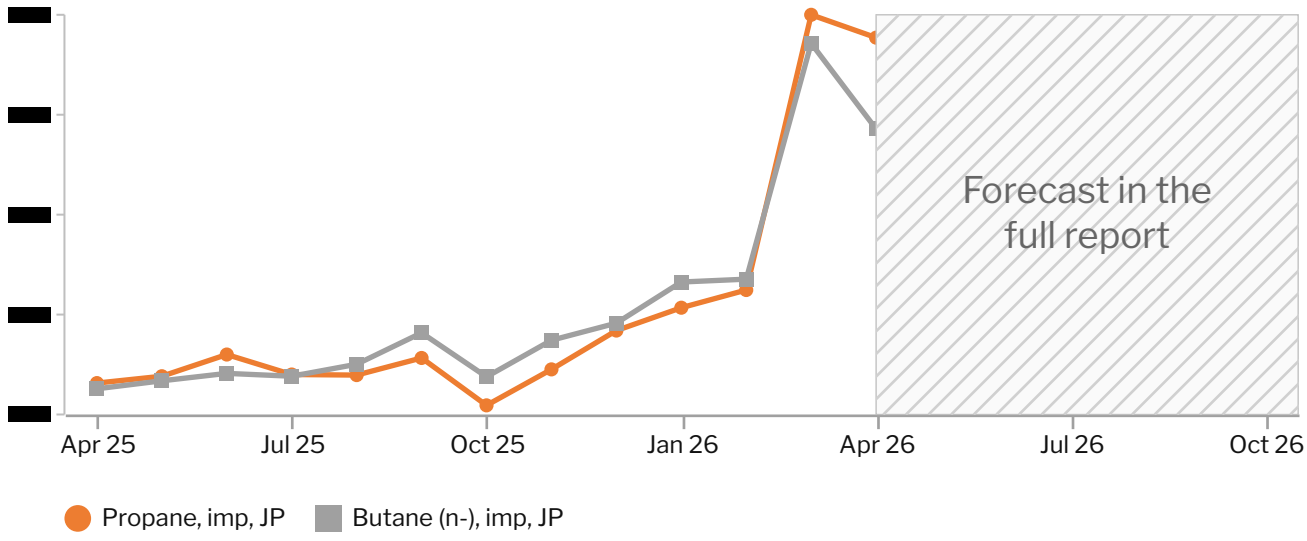
4.4 LPG PRICE FORECAST

[redacted]

Table 4.4 Japan LPG Price Forecast

May 2026	Jun 2026	Jul 2026	Aug 2026	Sep 2026	Oct 2026
Propane, import spot, cfr (JPY/mt)					
[redacted]					
Butane (n-butane), import spot, cfr (JPY/mt)					
[redacted]					

Figure 4.4 Japan LPG Prices and Forecast, Apr 2025 to Oct 2026



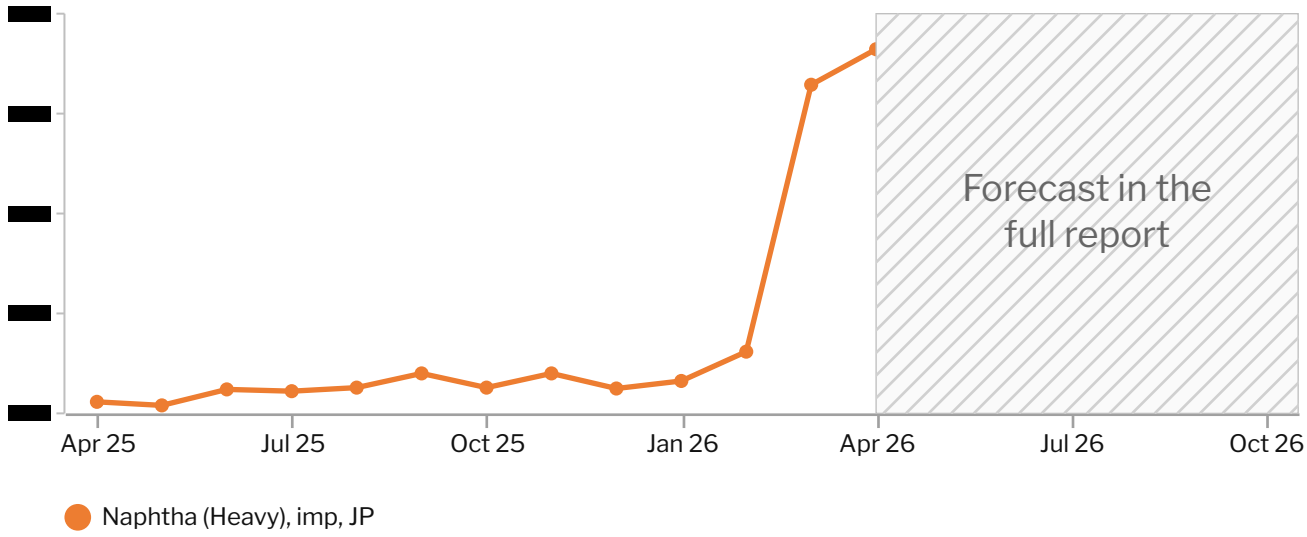
4.5 NAPHTHA PRICE FORECAST

[redacted]

Table 4.5 Japan Naphtha Price Forecast

May 2026	Jun 2026	Jul 2026	Aug 2026	Sep 2026	Oct 2026
Naphtha (heavy), import spot, cfr (JPY/mt)					
[redacted]					

Figure 4.5 Japan Naphtha Prices and Forecast, Apr 2025 to Oct 2026



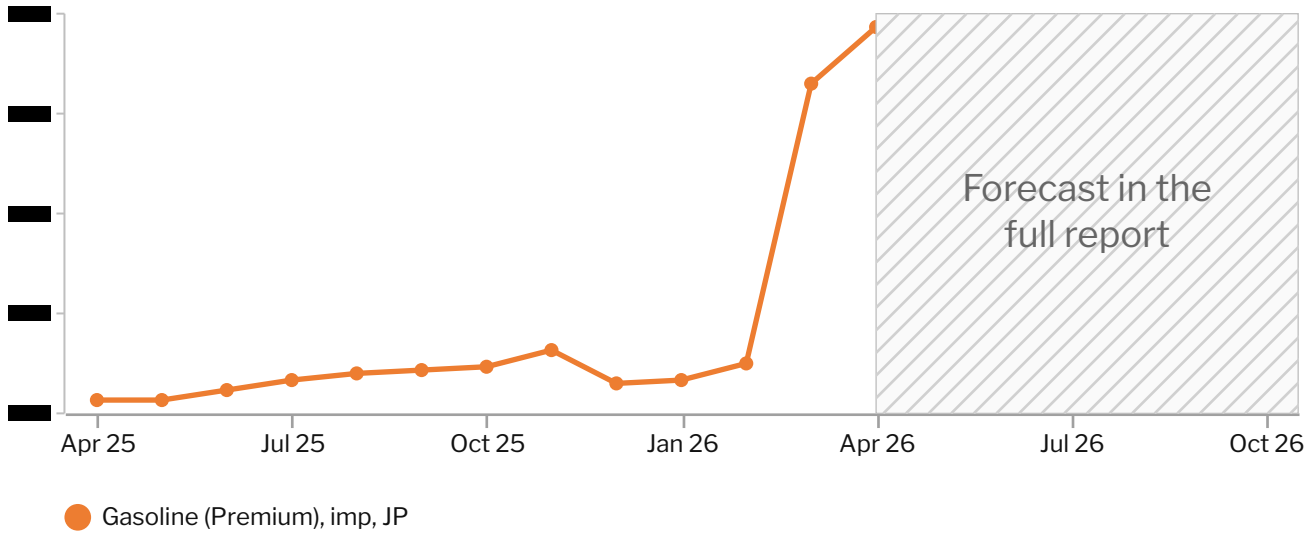
4.6 GASOLINE PRICE FORECAST

[redacted]

Table 4.6 Japan Gasoline Price Forecast

May 2026	Jun 2026	Jul 2026	Aug 2026	Sep 2026	Oct 2026
Gasoline (premium), import spot, cfr (JPY/Bbl)					
[redacted]					

Figure 4.6 Japan Gasoline Prices and Forecast, Apr 2025 to Oct 2026



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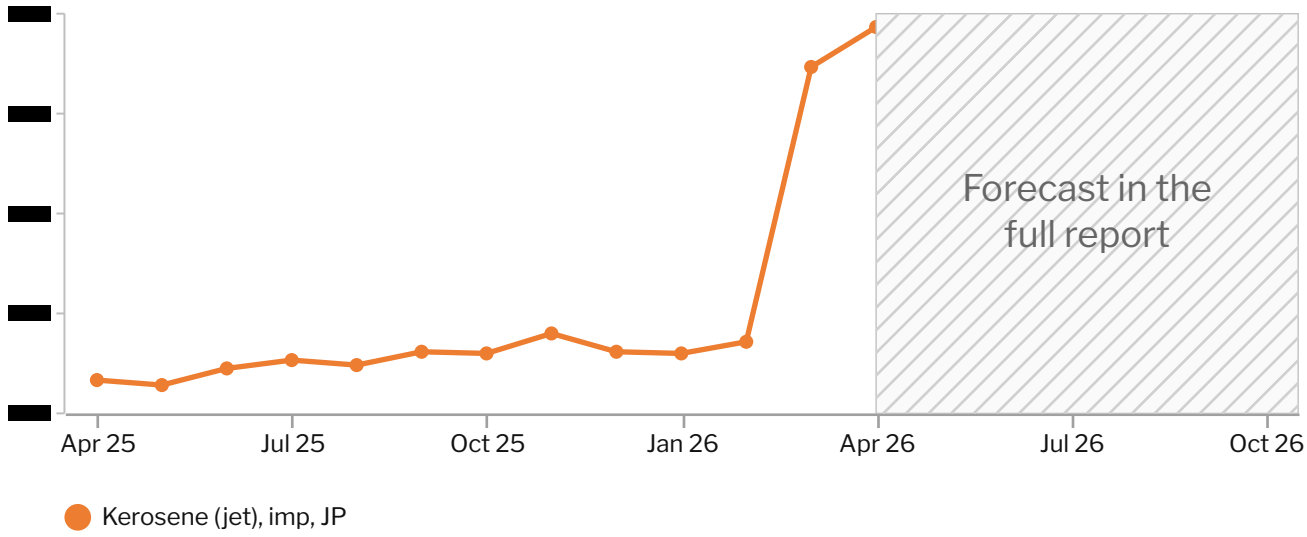
4.7 KEROSENE PRICE FORECAST

[redacted]

Table 4.7 Japan Kerosene Price Forecast

May 2026	Jun 2026	Jul 2026	Aug 2026	Sep 2026	Oct 2026
Kerosene (jet fuel), import spot, cfr (JPY/Bbl)					
[redacted]					

Figure 4.7 Japan Kerosene Prices and Forecast, Apr 2025 to Oct 2026



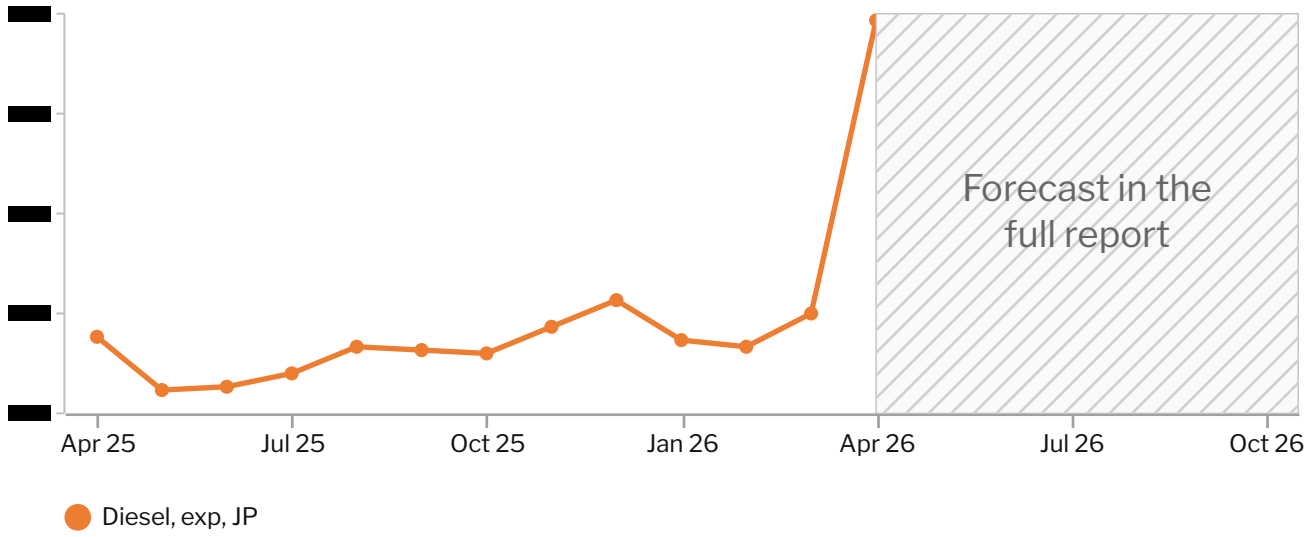
4.8 DIESEL PRICE FORECAST

[redacted]

Table 4.8 Japan Diesel Price Forecast

May 2026	Jun 2026	Jul 2026	Aug 2026	Sep 2026	Oct 2026
Diesel, export transaction, fob (JPY/Bbl)					
[redacted]					

Figure 4.8 Japan Diesel Prices and Forecast, Apr 2025 to Oct 2026



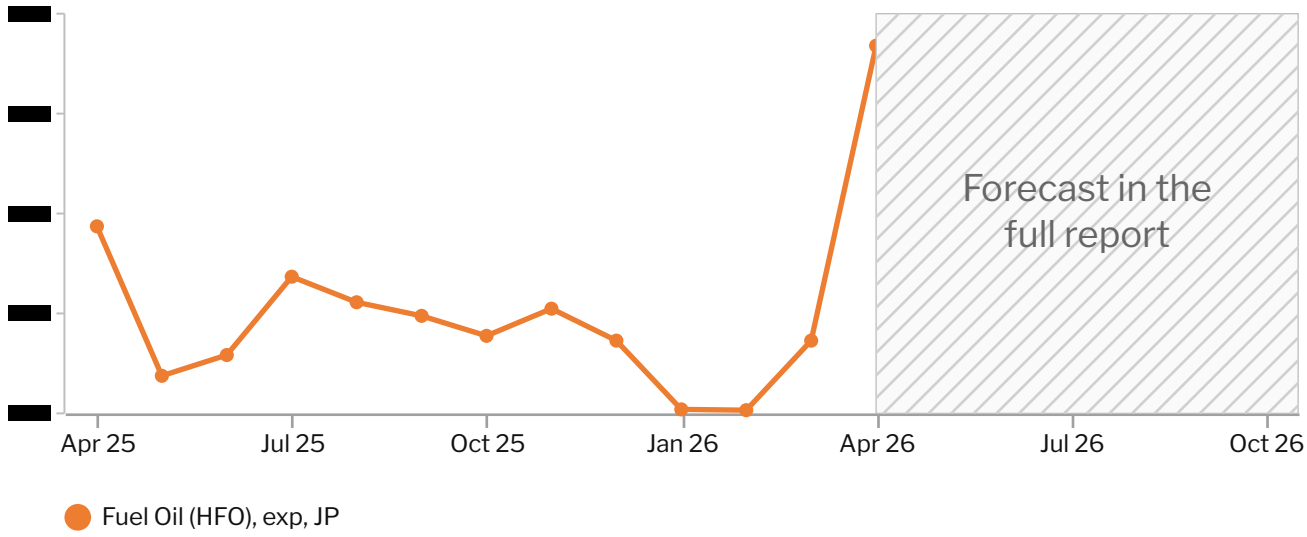
4.9 FUEL OIL PRICE FORECAST

[redacted]

Table 4.9 Japan Fuel Oil Price Forecast

May 2026	Jun 2026	Jul 2026	Aug 2026	Sep 2026	Oct 2026
Fuel Oil (heavy), export transaction, fob (JPY/mt)					
[redacted]					

Figure 4.9 Japan Fuel Oil Prices and Forecast, Apr 2025 to Oct 2026



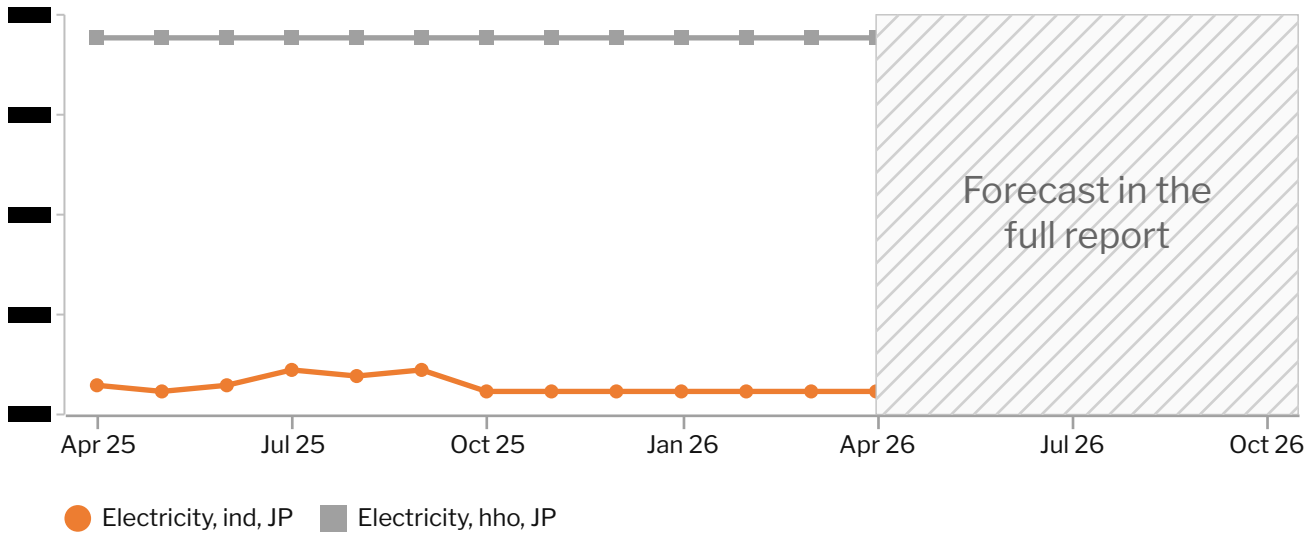
4.10 ELECTRICITY PRICE FORECAST

[redacted]

Table 4.10 Japan Electricity Price Forecast

May 2026	Jun 2026	Jul 2026	Aug 2026	Sep 2026	Oct 2026
Electricity, industrial sector (JPY/kWh)					
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Electricity, household (JPY/kWh)					
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Figure 4.10 Japan Electricity Prices and Forecast, Apr 2025 to Oct 2026



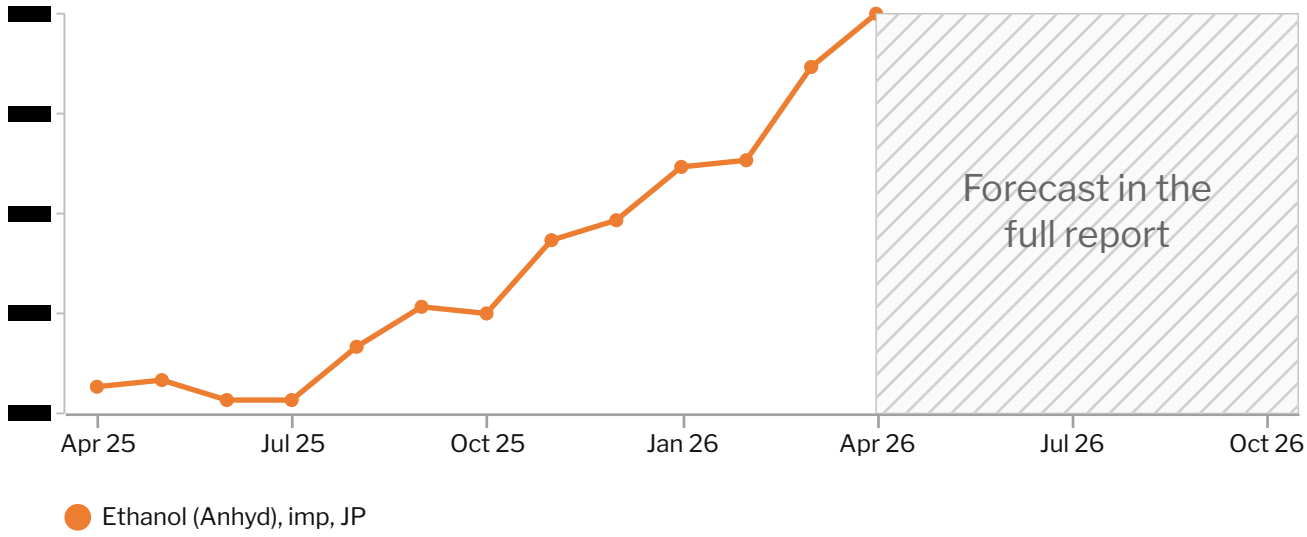
4.11 ETHANOL PRICE FORECAST

[redacted]

Table 4.11 Japan Ethanol Price Forecast

May 2026	Jun 2026	Jul 2026	Aug 2026	Sep 2026	Oct 2026
Ethanol (anhydrous), import spot, cif (JPY/mt)					
[redacted]					

Figure 4.11 Japan Ethanol Prices and Forecast, Apr 2025 to Oct 2026



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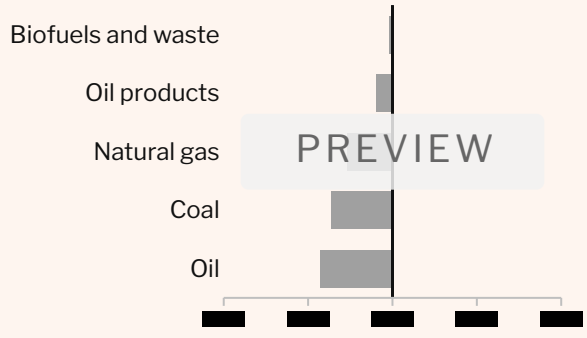
Energy Supply and Demand

Prices follow supply and demand, and this chapter shows both: how much energy Japan produces, trades and uses. Monthly data reach December 2025; yearly tables cover four years, the last of them in 2025. “Appendix A. Glossary and Methodology” explains each term.

What each section covers:

* **Imports and Exports:** energy bought and sold abroad, by type.
* **Trade Partners:** who supplies and who buys.
* **Production and Demand:** how much energy the country produces, needs and uses.
* **Energy Balance:** how trade, storage and losses lead from production to use.
* **Electricity Generation by Source:** the share of each source, such as gas or wind.
* **Energy Self-Sufficiency and Trade Dependencies:** demand met by own production, and energy trade as a share of GDP.

ENERGY EXPORTS MINUS IMPORTS

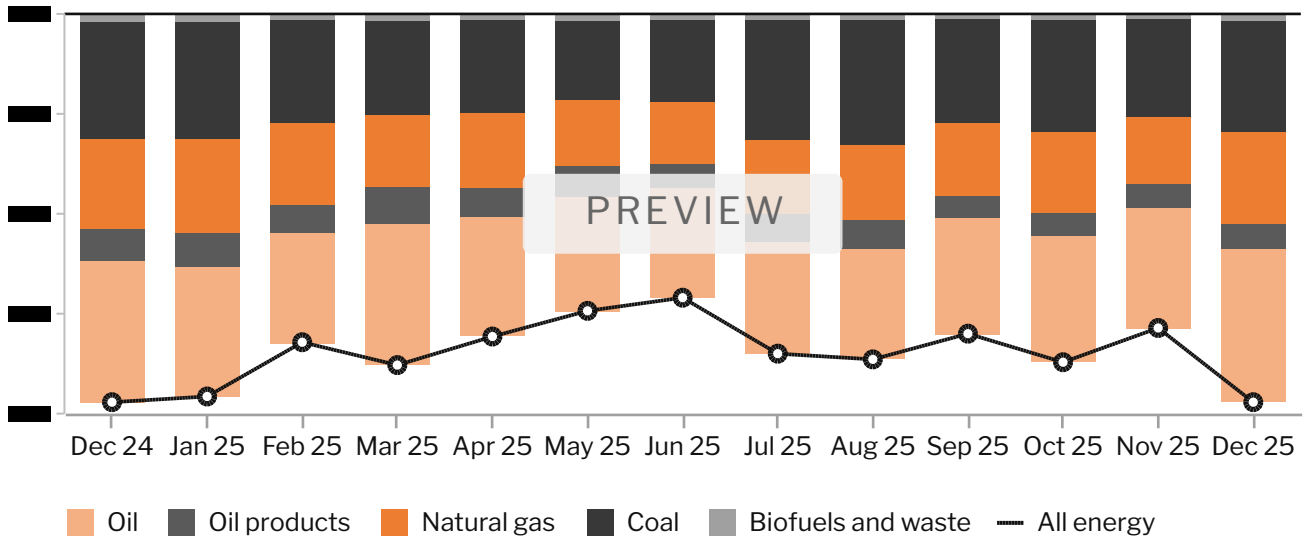


Each bar is one energy’s exports minus imports for Japan over the 12 months from January 2025 to December 2025: to the right, in orange, the country sold more than it bought; to the left, in gray, it bought more. [redacted] Section 5.1 gives the balance month by month.

5.1 IMPORTS AND EXPORTS

Figure 5.1 shows energy exports minus imports month by month, from December 2024 to December 2025, energy by energy: a part of a bar above zero is an energy the country sold more of than it bought, and the black line is the balance of all energy. [redacted]

Figure 5.1 Japan Energy Exports Minus Imports, in PJ, Dec 2024 to Dec 2025



Energy figures for Japan for December 2025 stand at [redacted].

Table 5.1 Japan Energy Imports

Imports	Unit	2025	2024	2023	2022
Crude Oil	MMbbl (PJ)	[redacted]	[redacted]	[redacted]	[redacted]
NGL	MMbbl (PJ)	[redacted]	[redacted]	[redacted]	[redacted]
Other Feedstock	MMbbl (PJ)	[redacted]	[redacted]	[redacted]	[redacted]
Total Oil	PJ	[redacted]	[redacted]	[redacted]	[redacted]
LPG	MMT (PJ)	[redacted]	[redacted]	[redacted]	[redacted]
Naphtha	MMT (PJ)	[redacted]	[redacted]	[redacted]	[redacted]
Gasoline	MMbbl (PJ)	[redacted]	[redacted]	[redacted]	[redacted]
Kerosenes	MMbbl (PJ)	[redacted]	[redacted]	[redacted]	[redacted]
Diesel	MMbbl (PJ)	[redacted]	[redacted]	[redacted]	[redacted]
Fuel oil	MMT (PJ)	[redacted]	[redacted]	[redacted]	[redacted]
Other oil products	MMT (PJ)	[redacted]	[redacted]	[redacted]	[redacted]
Total Oil Products	PJ	[redacted]	[redacted]	[redacted]	[redacted]
Total Oil & Oil Products	PJ	[redacted]	[redacted]	[redacted]	[redacted]
Natural Gas	PJ	[redacted]	[redacted]	[redacted]	[redacted]
Coal	MMT (PJ)	[redacted]	[redacted]	[redacted]	[redacted]
Biofuels and waste	PJ	[redacted]	[redacted]	[redacted]	[redacted]
Electricity	GWh (PJ)	[redacted]	[redacted]	[redacted]	[redacted]
Total Energy Imports	PJ	[redacted]	[redacted]	[redacted]	[redacted]

Table 5.2 Japan Energy Exports

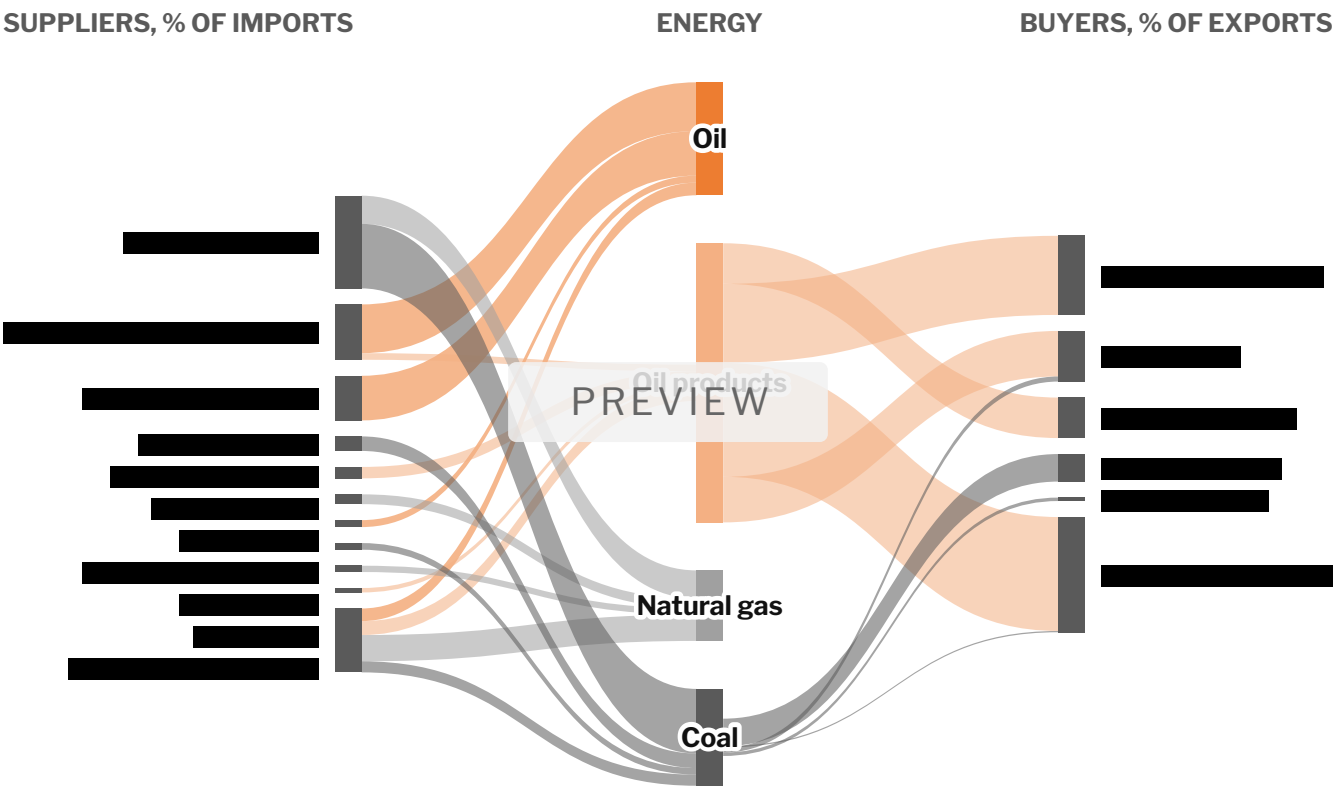
Exports	Unit	2025	2024	2023	2022
Crude Oil	MMbbl (PJ)	[redacted]	[redacted]	[redacted]	[redacted]
NGL	MMbbl (PJ)	[redacted]	[redacted]	[redacted]	[redacted]
Other Feedstock	MMbbl (PJ)	[redacted]	[redacted]	[redacted]	[redacted]
Total Oil	PJ	[redacted]	[redacted]	[redacted]	[redacted]
LPG	MMT (PJ)	[redacted]	[redacted]	[redacted]	[redacted]
Naphtha	MMT (PJ)	[redacted]	[redacted]	[redacted]	[redacted]
Gasoline	MMbbl (PJ)	[redacted]	[redacted]	[redacted]	[redacted]
Kerosenes	MMbbl (PJ)	[redacted]	[redacted]	[redacted]	[redacted]
Diesel	MMbbl (PJ)	[redacted]	[redacted]	[redacted]	[redacted]
Fuel oil	MMT (PJ)	[redacted]	[redacted]	[redacted]	[redacted]
Other oil products	MMT (PJ)	[redacted]	[redacted]	[redacted]	[redacted]
Total Oil Products	PJ	[redacted]	[redacted]	[redacted]	[redacted]
Total Oil & Oil Products	PJ	[redacted]	[redacted]	[redacted]	[redacted]
Natural Gas	PJ	[redacted]	[redacted]	[redacted]	[redacted]
Coal	MMT (PJ)	[redacted]	[redacted]	[redacted]	[redacted]
Biofuels and waste	PJ	[redacted]	[redacted]	[redacted]	[redacted]
Electricity	GWh (PJ)	[redacted]	[redacted]	[redacted]	[redacted]
Total Energy Exports	PJ	[redacted]	[redacted]	[redacted]	[redacted]

5.2 TRADE PARTNERS

[redacted] Figure 5.2 shows the origin of the energy imports of Japan and the destination of its exports in 2025, in percent: suppliers on the left, the energies in the middle, buyers on the right, and the wider a band, the larger its share. [redacted] Each energy weighs in the figure by its share of the imports, or of the exports. The partners of each energy, year by year, follow in the subsections below.

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Figure 5.2 Japan Energy Suppliers and Buyers, 2025 (%)



OIL

Figure 5.3 shows the three largest suppliers of oil imports, at the left, and the three largest buyers of oil exports, at the right, in 2025, each as a share of the total, the rest of the world last; Table 5.3 gives the four latest years.

Figure 5.3 Japan Oil Suppliers and Buyers, 2025 (%)

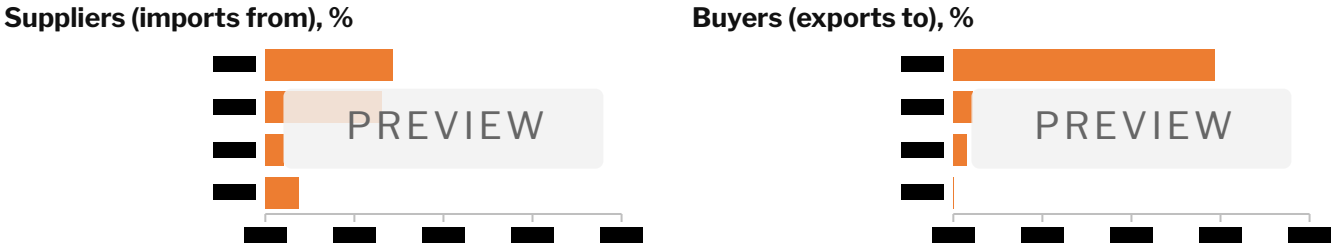


Table 5.3 Japan Oil Trade Partners (%)

Key Partners	2025	2024	2023	2022
Suppliers (imports from)				
1st	[redacted]	[redacted]	[redacted]	[redacted]
2nd	[redacted]	[redacted]	[redacted]	[redacted]
3rd	[redacted]	[redacted]	[redacted]	[redacted]
Rest of World	[redacted]	[redacted]	[redacted]	[redacted]
Buyers (exports to)				
1st	[redacted]	[redacted]	[redacted]	[redacted]
2nd	[redacted]	[redacted]	[redacted]	[redacted]
3rd	[redacted]	[redacted]	[redacted]	[redacted]
Rest of World	[redacted]	[redacted]	[redacted]	[redacted]

OIL PRODUCTS

Figure 5.4 shows the three largest suppliers of oil products imports, at the left, and the three largest buyers of oil products exports, at the right, in 2025, each as a share of the total, the rest of the world last; Table 5.4 gives the four latest years. [redacted]

Figure 5.4 Japan Oil Products Suppliers and Buyers, 2025 (%)

Suppliers (imports from), %



Buyers (exports to), %



Table 5.4 Japan Oil Products Trade Partners (%)

Key Partners	2025	2024	2023	2022
Suppliers (imports from)				
1st	[redacted]	[redacted]	[redacted]	[redacted]
2nd	[redacted]	[redacted]	[redacted]	[redacted]
3rd	[redacted]	[redacted]	[redacted]	[redacted]
Rest of World	[redacted]	[redacted]	[redacted]	[redacted]
Buyers (exports to)				
1st	[redacted]	[redacted]	[redacted]	[redacted]
2nd	[redacted]	[redacted]	[redacted]	[redacted]
3rd	[redacted]	[redacted]	[redacted]	[redacted]
Rest of World	[redacted]	[redacted]	[redacted]	[redacted]

NATURAL GAS

Figure 5.5 shows the three largest suppliers of natural gas imports, in 2025, each as a share of the total, the rest of the world last; Table 5.5 gives the four latest years. [redacted]

Figure 5.5 Japan Natural Gas Suppliers, 2025 (%)

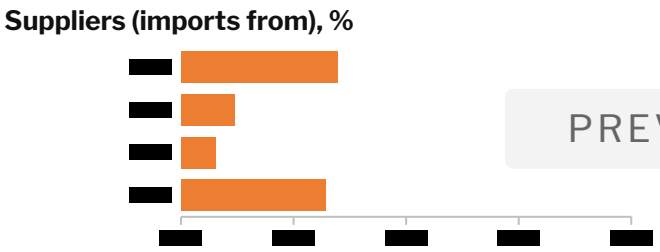


Table 5.5 Japan Natural Gas Trade Partners (%)

Key Partners	2025	2024	2023	2022
Suppliers (imports from)				
1st	[redacted]	[redacted]	[redacted]	[redacted]
2nd	[redacted]	[redacted]	[redacted]	[redacted]
3rd	[redacted]	[redacted]	[redacted]	[redacted]
Rest of World	[redacted]	[redacted]	[redacted]	[redacted]
Buyers (exports to)				
1st	[redacted]	[redacted]	[redacted]	[redacted]
2nd	[redacted]	[redacted]	[redacted]	[redacted]
3rd	[redacted]	[redacted]	[redacted]	[redacted]
Rest of World	[redacted]	[redacted]	[redacted]	[redacted]

COAL

Figure 5.6 shows the three largest suppliers of coal imports, at the left, and the three largest buyers of coal exports, at the right, in 2025, each as a share of the total, the rest of the world last; Table 5.6 gives the four latest years. [redacted]

Figure 5.6 Japan Coal Suppliers and Buyers, 2025 (%)



Table 5.6 Japan Coal Trade Partners (%)

Key Partners	2025	2024	2023	2022
Suppliers (imports from)				
1st	[redacted]	[redacted]	[redacted]	[redacted]
2nd	[redacted]	[redacted]	[redacted]	[redacted]
3rd	[redacted]	[redacted]	[redacted]	[redacted]
Rest of World	[redacted]	[redacted]	[redacted]	[redacted]
Buyers (exports to)				
1st	[redacted]	[redacted]	[redacted]	[redacted]
2nd	[redacted]	[redacted]	[redacted]	[redacted]
3rd	[redacted]	[redacted]	[redacted]	[redacted]
Rest of World	[redacted]	[redacted]	[redacted]	[redacted]

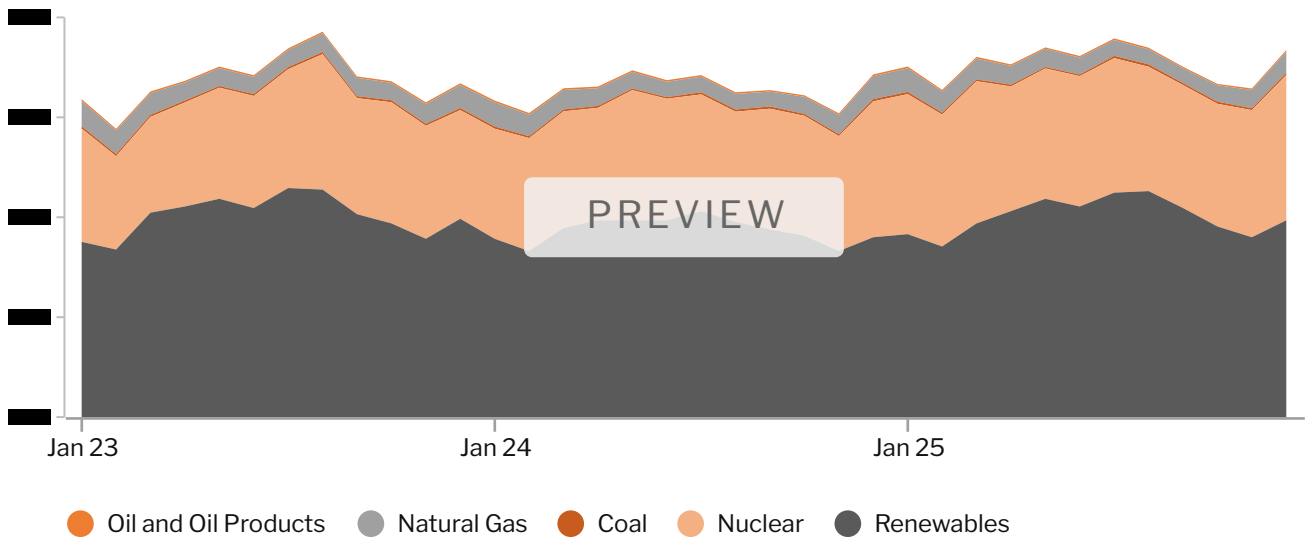
5.3 PRODUCTION AND DEMAND

PRODUCTION

Energy production is the energy extracted or generated inside the country: coal, oil and natural gas, used as fuels and to generate electricity, nuclear power, and renewable sources such as hydro, wind and solar.

Figure 5.7 shows production by energy, month by month, from January 2022 to December 2025; the thicker a band, the more of that energy the country produced. Table 5.7 gives each year from 2022 to 2025.

Figure 5.7 Japan Energy Production, Jan 2022 to Dec 2025



[redacted]

Table 5.7 Japan Energy Production

Production	Unit	2025	2024	2023	2022
Oil and Oil Products	PJ	[redacted]	[redacted]	[redacted]	[redacted]
Natural Gas	PJ	[redacted]	[redacted]	[redacted]	[redacted]
Coal	MMT (PJ)	[redacted]	[redacted]	[redacted]	[redacted]
Nuclear	PJ	[redacted]	[redacted]	[redacted]	[redacted]
Hydro	PJ	[redacted]	[redacted]	[redacted]	[redacted]
Geothermal	PJ	[redacted]	[redacted]	[redacted]	[redacted]
Solar	PJ	[redacted]	[redacted]	[redacted]	[redacted]
Wind	PJ	[redacted]	[redacted]	[redacted]	[redacted]
Biofuels and waste	PJ	[redacted]	[redacted]	[redacted]	[redacted]
Total Energy Production	PJ	[redacted]	[redacted]	[redacted]	[redacted]

DEMAND

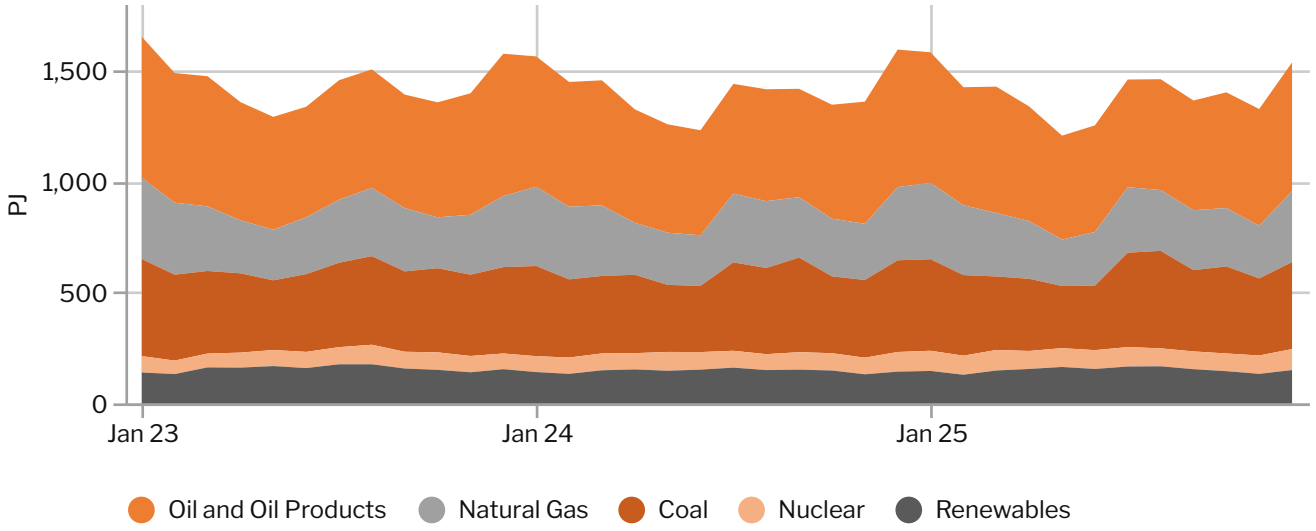
Energy demand is the energy the country needs for all its uses, calculated as:

Demand = Production + Imports − Exports − Stock Change

It covers industry, transport, heating and power generation. Some energy is used as it comes; most becomes fuels or electricity before its final use. Figure 5.8 shows demand by energy, month by month, from January 2022 to December 2025, and Table 5.8 gives each year from 2022 to 2025.

This is a preview. For the full version, visit: https://intrat.ec/iep

Figure 5.8 Japan Energy Demand, Jan 2022 to Dec 2025



In December 2025, demand for oil and oil products rose 10% from November 2025 to 579 PJ, and natural gas demand rose 35% to 320 PJ. Coal demand was 4,360 PJ in 2025, below 2024, while nuclear demand reached 1,030 PJ in 2025, above 2024.

Table 5.8 Japan Energy Demand

Demand	Unit	2025	2024	2023	2022
Oil	PJ	[redacted]	[redacted]	[redacted]	[redacted]
Oil Products	PJ	[redacted]	[redacted]	[redacted]	[redacted]
Natural Gas	PJ	[redacted]	[redacted]	[redacted]	[redacted]
Coal	MMT (PJ)	[redacted]	[redacted]	[redacted]	[redacted]
Nuclear	PJ	[redacted]	[redacted]	[redacted]	[redacted]
Hydro	PJ	[redacted]	[redacted]	[redacted]	[redacted]
Geothermal, solar, wind, etc.	PJ	[redacted]	[redacted]	[redacted]	[redacted]
Biofuels and waste	PJ	[redacted]	[redacted]	[redacted]	[redacted]
Total Energy Demand	PJ	[redacted]	[redacted]	[redacted]	[redacted]

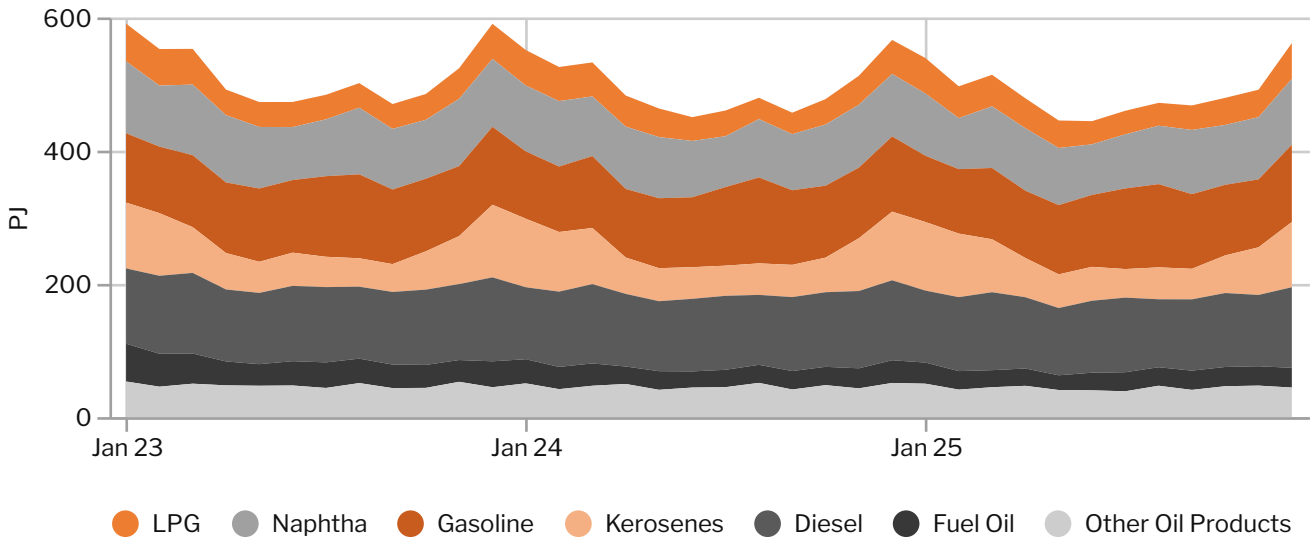
OIL PRODUCTS DOMESTIC SUPPLY

The domestic supply of oil products is the amount of each refined product available in the country. It comes from refining crude oil, natural gas liquids and other inputs, and from the direct use of these inputs.

Oil products serve transport, heating, industry and power generation, such as gasoline and diesel in transport. They are also raw materials for petrochemicals, such as plastics and synthetic rubber.

Figure 5.9 shows the supply of each oil product, month by month, from January 2022 to December 2025, and Table 5.9 gives each year from 2022 to 2025.

Figure 5.9 Japan Oil Products Supply, Jan 2022 to Dec 2025



In December 2025, domestic supply of LPG rose 30% from November 2025 to 53.6 PJ, and kerosenes supply rose 37% to 97.9 PJ. Fuel oil supply was 332 PJ in 2025, below 2024, and naphtha supply was 1,070 PJ in 2025.

Table 5.9 Japan Oil Products Domestic Supply

	Unit	2025	2024	2023	2022
LPG	MMT (PJ)	[redacted]	[redacted]	[redacted]	[redacted]
Naphtha	MMT (PJ)	[redacted]	[redacted]	[redacted]	[redacted]
Gasoline	MMbbl (PJ)	[redacted]	[redacted]	[redacted]	[redacted]
Kerosenes	MMbbl (PJ)	[redacted]	[redacted]	[redacted]	[redacted]
Diesel	MMbbl (PJ)	[redacted]	[redacted]	[redacted]	[redacted]
Fuel oil	MMT (PJ)	[redacted]	[redacted]	[redacted]	[redacted]
Other oil products	MMT (PJ)	[redacted]	[redacted]	[redacted]	[redacted]
Total Oil Products	PJ	[redacted]	[redacted]	[redacted]	[redacted]

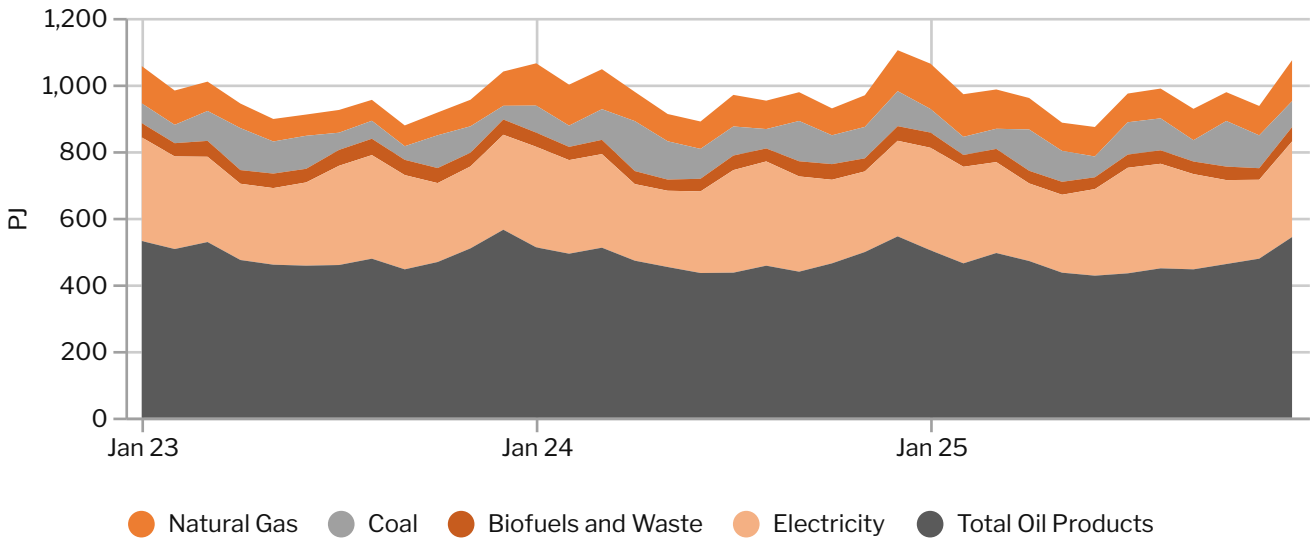
CONSUMPTION

Consumption is the energy that people, businesses and industries use directly: heating, cooling, lighting, appliances, transport and machines. It also includes non-energy uses, such as fossil fuels used as raw materials in chemicals.

Part of the energy is lost when primary sources become electricity or refined fuels, so final consumption is smaller than demand, and its mix of energies differs. [redacted]

Figure 5.10 shows consumption by energy, month by month, from January 2022 to December 2025, and Table 5.10 gives each year from 2022 to 2025.

Figure 5.10 Japan Energy Consumption, Jan 2022 to Dec 2025



In December 2025, final consumption of natural gas rose 39% from November 2025 to 123 PJ, and total oil products rose 14% to 542 PJ. Coal was 1,040 PJ in 2025, below 2024, and electricity was 3,290 PJ in 2025.

Table 5.10 Japan Energy Consumption

Consumption	Unit	2025	2024	2023	2022
Oil Products	PJ	[redacted]	[redacted]	[redacted]	[redacted]
Natural Gas	PJ	[redacted]	[redacted]	[redacted]	[redacted]
Coal	MMT (PJ)	[redacted]	[redacted]	[redacted]	[redacted]
Biofuels and waste	PJ	[redacted]	[redacted]	[redacted]	[redacted]
Electricity	PJ	[redacted]	[redacted]	[redacted]	[redacted]
Total Consumption	PJ	[redacted]	[redacted]	[redacted]	[redacted]

5.4 ENERGY BALANCE

The energy balance follows the energy of the country from production to final consumption. Trade and stocks turn production into demand; losses in power plants and refineries turn demand into final consumption.

Table 5.11 gives the balance for each year from 2022 to 2025, the last year in 2025, in PJ. Production plus net trade and stock changes gives demand; demand plus transformation losses gives total consumption. A negative number takes energy from supply: [redacted]

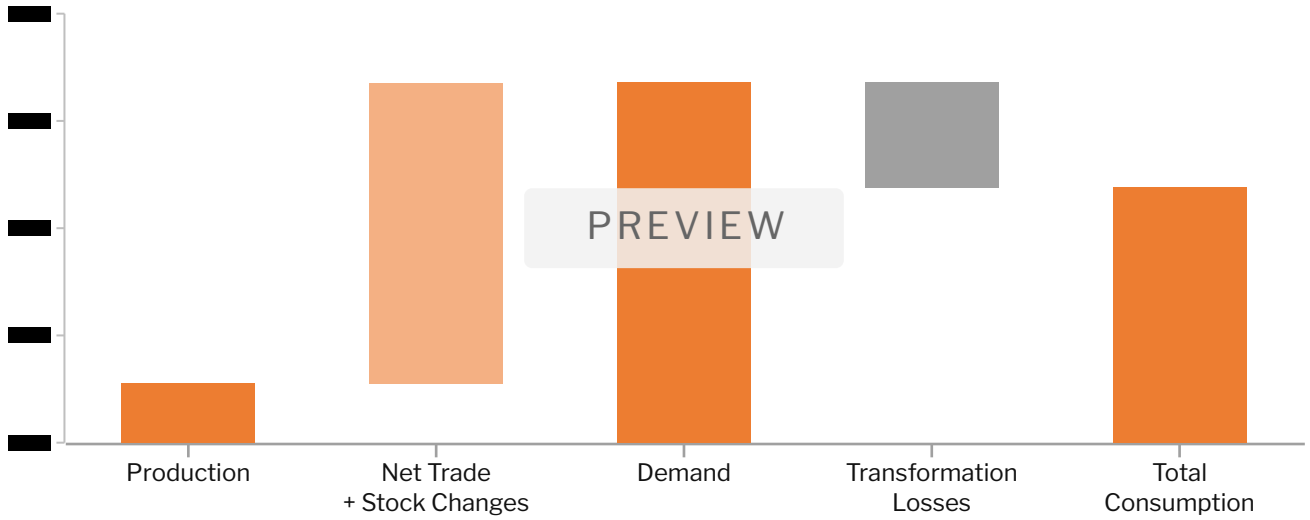
Figure 5.11 shows the same balance in 2025 as steps: each gray step down is a negative number of the table.

Table 5.11 Japan Energy Balance (in PJ)

Energy Balance	2025	2024	2023	2022
Production	[redacted]	[redacted]	[redacted]	[redacted]
Net Trade + Stock Changes	[redacted]	[redacted]	[redacted]	[redacted]
Demand	[redacted]	[redacted]	[redacted]	[redacted]
Transformation Losses	[redacted]	[redacted]	[redacted]	[redacted]
Total Consumption	[redacted]	[redacted]	[redacted]	[redacted]

Negative numbers reduce supply: energy sold abroad, put into stock, or lost in transformation.

Figure 5.11 **Japan Energy Balance, 2025**



5.5 ELECTRICITY GENERATION BY SOURCE

Electricity is a secondary energy: it is generated from primary sources such as coal, natural gas, nuclear power and renewables, among them wind, solar and hydro. It carries energy to homes, businesses, industry and transport.

Figure 5.12 shows each source's share of the electricity generated in each year from 2022 to 2025, and Table 5.12 the same generation in GWh. [redacted]

Figure 5.12 **Japan Electricity Generation by Source, 2022 to Dec 2025 (%)**

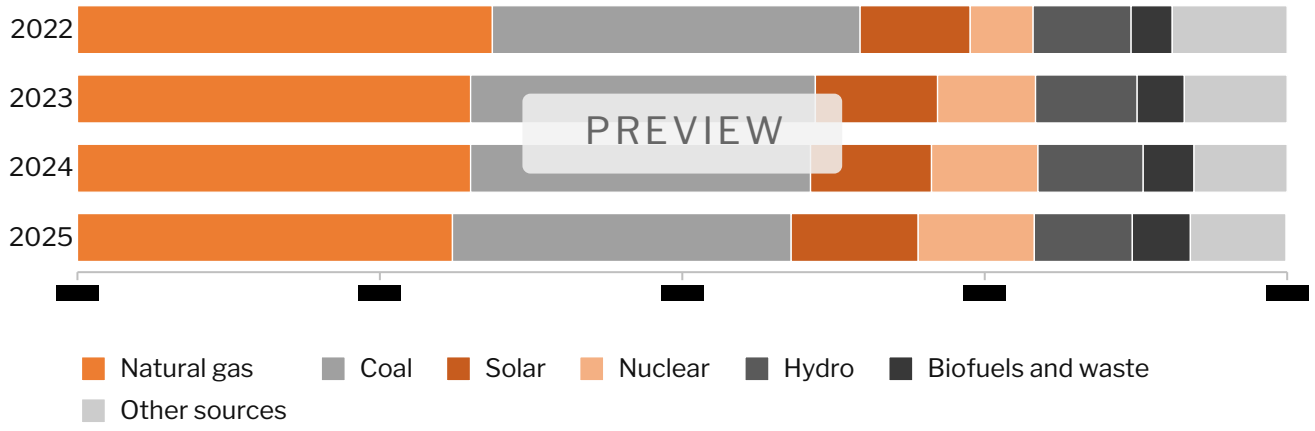


Table 5.12 Japan Electricity Generation by Source (in GWh)

Electricity Source	2025	2024	2023	2022
Nuclear	[redacted]	[redacted]	[redacted]	[redacted]
Hydro	[redacted]	[redacted]	[redacted]	[redacted]
Coal	[redacted]	[redacted]	[redacted]	[redacted]
Oil & Oil Products	[redacted]	[redacted]	[redacted]	[redacted]
Natural Gas	[redacted]	[redacted]	[redacted]	[redacted]
Biofuels & Waste	[redacted]	[redacted]	[redacted]	[redacted]
Geothermal	[redacted]	[redacted]	[redacted]	[redacted]
Solar	[redacted]	[redacted]	[redacted]	[redacted]
Wind	[redacted]	[redacted]	[redacted]	[redacted]
Other Sources	[redacted]	[redacted]	[redacted]	[redacted]
Total Electricity	[redacted]	[redacted]	[redacted]	[redacted]

5.6 ENERGY SELF-SUFFICIENCY AND TRADE DEPENDENCIES

Energy self-sufficiency is domestic production divided by demand; above 100%, the country produces more energy than it uses. Trade dependence is the weight of energy imports and exports in the economy of Japan and in the economies of its partners.

Self-sufficiency comes first, energy by energy and for all energy. Energy imports follow, as a share of the GDP of Japan and of the GDP of each supplier.

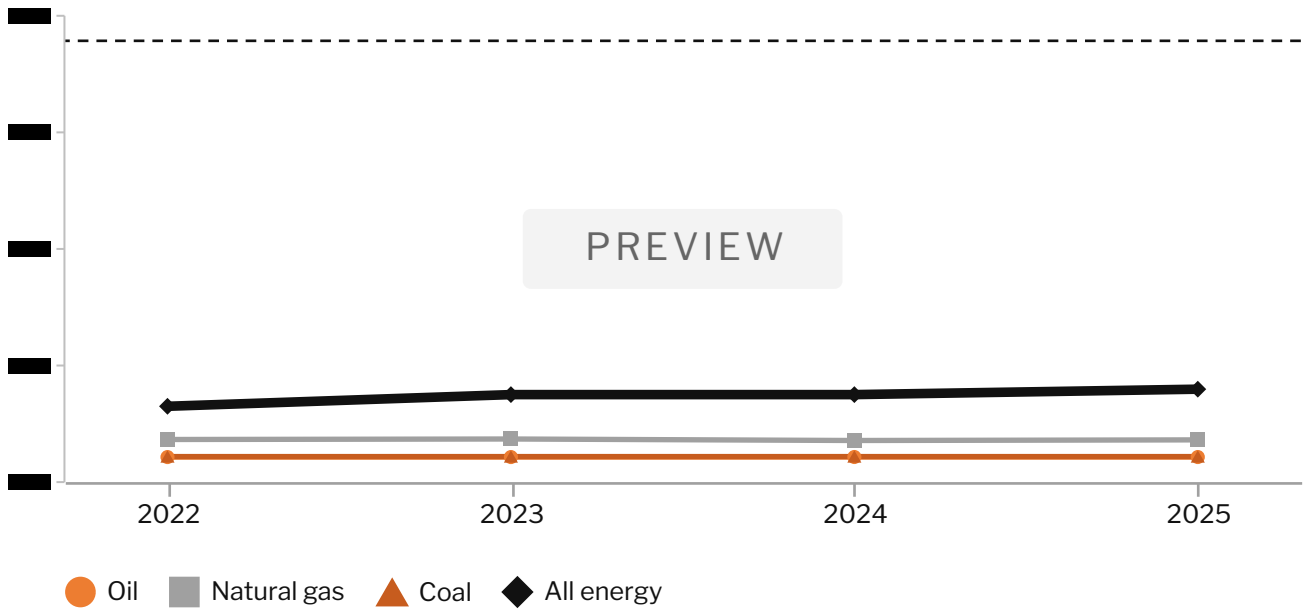
Energy exports close the section, as a share of the GDP of Japan and of the GDP of each buyer.

Each figure covers the years from 2022 to 2025, the last year in 2025.

ENERGY SELF-SUFFICIENCY

Figure 5.13 shows domestic production as a share of demand, energy by energy, with all energy in the thick black line and the dashed line at 100%, where production equals demand. [redacted]

Figure 5.13 Japan Energy Production as a Share of Demand, by Energy, 2022 to Dec 2025 (%)



ECONOMIC IMPACT OF ENERGY IMPORTS

Figure 5.14 shows energy imports as a share of Japan's GDP, split by supplier, and Figure 5.15 the same imports as a share of each supplier's GDP. [redacted]

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Figure 5.14 Japan Energy Imports as % of GDP, 2022 to Dec 2025

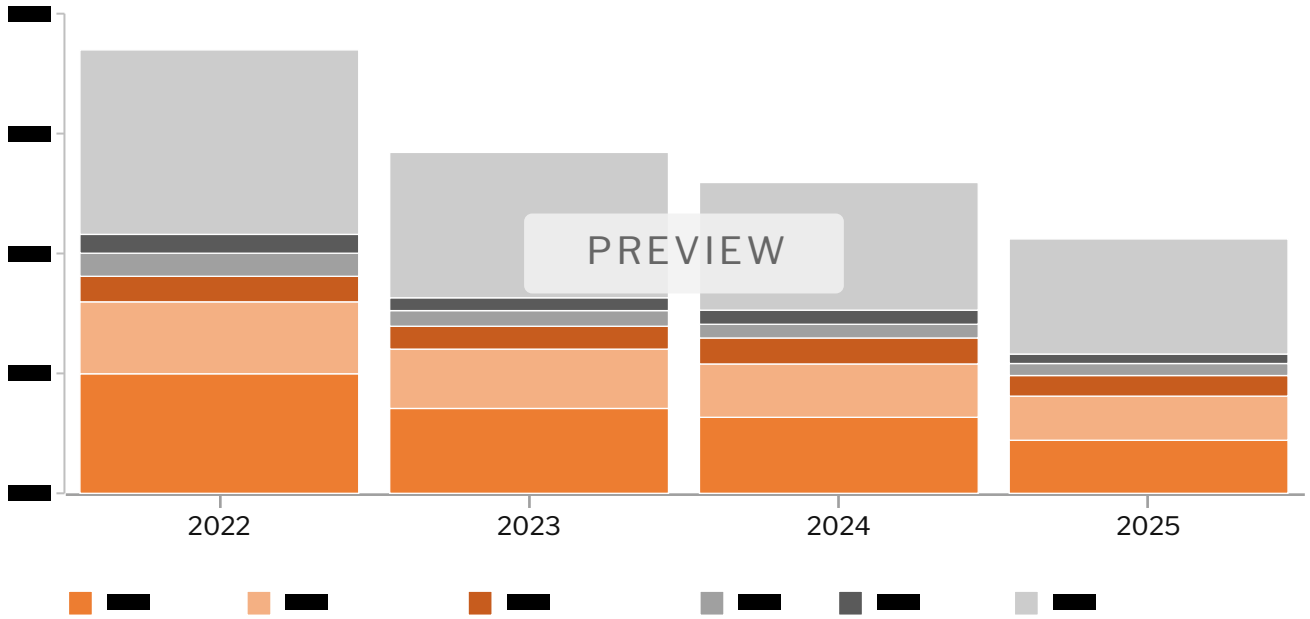
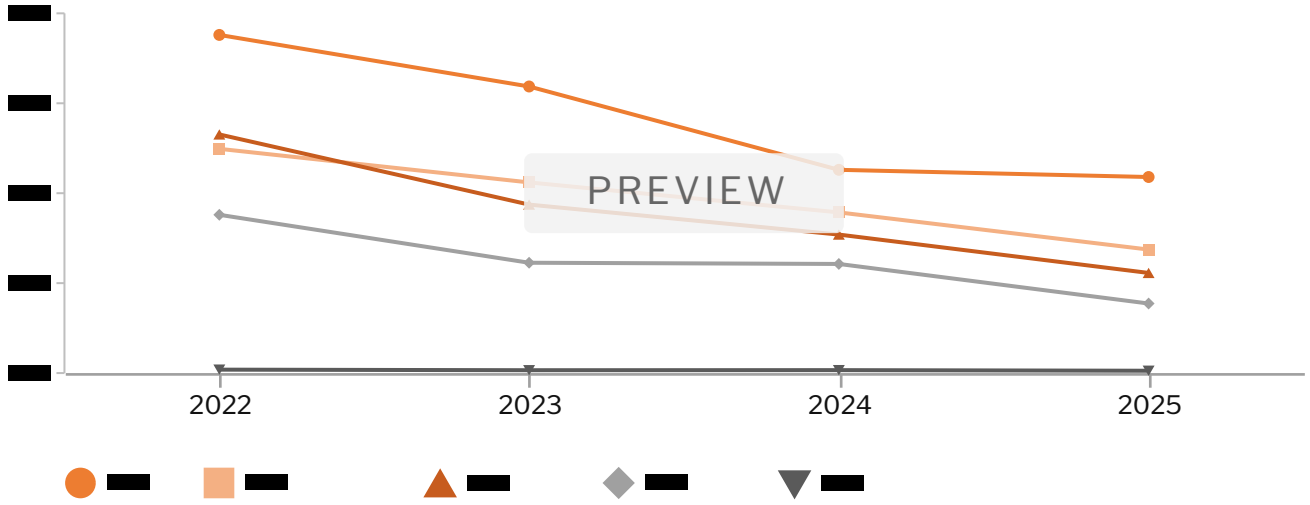


Figure 5.15 Japan Energy Imports as % of Suppliers' GDP, 2022 to Dec 2025



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ECONOMIC IMPACT OF ENERGY EXPORTS

Figure 5.16 shows energy exports as a share of Japan's GDP, split by buyer, and Figure 5.17 the same exports as a share of each buyer's GDP.

Figure 5.16 Japan Energy Exports as % of GDP, 2022 to Dec 2025

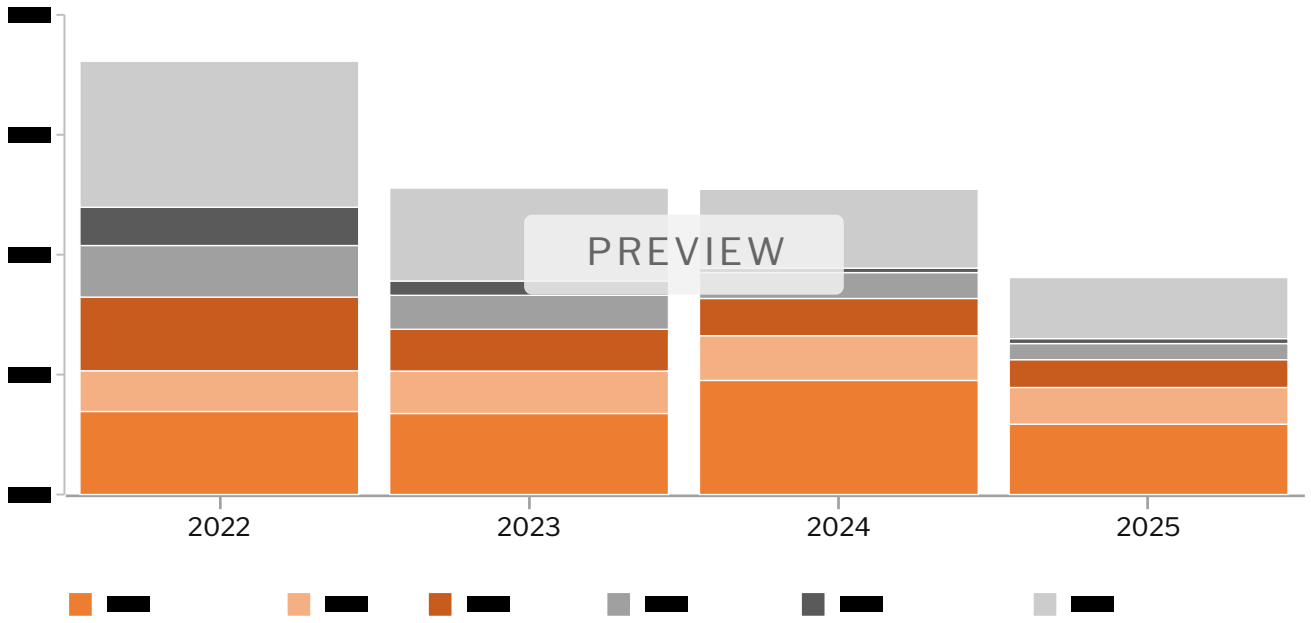
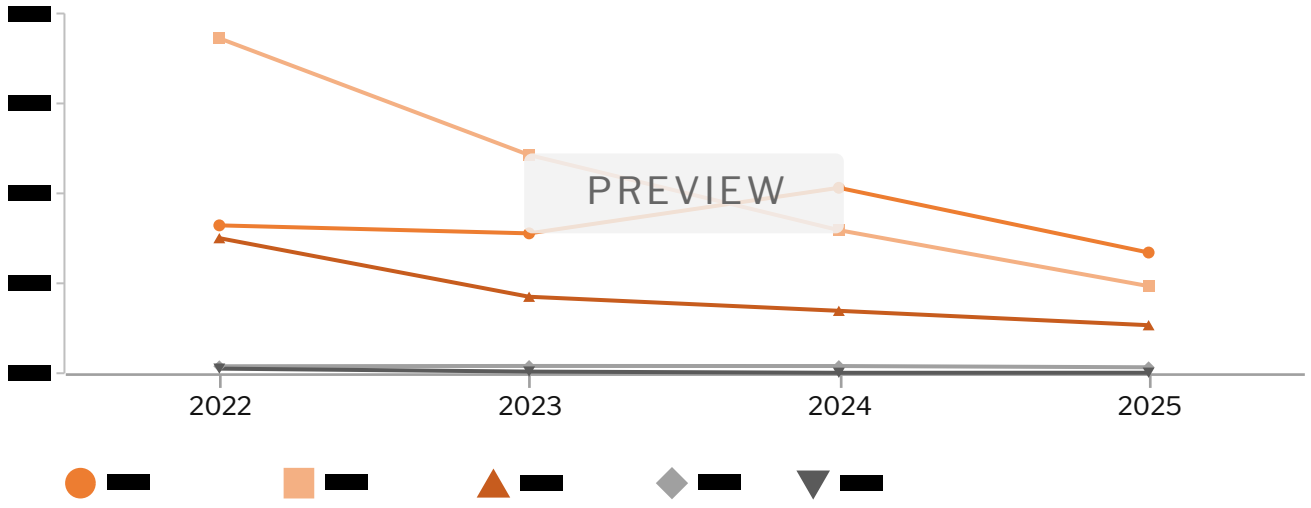


Figure 5.17 Japan Energy Exports as % of Buyers' GDP, 2022 to Dec 2025



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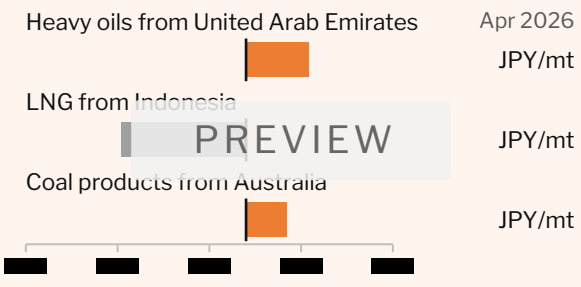
6

Freight and Insurance

This chapter shows what it costs to ship energy by sea to and from Japan: maritime freight and marine insurance, both part of the price a buyer pays and of what a seller receives. Routes follow the report's five shipping categories: heavy oils, light fuels, hydrocarbon gas liquids (HGL), liquefied natural gas (LNG) and coal products. "Appendix A. Glossary and Methodology" explains each term. What each section covers:

* **Maritime Freight Rates:** each route's freight in the three latest months, with its change over 3 and 12 months.
* **Freight Rates Forecast:** the freight expected over the next six months.
* **Insurance Costs:** the cost of insuring a cargo, as a percent of its value.
* **Netback and Netforward Prices:** what an energy is worth at its destination, with freight and insurance added (netforward), and at its origin, with them taken off (netback).

FREIGHT THIS MONTH



PREVIEW

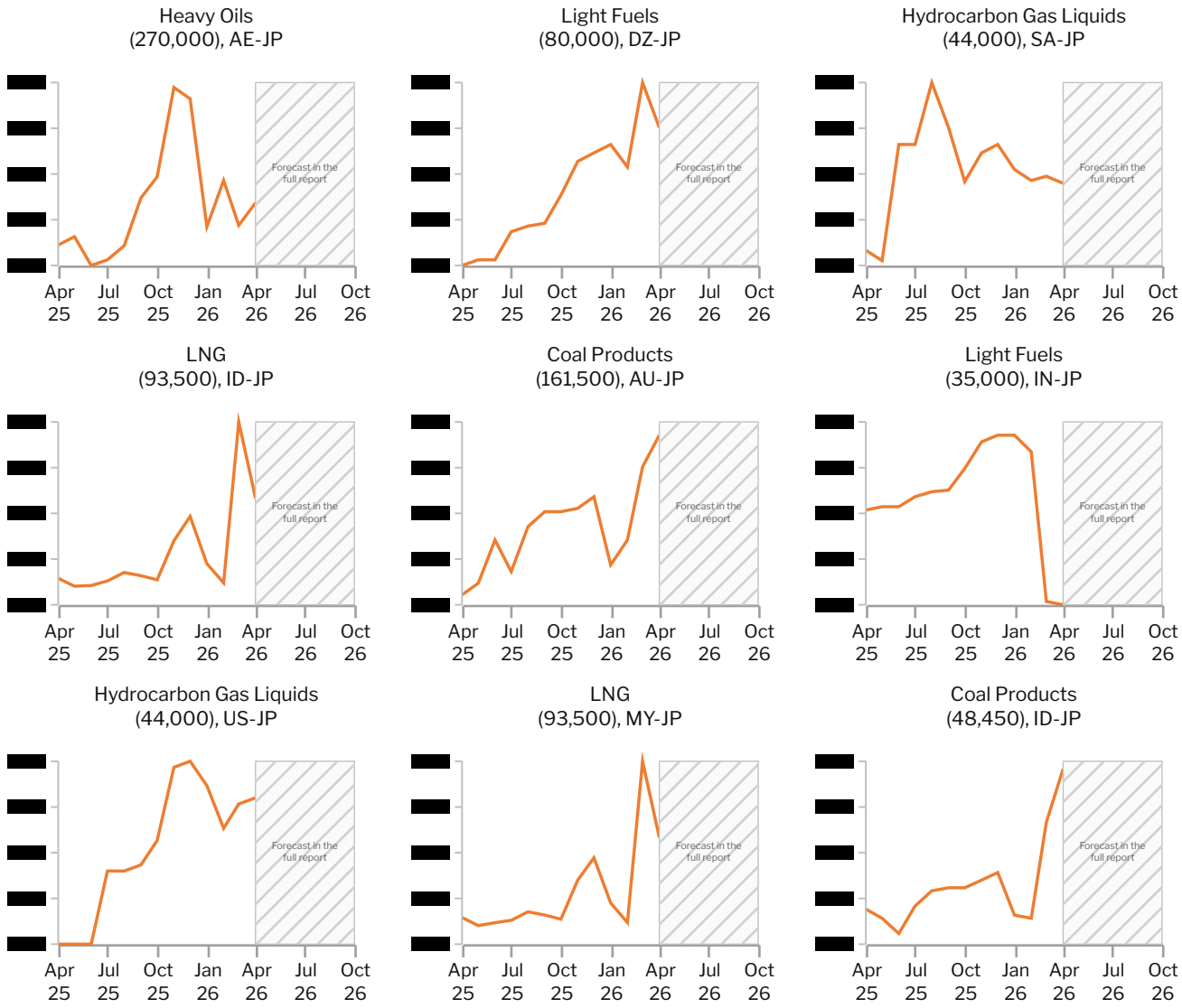
Each bar is one route's change in freight from March 2026 to April 2026, and the number at the right its April 2026 rate: [redacted]; section 6.1 gives every route.

[redacted]

6.1 MARITIME FREIGHT RATES

Maritime freight in April 2026 stands at [redacted], a change of [redacted].

Figure 6.1 Japan Maritime Freight Rates (JPY/mt), Apr 25 to Oct 26



HEAVY OILS

Table 6.1 shows the freight rate of each heavy oil route (crude oil and fuel oil) in the three latest months, newest first, with the vessel size, the 3-month change and the 12-month change.

Table 6.1 Japan Heavy Oil Maritime Freight Rates (JPY/mt)

Origin	Destination	Vessel Size	Apr 26	Mar 26	Feb 26	3-Month Change (%)	12-Month Change (%)
United Arab Emirates	Japan	270,000 mt	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

[redacted]

LIGHT FUELS

Table 6.2 shows the freight rate of each light fuels route (naphtha, gasoline, kerosene and diesel) in the three latest months, newest first, with the vessel size, the 3-month change and the 12-month change.

Table 6.2 Japan Light Fuels Maritime Freight Rates (JPY/mt)

Origin	Destination	Vessel Size	Apr 26	Mar 26	Feb 26	3-Month Change (%)	12-Month Change (%)
Singapore	Japan	35,000 mt	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Brazil	Japan	80,000 mt	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Morocco	Japan	80,000 mt	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
India	Japan	35,000 mt	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Algeria	Japan	80,000 mt	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Saudi Arabia	Japan	55,000 mt	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

[redacted]

HYDROCARBON GAS LIQUIDS

Table 6.3 shows the freight rate of each hydrocarbon gas liquids route (LPG and other natural gas liquids) in the three latest months, newest first, with the vessel size, the 3-month change and the 12-month change.

Table 6.3 Japan Hydrocarbon Gas Liquids Maritime Freight Rates (JPY/mt)

Origin	Destination	Vessel Size	Apr 26	Mar 26	Feb 26	3-Month Change (%)	12-Month Change (%)
Australia	Japan	44,000 mt	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
United States	Japan	44,000 mt	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Saudi Arabia	Japan	44,000 mt	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

[redacted]

LNG

Table 6.4 shows the freight rate of each LNG route in the three latest months, newest first, with the vessel size, the 3-month change and the 12-month change.

Table 6.4 Japan LNG Maritime Freight Rates (JPY/mt)

Origin	Destination	Vessel Size	Apr 26	Mar 26	Feb 26	3-Month Change (%)	12-Month Change (%)
Malaysia	Japan	93,500 mt	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Indonesia	Japan	93,500 mt	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
United States	Japan	93,500 mt	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Australia	Japan	93,500 mt	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

[redacted]

COAL PRODUCTS

Table 6.5 shows the freight rate of each coal products route (coal and solid coal products) in the three latest months, newest first, with the vessel size, the 3-month change and the 12-month change.

Table 6.5 Japan Coal Products Maritime Freight Rates (JPY/mt)

Origin	Destination	Vessel Size	Apr 26	Mar 26	Feb 26	3-Month Change (%)	12-Month Change (%)
Indonesia	Japan	48,450 mt	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Australia	Japan	161,500 mt	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

[redacted]

6.2 FREIGHT RATES FORECAST

The tables below give the forecast freight rate of each route for the six months after April 2026: [redacted].

HEAVY OILS

The table below gives the forecast freight rate of each heavy oil route (crude oil and fuel oil) for the six months after April 2026: [redacted].

Table 6.6 Japan Heavy Oil Maritime Freight Rate Forecasts (JPY/mt)

Origin	Destination	Vessel Size	May 26	Jun 26	Jul 26	Aug 26	Sep 26	Oct 26
United Arab Emirates	Japan	270,000 mt	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

LIGHT FUELS

The table below gives the forecast freight rate of each light fuels route (naphtha, gasoline, kerosene and diesel) for the six months after April 2026: [redacted].

Table 6.7 Japan Light Fuels Maritime Freight Rate Forecasts (JPY/mt)

Origin	Destination	Vessel Size	May 26	Jun 26	Jul 26	Aug 26	Sep 26	Oct 26
Singapore	Japan	35,000 mt	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Brazil	Japan	80,000 mt	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
India	Japan	35,000 mt	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Algeria	Japan	80,000 mt	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

HYDROCARBON GAS LIQUIDS

The table below gives the forecast freight rate of each hydrocarbon gas liquids route (LPG and other natural gas liquids) for the six months after April 2026: [redacted].

Table 6.8 Japan Hydrocarbon Gas Liquids Maritime Freight Rate Forecasts (JPY/mt)

Origin	Destination	Vessel Size	May 26	Jun 26	Jul 26	Aug 26	Sep 26	Oct 26
Australia	Japan	44,000 mt	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
United States	Japan	44,000 mt	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Saudi Arabia	Japan	44,000 mt	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

LNG

The table below gives the forecast freight rate of each LNG route for the six months after April 2026: [redacted].

Table 6.9 Japan LNG Maritime Freight Rate Forecasts (JPY/mt)

Origin	Destination	Vessel Size	May 26	Jun 26	Jul 26	Aug 26	Sep 26	Oct 26
Malaysia	Japan	93,500 mt	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Indonesia	Japan	93,500 mt	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

6.3 INSURANCE COSTS

The table below shows the cost of marine insurance for each energy, in percent of the price with freight paid (CFR), in April 2026: [redacted].

Table 6.10 Marine Insurance Costs by Energy (% of CFR Price)

Commodity	Shipping Category	Apr 26	Mar 26	2026 (i)	2025	2024	2023
Naphtha	Light Fuels	[redacted]					
Propane	Hydrocarbon Gas Liquids	[redacted]					
Butane	Hydrocarbon Gas Liquids	[redacted]					
Ethanol	Light Fuels	[redacted]					
Coal	Coal Products	[redacted]					
Natural Gas	LNG	[redacted]					
Crude Oil	Heavy Oils	[redacted]					
LPG	Hydrocarbon Gas Liquids	[redacted]					
Kerosene	Light Fuels	[redacted]					
Diesel	Light Fuels	[redacted]					
Fuel Oil	Heavy Oils	[redacted]					
Gasoline	Light Fuels	[redacted]					
Biodiesel	Light Fuels	[redacted]					

(i) Data for 2026 are incomplete and represent January to October values only.

6.4 NETBACK AND NETFORWARD PRICES

A netforward price is the price of an energy delivered at its destination: the free-on-board (FOB) price at the port of origin plus maritime freight and insurance gives the delivered (CIF) price. A netback price goes the other way: the CIF price at the destination less freight and insurance gives the price at the origin. The two formulas:

Netback Price (FOB) = CIF Price − (Maritime Freight + Insurance)

Netforward Price (CIF) = FOB Price + (Maritime Freight + Insurance)

Any price of the report fits the formulas: FOB and CIF prices are in "Chapter 2. Current Prices", freight rates in section 6.1 and insurance in section 6.3. Insurance is a percentage of the CFR price, the FOB price plus the maritime freight; that percentage of the CFR price is the insurance amount the formulas add or take away.

Figure 6.2 shows the two formulas step by step: from the FOB price at the origin, freight and insurance are added to reach the CIF price at the destination, and taken away to go back.

Figure 6.2 Netforward and Netback Price Calculation

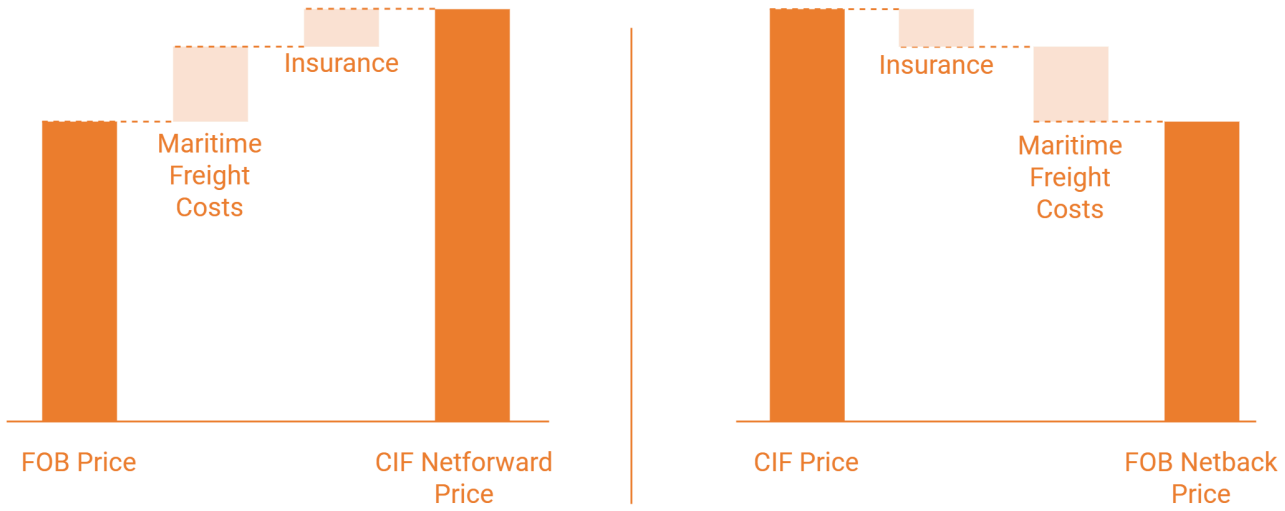


Table 6.11 shows worked examples for Japan: for each energy and route, the distance and sailing time, the FOB price, the freight and the insurance in the price's own unit, and the CIF price. The price marked (N) is the one calculated with the formulas.

Table 6.11 **Japan Netback and Netforward Prices, Apr 26**

Origin	Destination	Distance / Shipping Time	FOB Price	Freight	Insurance	CIF Price
Naphtha (heavy), import spot price (JPY/mt)						
Saudi Arabia	Japan	7,210 nm / 14 d	[redacted]	[redacted]	[redacted]	[redacted]
Naphtha (heavy), import spot price (JPY/mt)						
India	Japan	4,250 nm / 12 d	[redacted]	[redacted]	[redacted]	[redacted]
Naphtha (heavy), import spot price (JPY/mt)						
Singapore	Japan	2,730 nm / 6 d	[redacted]	[redacted]	[redacted]	[redacted]

A netback example from the table above: a delivered price of [redacted] (CIF), less the maritime freight of [redacted] and the insurance of [redacted], gives the netback price of [redacted] (FOB) at the origin.

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A

Glossary and Methodology

The terms of the report and the method behind its prices, forecasts and market data follow, in two parts:

* **Glossary:** each price type, energy group and energy flow, in one or two sentences, with the same meaning in every chapter.
* **Methodology:** how Intratec collects, checks and calculates its prices, forecasts and market data.

Complementary Documents

Every term and abbreviation of the report is in the Glossary & Abbreviations document:
► https://intrat.ec/glossary

The method in full is in the General Methodology Guide:
► https://intrat.ec/iep-methodology

A.1 GLOSSARY

PRICING BASIS

Compiled Prices are modeled using price data from public sources, and their raw data consist of some price series (value per quantity) over a month.

Formula-Based Prices are prices calculated using related commodity prices, economic indicators, and regression models.

Freight-Based Prices adjust product values to include maritime freight costs, resulting in Netback and Netforward prices. Netback deducts freight costs to reflect the product value at the loading terminal, while Netforward adds freight costs to estimate the product value at the destination terminal.

Manufacturing Cost-Based Prices are based on operating costs, including raw materials and utilities. One example is the cash cost, which represents the out-of-pocket expenses manufacturers pay to produce a commodity, including raw materials, utilities, labor, maintenance, taxes, and fees.

Preliminary Prices are best estimates for the latest months, while official trade data are still due, usually one to three months. Mathematical models set them from related prices that are already published, and the official figures replace them when they arrive.

Transaction Prices are prices derived from trade data and calculated by filtering out data that fall outside a minimum traded quantity and then applying a univariate outlier detection algorithm to remove inaccurate data.

Unit Values are prices calculated by dividing the total amount of money by the total quantity of a given commodity in each month traded by a specific country as reported by countries' customs authorities, with no statistical treatment.

WHERE TO FIND OUT MORE

Each price type above, in more detail:

► https://intrat.ec/iep-methodology-prices

ENERGY COMMODITIES DEFINITIONS

Biofuels are renewable fuels derived from organic materials (biomass), such as plants, agricultural residues, animal fats, and waste. They serve as alternatives to fossil fuels in transportation, heating, and electricity generation, including liquid, gaseous, and solid biofuels.

Biomass and Waste refers to organic materials from plants, animals, or waste that can be converted into biofuels (e.g., ethanol, biodiesel), biogas, or burned for energy. Key sources include agricultural residues, forestry waste, municipal solid waste, animal manure, and dedicated energy crops.

Coal Products include processed coal used in power generation (thermal coal) and steel production (metallurgical coal). These bulk commodities are typically transported by rail, barge, or ship, requiring specialized handling.

Crude Oil is a liquid fossil fuel extracted from underground reservoirs and refined into products such as gasoline, diesel, and jet fuel.

Diesel is a middle distillate fuel primarily used in diesel engines.

Electricity is an energy carrier generated from fossil fuels, renewables, or nuclear power, used by households, industry and infrastructure.

Fuel Oil is a heavy petroleum product used in power generation, marine engines, and industrial heating. It has high energy content and is a by-product of refining.

Gaseous Biofuels include biogas, produced via anaerobic digestion of organic waste.

Gasoline is a refined petroleum product used in spark-ignition internal combustion engines.

Geothermal Energy harnesses heat from beneath the Earth's surface for electricity generation and direct heating.

Heat is produced directly (e.g., geothermal) or as a by-product of fuel combustion, and used for heating, industrial processes, and energy systems.

Heavy Oils are high-density petroleum products such as fuel oil that require specialized handling. In freight, they are transported under "dirty freight" conditions, referring to tankers carrying unrefined or residual oil products.

Hydro Energy converts the kinetic energy of flowing water into electricity using turbines.

Kerosenes are refined petroleum products used in aviation (jet fuel), heating, and lighting. They are middle distillates.

This is a preview. For the full version, visit: https://intrat.ec/iep

Light Oils are low-density refined petroleum products, such as gasoline, naphtha, and kerosene, that are easier to handle and transport. In freight, they fall under "clean freight" conditions, requiring tanks free from heavy oil residues.

Liquefied Petroleum Gas (LPG) refers to flammable hydrocarbon gases such as propane and butane, used in heating, cooking, transport, and industry.

Liquid Biofuels include ethanol, produced from crops like corn, and biodiesel, derived from vegetable oils or animal fats. Renewable diesel, another liquid biofuel, is a sustainable alternative that closely resembles petroleum diesel in its chemical composition.

Naphtha is a flammable liquid hydrocarbon used primarily as a petrochemical feedstock and industrial solvent. Intratec counts it as an oil product.

Natural Gas is a methane-rich fossil fuel used in heating, electricity generation, and petrochemicals manufacturing. It is processed to remove impurities and can be liquefied (LNG) for transport.

Natural Gas Liquids (NGL) are a mixture of hydrocarbons such as ethane, propane, butane, and pentanes recovered during crude oil or natural gas production.

Nuclear energy is generated through nuclear fission, where uranium atoms split to release heat, producing steam to drive electricity-generating turbines. Nuclear fuels include uranium, thorium, and plutonium.

Primary Energy Sources are raw energy materials extracted from nature, such as crude oil, coal, and natural gas, or harnessed from renewable flows like solar and wind.

Oil corresponds to petroleum and all derivatives, such as refined fuels obtained through the processing of crude oil in refineries. Intratec considers crude oil and all oil products as oil.

Oil Products are refined fuels and derivatives from crude oil, primarily used for energy, transportation, and industry. Intratec categorizes diesel, gasoline, fuel oil, naphtha, and kerosenes as oil products.

Other Oil Products include lubricants, bitumen (asphalt), paraffin waxes, petroleum coke, and petrochemical feedstocks.

Other Feedstocks encompass refinery feedstocks (unfinished oils), synthetic crude oils (e.g., from tar sands or coal liquefaction), and blending components for fuel enhancement.

Renewables are energy sources that naturally replenish, including solar, wind, hydro, geothermal, and biomass. They generate electricity and heat.

Secondary Energy Sources result from processing primary energy sources into more usable forms, such as refined fuels and electricity.

Solar energy is the Sun's radiant energy, harnessed through photovoltaic (PV) cells to generate electricity or solar thermal systems for heating and industrial applications.

Solid Biofuels include wood pellets and briquettes used as substitutes for coal in heating and power generation.

Wind energy converts wind's kinetic energy into electricity using turbines, with blades capturing wind currents to drive generators.

WHERE TO FIND OUT MORE

Every energy above, and every other term of the report:

► https://methodology.intratec.us/glossary/

This is a preview. For the full version, visit: https://intrat.ec/iep

ENERGY COMMODITIES FLOWS

Production refers to the generation of energy from various sources, including fossil fuels extracted through drilling or mining, nuclear power, and renewable sources such as hydropower, wind, and solar energy. Bioenergy, derived from waste materials and biomass, is also part of domestic energy production in many countries.

Demand is the total energy required in a country, calculated as domestic production plus imports, minus exports, minus stock change. In the demand table, Oil Products count only net trade and stock change, because refinery output is already in Oil. It reflects the energy needed to meet industrial, commercial, and residential consumption, including both primary energy sources and those converted into fuels or electricity.

Consumption refers to the direct use of energy by individuals, businesses, and industries for heating, cooling, lighting, transportation, and manufacturing. It also includes non-energy uses (e.g., fossil fuels in chemical production). Energy losses occur during conversion, making final consumption different from total demand.

Imports, Exports, and Net Trade track energy flows across borders. Imports bring energy in, exports send energy out, and net trade shows whether a country is a net importer or exporter.

Trade Partners are the countries a country buys energy from and sells energy to.

negl. = negligible: a value too small to change the reading of the table or chart where it stands.

Stock Change refers to variations in energy inventories over a specific period, reflecting increases (stock builds) or decreases (stock draws).

Domestic Supply of Oil Products represents the total availability of refined petroleum products within a country. It indicates how much oil products are available for domestic consumption.

Energy Balance is the account of a country's energy flows, from production and imports to transformation, consumption, and exports.

Electricity Generation is the production of electricity from various sources, including fossil fuels (coal, natural gas, oil), renewables (hydro, wind, solar, geothermal, biomass), and nuclear power.

Energy Self-Sufficiency is a country's energy production as a share of its energy demand.

WHERE TO FIND OUT MORE

How Intratec measures each energy flow above:

► https://intrat.ec/iep-methodology-market

A.2 METHODOLOGY

Intratec builds its prices, forecasts and market data from official trade statistics and its own price models.

Each edition is released monthly, early in the month, with the latest prices, forecasts and market data.

* **Data Sources and Processing**

Intratec uses public sources only: government statistics, market exchanges and multilateral organizations. Automated pipelines, built by market experts, computer scientists and data analysts, gather the data; manual checks catch errors and bias.

* **Data Analysis**

Collected data are formatted, standardized and normalized for differences in location and quality, and converted at exchange rates so that prices compare. Short-term forecasts use mathematical models and economic indicators.

* **Quality Assurance and Continuous Improvement**

All data are reviewed for inconsistencies and anomalies, against other markets and with statistical tests, and the calculation models are refined with what the reviews find. The list of prices is reviewed against trading practice, so a price can be added, retired or given a new specification.

Complementary Documents

The method in full is in the General Methodology Guide:
► https://intrat.ec/iep-methodology

This is a preview. For the full version, visit: https://intrat.ec/iep

B

Currency and Conversion Factors

Table B.1 shows how many units of each currency one US dollar buys. It lists the euro, the Chinese yuan, the Japanese yen and the pound sterling, which every country's report prints, followed by the report's own currency when it is none of these and not the US dollar.

The columns give one rate for each of the three latest months, starting with the data month, the month before the edition month. Next comes the same month a year earlier, which shows how far each currency moved against the US dollar over twelve months. The last four columns give the average of the monthly rates of each of the four full years before the edition year, newest first.

To convert a price, multiply a price in US dollars by a currency's rate to get the price in that currency, or divide a price in that currency by the rate to get it in US dollars. A price per unit keeps its unit through the conversion.

Every rate is quoted against the US dollar, so the rate between two other currencies is the ratio of their two rates. For example, the euros one pound sterling buys are the euro's rate divided by the pound's.

Each rate is rounded to three significant digits only when it prints. A rate prints the same, with no mark, whether its month is final or not, and an empty cell is a month without a rate yet, or a year whose average lacks one of its months. Rates for other currencies and other periods are at the address under the table.

Table B.1 Exchange Rates, Units of Each Currency per US Dollar (USD)

Currency	Apr 26	Mar 26	Feb 26	Apr 25	2025	2024	2023	2022
Euro (EUR)	0.856	0.864	0.846	0.891	0.887	0.924	0.924	0.951
Chinese Yuan (CNY)	6.84	6.89	6.91	7.30	7.19	7.19	7.08	6.71
Japanese Yen (JPY)	159	159	155	144	150	151	140	131
Pound Sterling (GBP)	0.745	0.749	0.736	0.762	0.760	0.783	0.804	0.809

For more currency rates, visit: https://intrat.ec/currency-exchange

Table B.2 Unit Conversion Factors

Name	Symbol	Relation to SI	Name	Symbol	Relation to SI
Volume			Energy		
Cubic meter (SI unit)	m^3		Joule (SI unit)	J	= 1 N.m
Gallon	gal	= 3.785×10^{-3} m^3	British thermal unit	Btu	= 1,055 J
Barrel	bbl (oil)	= 0.1589 m^3	Kilowatt-hour	kWh	= 3.6×10^6 J
Mass			Tonne of oil equivalent	toe	= 11,630 kWh
Kilogram (SI unit)	kg				
Metric ton	mt	= 10^3 kg			
Short ton	st	= 907.2 kg			

SI prefixes: k = 10^3, M = 10^6, G = 10^9, T = 10^{12}, P = 10^{15}. For more unit conversions, visit: https://intrat.ec/unit-conversion

Table B.2 links each unit of volume, mass and energy to its SI unit: the cubic meter for volume, the kilogram for mass and the joule for energy. To move a value between two units, go through the SI unit. For example, a price per barrel divided by 0.1589 is a price per cubic meter.

SI prefixes, listed under the table, give multiples of a unit: one gigajoule (GJ) is 10^9 joules. MMBtu, the unit of many natural gas prices, works differently: it means a million Btu, because M is the Roman numeral for a thousand. One MMBtu is 1.055 GJ, so multiply an energy in MMBtu by 1.055 for gigajoules, and divide a price per MMBtu by 1.055 for a price per gigajoule.

Table B.3 gives a typical density and net calorific value (NCV) for each commodity. The NCV is the heat a fuel releases when it burns, less the heat carried away by the water vapor it forms. The density turns a volume into a mass, and the NCV turns a mass into energy.

Together they take a price from one unit to another: a price per cubic meter divided by the density and multiplied by 1,000 is a price per metric ton, and a price per metric ton divided by the NCV is a price per gigajoule.

Table B.3 Typical Densities and Net Calorific Value (NCV)

Commodity	Density (kg/m³)	NCV (GJ/mt)	Commodity	Density (kg/m³)	NCV (GJ/mt)
Crude Oil	853	45	Diesel	844	45
Natural Gas Liquids	522	50	Fuel Oil	930	40.7
LPG	522	46.2	Coal, anthracite	1,500	30
Naphtha	691	45.3	Ethanol	789	27
Gasoline, regular	741	44.8	Biodiesel, B99	880	37.1
Kerosenes	803	44.6	Renewable Diesel	800	43

Typical values are shown; each price's own values are on the country's page of the price catalog: https://intrat.ec/iep-assessments-catalog/japan

C

Alternative Data Delivery Methods

Besides this PDF report, Energy Prices & Markets data reach subscribers through Microsoft Excel, Microsoft Power BI and a Web API, so the same prices can go straight into their own files and systems. These three formats come with the Advanced Plan at no additional cost; the Starter and Pro Plans receive the PDF report only.

* **Microsoft Excel**

The Intratec Excel Add-In downloads the latest data into Excel with one click, with up to one year of monthly history. The data then work offline and inside existing workbooks, for analysis and reporting.

For more details, visit: https://intrat.ec/delivery-excel

* **Microsoft Power BI**

Subscribers connect Intratec data to their own Power BI dashboards with no extra setup. The dashboards show up to 10 years of monthly price history, updated as each edition is released, beside the subscriber's other business data.

For more details, visit:
► https://intrat.ec/delivery-power-bi

* **Web API**

The Web API returns Intratec data to a program in standard formats (JSON, CSV): historical, current and forecast prices, with up to 10 years of monthly history, for the time span, frequency and currency the subscriber chooses. It serves automated updates and links to business intelligence tools, dashboards and enterprise systems.

For more details, visit: https://intrat.ec/delivery-api

This is a preview. For the full version, visit: https://intrat.ec/iep

D

Price Models Accuracy

ACCURACY INDEX BY PRICE, LAST 3 MONTHS



[redacted] The index runs from 0 to 100%, and higher means a more accurate model.

[redacted]

A price marked (P) is preliminary: the official figure is not out yet, so Intratec's price model estimates it. The official figure usually arrives one to three months later and is compared with the estimate. The tables below show how close the estimates came and how often they moved the right way.

How to read the tables, column by column:

* Price: the price's name, as in the rest of the report.
* Last 3, 6 and 12 Months: the months compared, back from the latest month with a final price.
* MAPA, Mean Absolute Percentage Accuracy: 100% minus the average gap between a preliminary price and its final price (the Mean Absolute Percentage Error, MAPE); 100% means a miss under half a percent on average.
* DA, Directional Accuracy: the share of months in which the model got the price's direction right, up or down.
* AI, Accuracy Index: MAPA and DA in one figure from 0 to 100% for each window; higher means a more accurate model.
* Global MPS, Model Performance Score: the three AIs as zero to five circles, recent months counting most; five full circles (●●●●●) is the top score, and a half circle (◐) counts as half.
* NA: not available, where a price has too few compared months for the window.

D.1 ACCURACY BY PERIOD

IN PLAIN WORDS

A price marked (P) is a preliminary price: Intratec's estimate for a recent month. Official statistics come out one to three months late, but a buyer needs a price now. If August's official figure comes out only in October, the report shows Intratec's estimate until then. The tables below measure how far apart the two were.

Table D.1 shows one row for each price of the country that carries a (P). For each period, the last 3, 6 and 12 months, it gives two numbers: how close the estimates came to the final prices (MAPA) and how often they moved the right way (DA). For both, higher is better.

Table D.1 Preliminary Price Accuracy, MAPA and DA, Last 3, 6 and 12 Months

Price	Last 3 Months		Last 6 Months		Last 12 Months	
	MAPA	DA	MAPA	DA	MAPA	DA
Coal (anthracite), import, cif	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Coal (bituminous), import, cif	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Coal (sub-bituminous), import, cif	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Fuel Oil (light), wholesale, fca	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Fuel Oil (LSFO), industrial sector, dpu	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
LPG (propane, butane and isobutane), retail	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

The model accuracy score for Japan stands at [redacted].

IN PLAIN WORDS

Imagine a preliminary price of 100 whose official figure turned out to be 98: it was 98% accurate. MAPA averages that accuracy over each period. DA asks whether the estimate moved up or down with the final price; 50% means half of the months went the right way. The Accuracy Index (AI) joins both, and 100% is a perfect record.

D.2 MODEL PERFORMANCE SCORE (MPS)

The AI of each window weighs its MAPA and its DA by n, the number of months compared (3, 6 or 12), out of 24, the largest number of months evaluated, so the longer the window, the more its DA counts:

$$\text{Accuracy Index(AI)} = \frac{(\text{MAPA} \times (24 - n) + (\text{DA} \times n))}{24}$$

The MPS weighs the three AIs 5, 3 and 2, so that recent months count most, and prints to the nearest half circle:

$$\text{MPS} = \frac{(0.5 \times \text{Last 3 Months AI} + 0.3 \times \text{Last 6 Months AI} + 0.2 \times \text{Last 12 Months AI})}{20}$$

IN PLAIN WORDS

The Global MPS sums up each price in five circles, like a star rating: a full circle (●) is one point and a half circle (◐) half a point, so ●●●●◐ is 4.5 of 5. The last 3 months weigh the most, so a recent miss costs more than an old one.

Table D.2 shows the same prices, in the same order. Each gets one Accuracy Index (AI) for each period, then its Global MPS in circles. More full circles mean a more accurate price model.

Table D.2 Preliminary Price Accuracy Index (AI) and Model Performance Score (MPS)

Price	Accuracy Index (AI)			Global MPS
	3 Months	6 Months	12 Months	
Coal (anthracite), import, cif	[redacted]	[redacted]	[redacted]	[redacted]
Coal (bituminous), import, cif	[redacted]	[redacted]	[redacted]	[redacted]
Coal (sub-bituminous), import, cif	[redacted]	[redacted]	[redacted]	[redacted]
Fuel Oil (light), wholesale, fca	[redacted]	[redacted]	[redacted]	[redacted]
Fuel Oil (LSFO), industrial sector, dpu	[redacted]	[redacted]	[redacted]	[redacted]
LPG (propane, butane and isobutane), retail	[redacted]	[redacted]	[redacted]	[redacted]

The model accuracy score for Japan stands at [redacted].

This is a preview. For the full version, visit: https://intrat.ec/iep

E

Price Forecasts Accuracy

FORECAST ACCURACY INDEX BY PRICE, NEXT MONTH, LAST 6 MONTHS



The index runs from 0 to 100%, and higher means a more accurate forecast.

Once a month's final price is known, it is compared with two forecasts Chapter 4 made for it: the next-month (M1) forecast, made one month ahead, and the six-month (M6) forecast, made six months ahead. The tables below show how close each came and how often it got the direction right.

How to read the tables, column by column:

* Price: the price's name, as in the rest of the report.
* Last 3, 6 and 12 Months: the months compared, back from the latest month with a final price.
* MAPA, Mean Absolute Percentage Accuracy: 100% minus the average gap between forecast and final prices (the Mean Absolute Percentage Error, MAPE); 100% means a miss of less than half a percent on average.
* DA, Directional Accuracy: the share of months the forecast called the direction right, up or down.
* AI, Accuracy Index: MAPA and DA in one figure from 0 to 100% for each window; higher means a more accurate forecast.
* Global MPS, Model Performance Score: the three AIs as zero to five circles, recent months counting most; five full circles (●●●●●) is the top score, and a half circle (◐) counts as half.
* Relative performance, six-month forecast: Intratec's MAPA divided by that of the Naïve model, which keeps the price constant; above 100%, Intratec's was the more accurate.
* NA: not available, where a price has too few compared months for the window.

E.1 NEXT-MONTH FORECAST ACCURACY

IN PLAIN WORDS

Imagine it is October: the next-month (M1) forecast says what a price will be in November, and the six-month (M6) forecast what it will be in April. The further ahead, the more room the price has to move, so the six-month forecast also gets its own test, against the Naïve model, in the last table.

Table E.1 shows one row for each price that Chapter 4 forecasts. For each period, the last 3, 6 and 12 months, it gives two numbers for the next-month forecast: how close it came to the final prices (MAPA) and how often it got the direction right (DA). For both, higher is better.

Table E.1 Next-Month Forecast Accuracy, MAPA and DA, Last 3, 6 and 12 Months

Price	Last 3 Months		Last 6 Months		Last 12 Months	
	MAPA	DA	MAPA	DA	MAPA	DA
Crude Oil (sour), import, cif	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Ethanol (anhydrous), import, cif	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Gasoline (premium), import, cfr	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Kerosene (jet fuel), import, cfr	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Propane, import, cfr	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Naphtha (heavy), import, cfr	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

The forecast accuracy score for Japan stands at [redacted].

IN PLAIN WORDS

Imagine a forecast of 100 for a month whose final price turned out to be 98: it was 98% accurate. MAPA averages that accuracy over each period. DA asks a simpler question: did the forecast get the direction right, up or down? 50% means half of the months went the right way. The Accuracy Index (AI) joins both, and 100% is a perfect record.

The AI of each window weighs its MAPA and its DA by n, the number of months compared (3, 6 or 12), out of 24, the largest number of months evaluated, so the longer the window, the more its DA counts:

$$\text{Accuracy Index(AI)} = \frac{(\text{MAPA} \times (24 - n) + (\text{DA} \times n))}{24}$$

The MPS weighs the three AIs 5, 3 and 2, so that recent months count most, and prints to the nearest half circle:

$$\text{MPS} = \frac{(0.5 \times \text{Last 3 Months AI} + 0.3 \times \text{Last 6 Months AI} + 0.2 \times \text{Last 12 Months AI})}{20}$$

IN PLAIN WORDS

The Global MPS sums up each price in five circles, like a star rating: a full circle (●) is one point and a half circle (◐) half a point, so ●●●●◐ is 4.5 of 5. The last 3 months weigh the most, so a recent miss costs more than an old one.

Table E.2 shows the same next-month forecasts, in the same order. Each gets one Accuracy Index (AI) for each period, then its Global MPS in circles. More full circles mean a more accurate forecast.

Table E.2 Next-Month Forecast Accuracy Index (AI) and Model Performance Score (MPS)

Price	Accuracy Index (AI)			Global MPS
	3 Months	6 Months	12 Months	
Crude Oil (sour), import, cif	[redacted]	[redacted]	[redacted]	[redacted]
Ethanol (anhydrous), import, cif	[redacted]	[redacted]	[redacted]	[redacted]
Gasoline (premium), import, cfr	[redacted]	[redacted]	[redacted]	[redacted]
Kerosene (jet fuel), import, cfr	[redacted]	[redacted]	[redacted]	[redacted]
Propane, import, cfr	[redacted]	[redacted]	[redacted]	[redacted]
Naphtha (heavy), import, cfr	[redacted]	[redacted]	[redacted]	[redacted]

The forecast accuracy score for Japan stands at [redacted].

E.2 SIX-MONTH FORECAST ACCURACY

IN PLAIN WORDS

The Naïve model is the simplest forecast there is: if a price is 100 today, it forecasts 100 for every month ahead. A ratio above 100% means Intratec's six-month forecast came closer to the final prices than that guess; below 100%, the guess came closer.

The six-month forecast is judged against a forecast that keeps the price constant, the Naïve model, by the ratio of the two MAPAs:

$$\text{Relative Performance Ratio} = \frac{\text{Intratec Model MAPA}}{\text{Naïve Model MAPA}}$$

Table E.3 shows how each six-month forecast did against the Naïve model, over the last 3, 6 and 12 months. Above 100%, Intratec's forecast was the more accurate of the two.

Table E.3 Six-Month Forecast Accuracy Relative to a Constant Price (Intratec MAPA over Naïve MAPA)

Price	Last 3 Months	Last 6 Months	Last 12 Months
Crude Oil (Sour), import, cif	[redacted]	[redacted]	[redacted]
Diesel, export, fob	[redacted]	[redacted]	[redacted]
Fuel Oil (HFO), export, fob	[redacted]	[redacted]	[redacted]
Gasoline (Premium), import, cfr	[redacted]	[redacted]	[redacted]
Propane, import, cfr	[redacted]	[redacted]	[redacted]
Butane (n-), import, cfr	[redacted]	[redacted]	[redacted]
Naphtha (Heavy), import, cfr	[redacted]	[redacted]	[redacted]

The forecast accuracy score for Japan stands at [redacted].

This is a preview. For the full version, visit: https://intrat.ec/iep

F

Global Prices Comparison

The average energy price in Japan stands at [redacted], against [redacted] elsewhere.

Each country enters each comparison with the price it publishes for that energy, and in every ranking rank 1 is the lowest price. The comparison runs from the whole economy to each energy, in three parts:

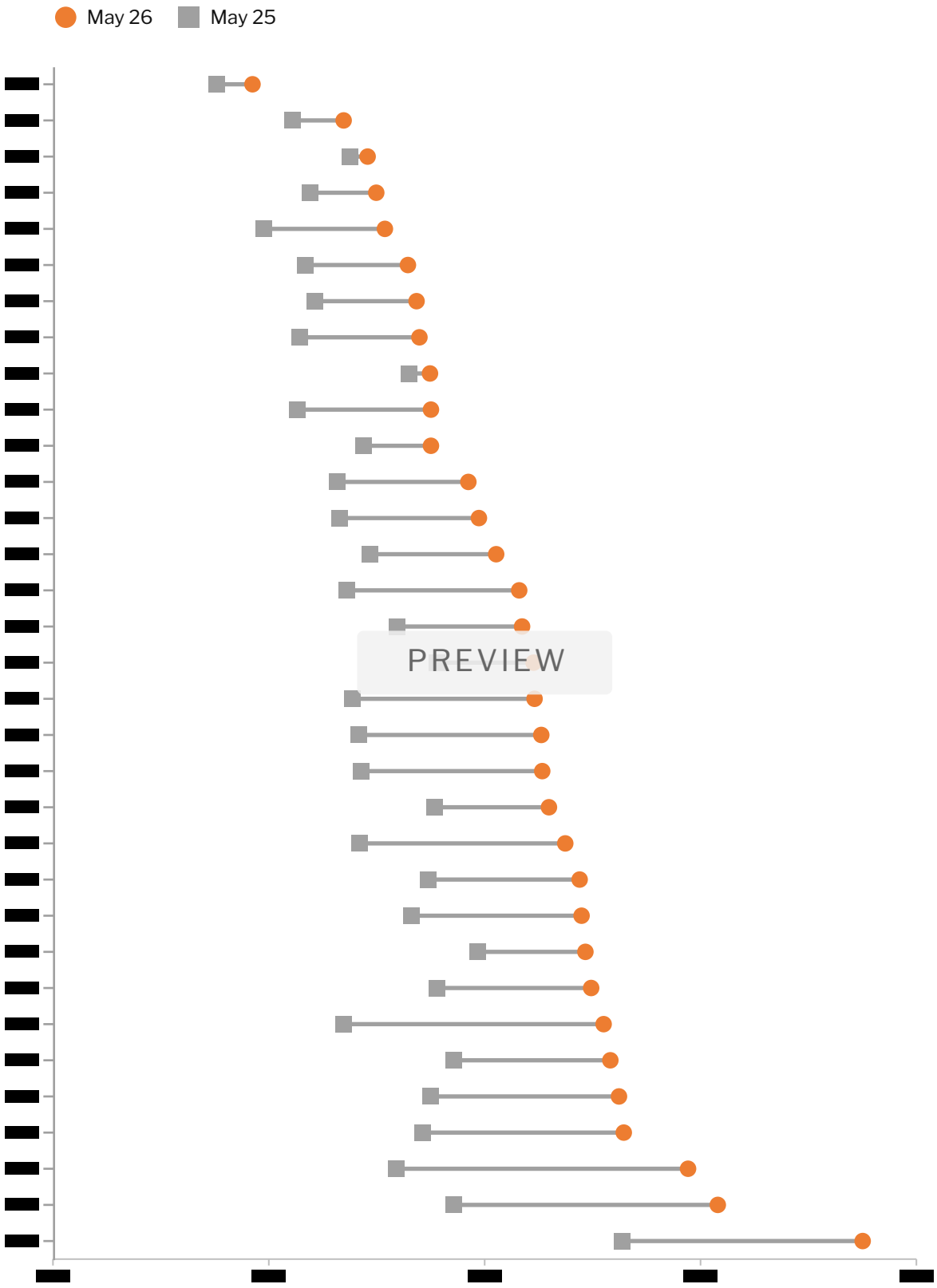
* Average Energy Price: one price for the energy of the whole economy, each energy weighted by how much the country uses, ranked across the countries and then followed month by month.
* Industry and Households: the electricity prices that plants and households pay, against the mean of the countries.

In each figure over time, the shaded band is the P10 to P90 range: one in ten countries had a price below it, and one in ten above it.

F.1 AVERAGE ENERGY PRICE

[redacted]

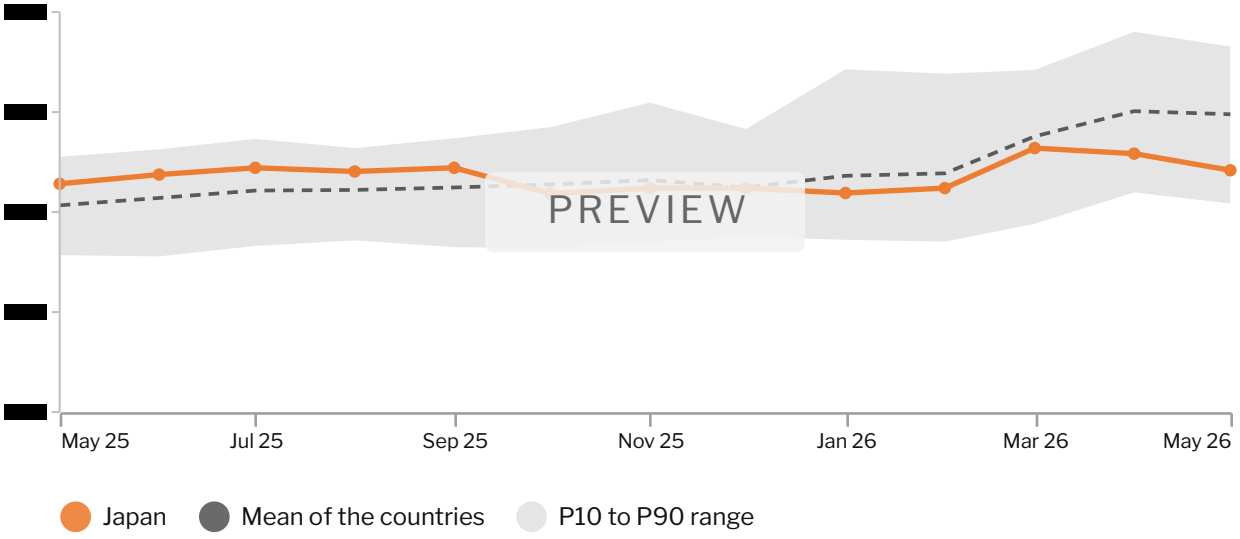
Figure F.1 **Average Energy Price Comparison Worldwide**



This is a preview. For the full version, visit: https://intrat.ec/iep

[redacted]

Figure F.2 Japan Average Energy Price Against the Countries, May 25 to May 26 (JPY/MMBtu)



F.2 ENERGY BY ENERGY

Each energy has its own page, in the same form. One figure sets the price in Japan against the mean of the countries and the P10 to P90 range; the other ranks the countries by that price.

WHAT DO P10 AND P90 MEAN?

Imagine the published countries lined up by the price of one energy, from the cheapest to the most expensive. P10 is the price one tenth of the way along the line: one in ten countries pays less. P90 is the price nine tenths of the way along: one in ten countries pays more. The shaded band between them holds the typical prices and leaves out the extremes at both ends. A line near the bottom of the band means the country pays one of the lower prices; near the top, one of the higher.

This is a preview. For the full version, visit: https://intrat.ec/iep

Figure F.3 Japan Natural Gas Price Against the Countries, Jan 23 to Apr 26 (USD/MMBtu)

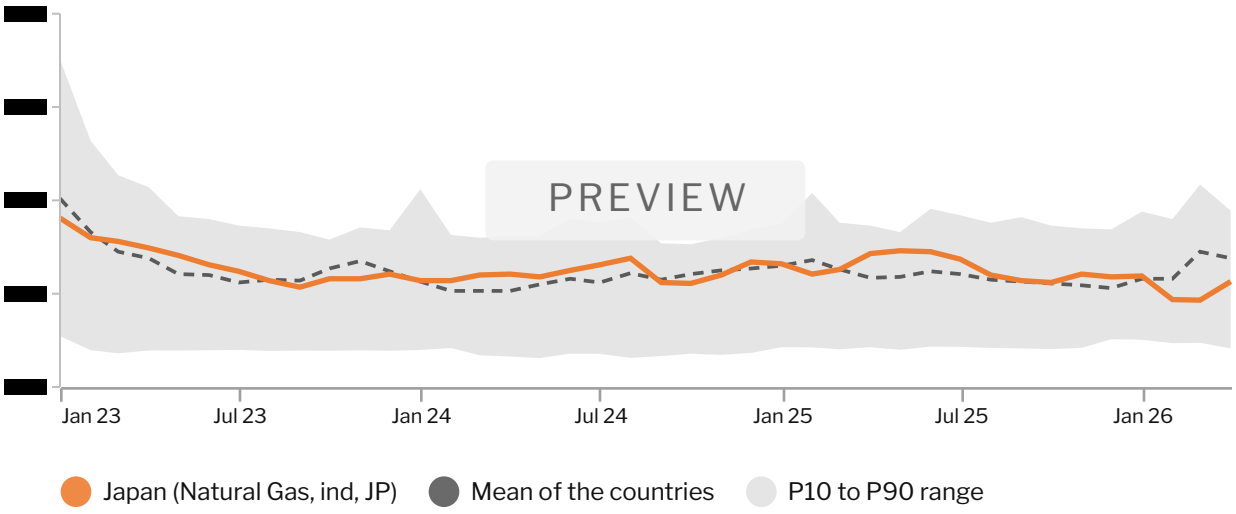
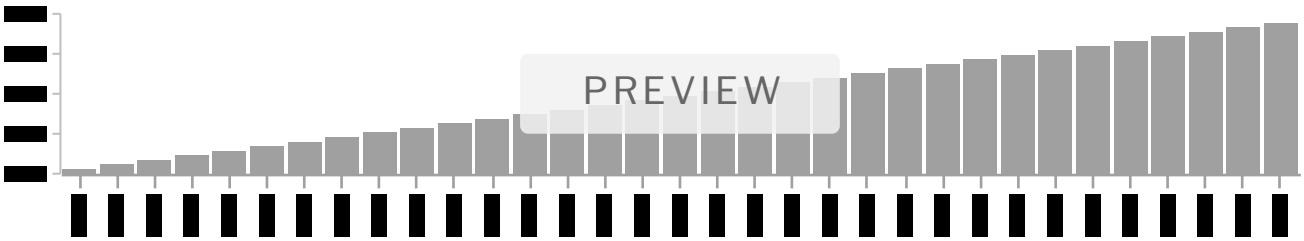


Figure F.4 Natural Gas Price Rankings by Country (Apr 26)



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Figure F.5 **Japan Electricity Price Against the Countries, Jan 23 to Apr 26 (¢/kWh)**

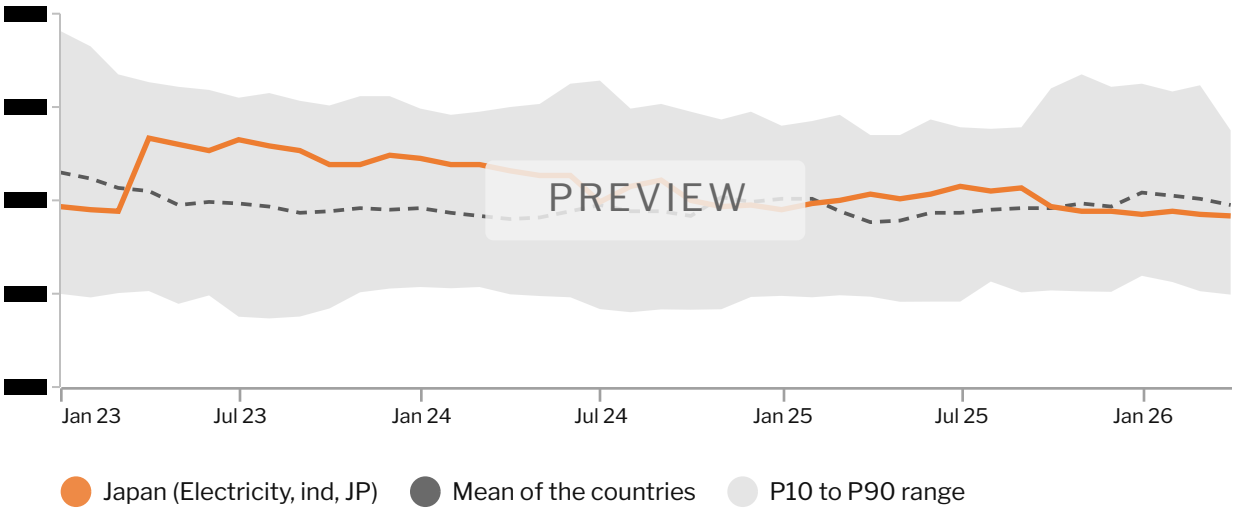


Figure F.6 **Electricity Price Rankings by Country (Apr 26)**

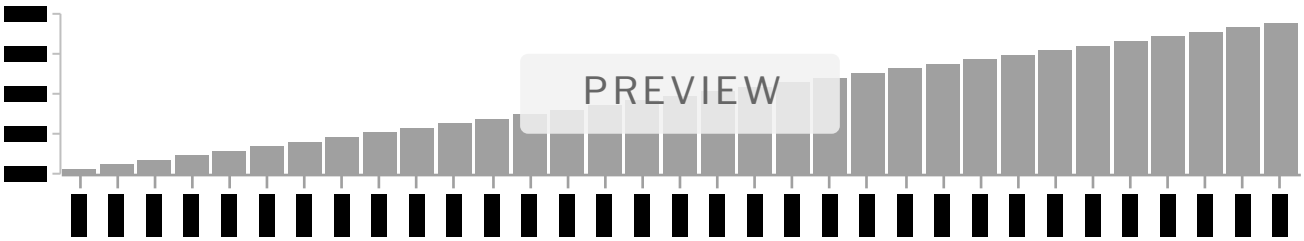


Figure F.7 Japan Gasoline Price Against the Countries, Jan 23 to Apr 26 (USD/m³)

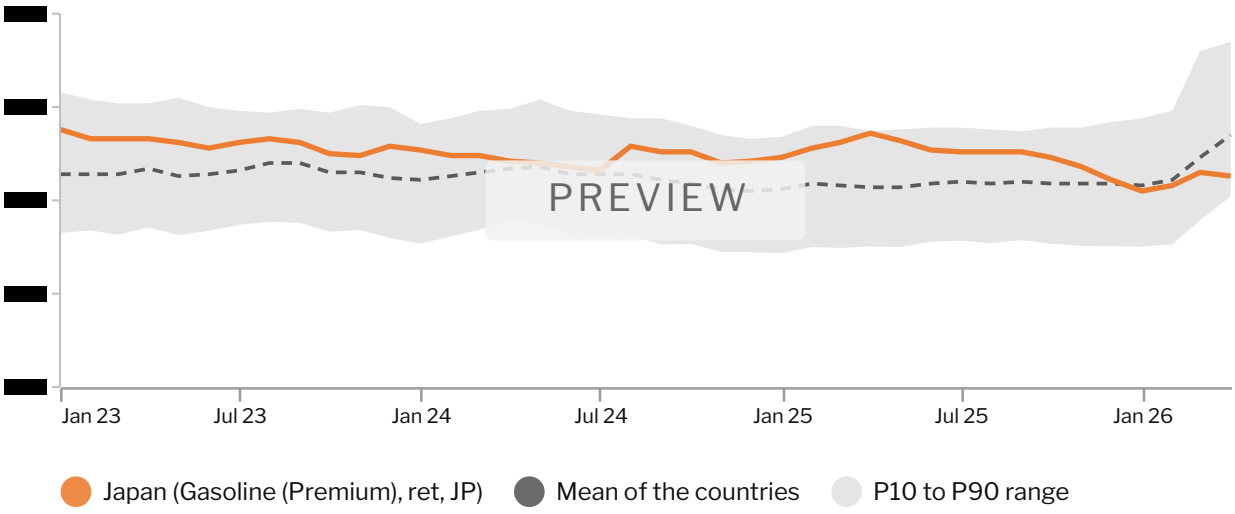
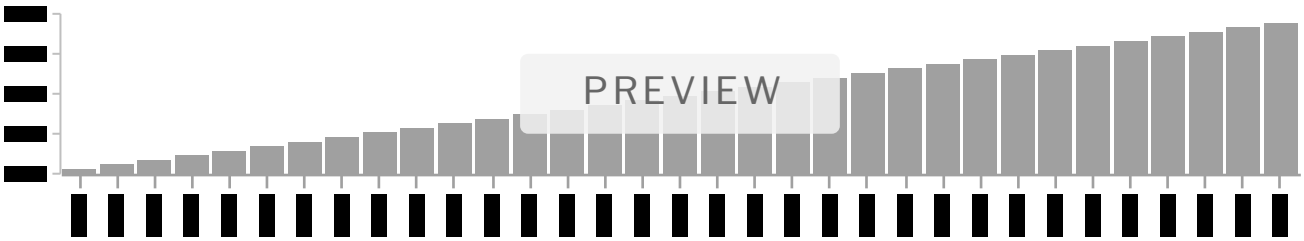


Figure F.8 Gasoline Price Rankings by Country (Apr 26)



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Figure F.9 **Japan Diesel Price Against the Countries, Jan 23 to Apr 26 (USD/m³)**

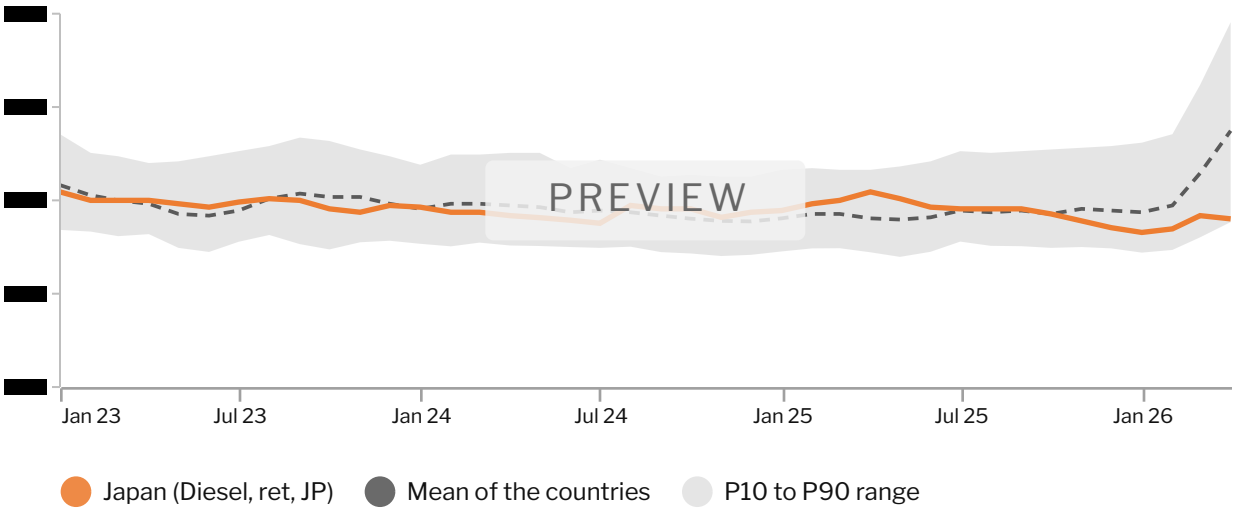


Figure F.10 **Diesel Price Rankings by Country (Apr 26)**

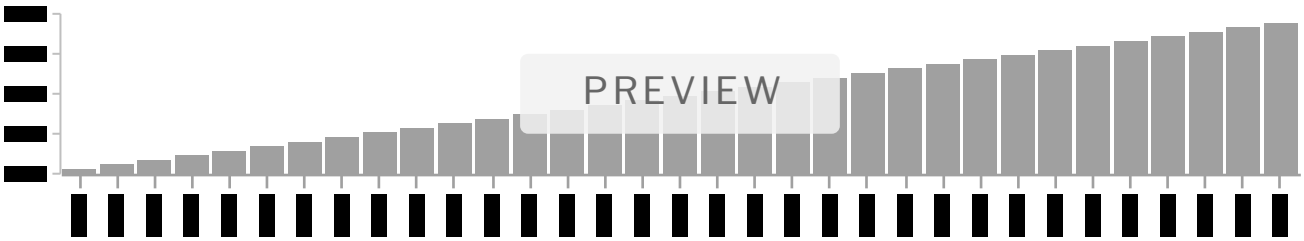


Figure F.11 **Japan Fuel Oil Price Against the Countries, Jan 23 to Apr 26 (USD/mt)**

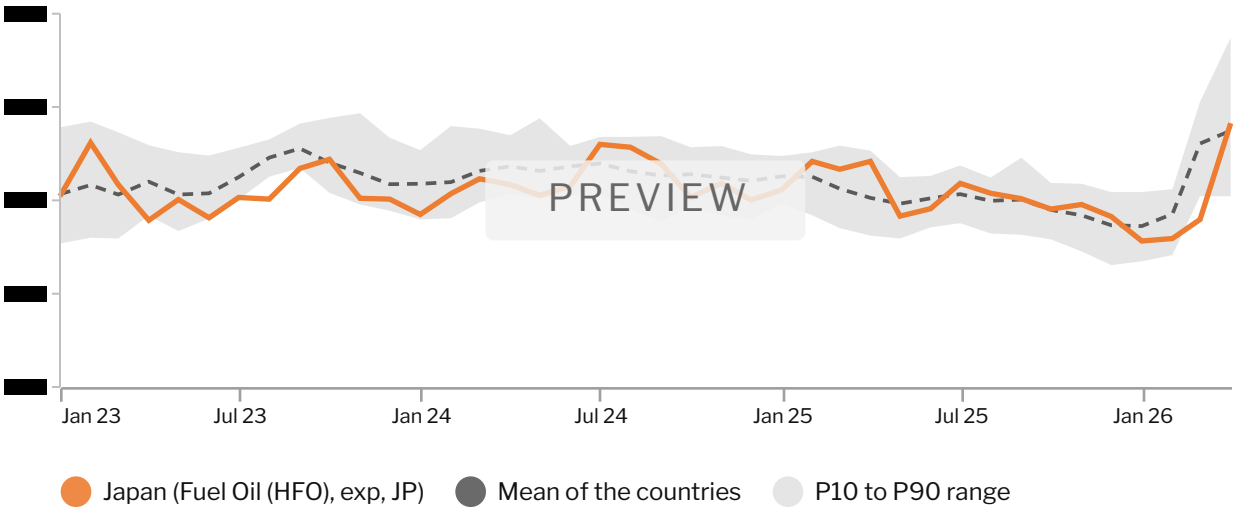
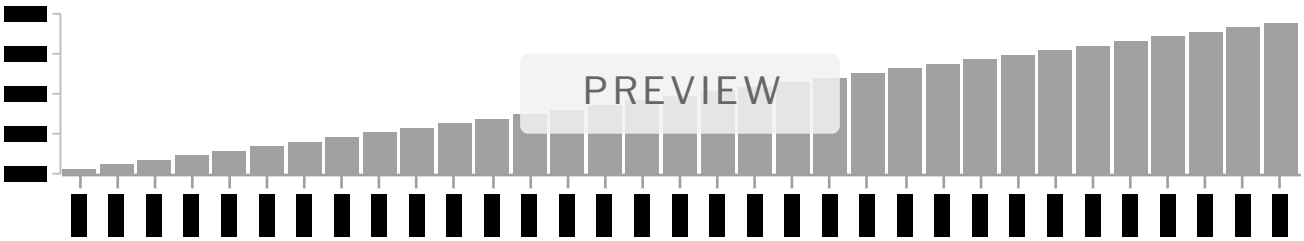


Figure F.12 **Fuel Oil Price Rankings by Country (Apr 26)**



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Figure F.13 Japan Naphtha Price Against the Countries, Jan 23 to Apr 26 (USD/mt)

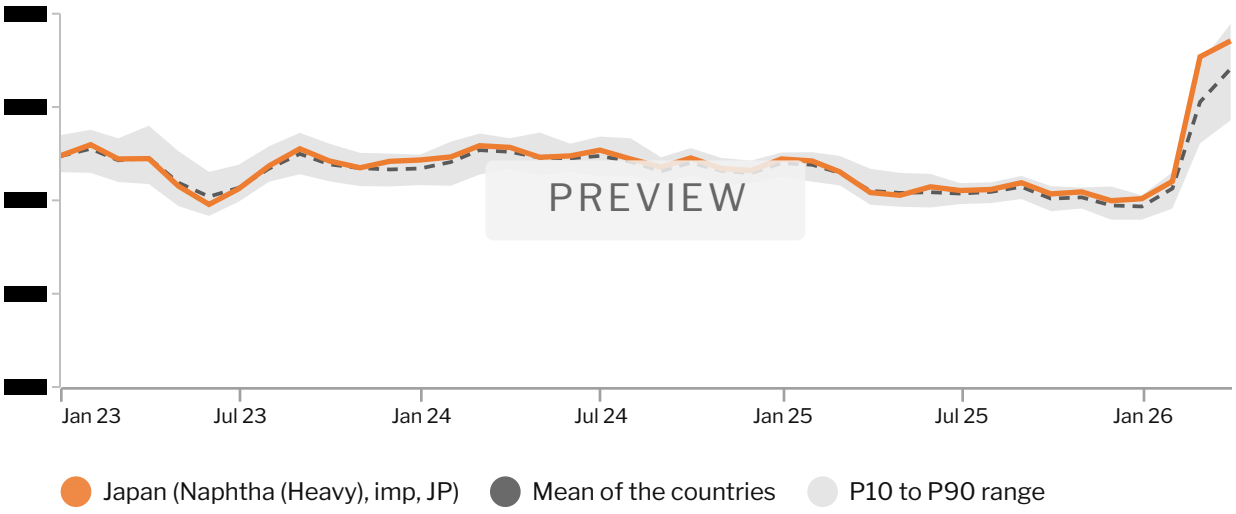
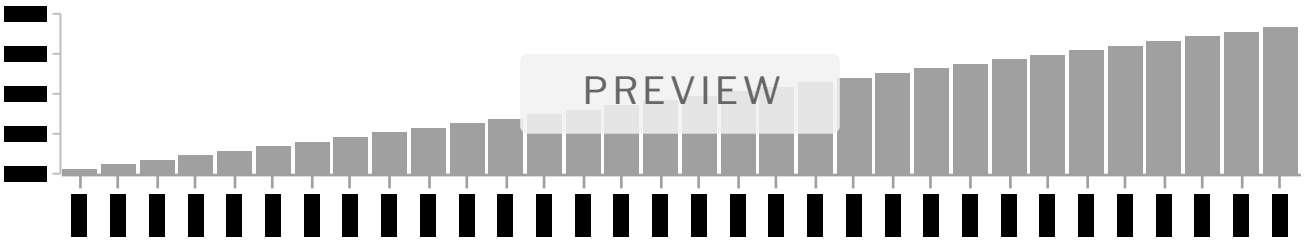


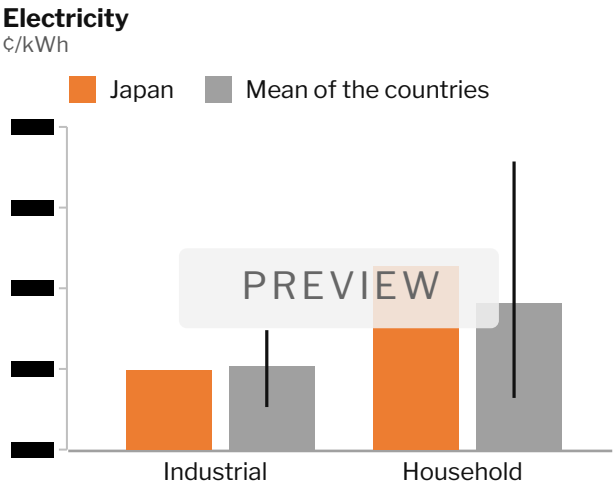
Figure F.14 Naphtha Price Rankings by Country (Apr 26)



This is a preview. For the full version, visit: https://intrat.ec/iep

F.3 INDUSTRY AND HOUSEHOLDS

Figure F.15 Japan Industrial and Household Electricity Prices Against the Countries, Apr 26 (¢/kWh)



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Frequently Asked Questions

Readers ask the same questions about the prices, the plans and the preliminary prices of Intratec Energy Prices & Markets. The answers follow, one question at a time.

WHAT ARE THE LIMITS OF UNIT VALUES FOR PRICE ANALYSIS?

A unit value is the money a country paid or received for a commodity in a month, divided by the quantity traded, as customs authorities report them, with no statistical treatment. Against the prices of Intratec Energy Prices & Markets, unit values have two kinds of limits.

WEAKER THAN TRADE-BASED PRICES

Intratec's trade-based prices come from the international trade data that countries report. Intratec keeps only the data on one commodity with similar specifications and trade terms, drops the transactions below a minimum traded quantity, and removes outliers with a univariate detection algorithm before it calculates the price.

Unit values skip these steps, which leaves two flaws:

* **Aggregation bias:** unit values group different products under broad classes and blend them into one average.
* **No outlier filter:** unit values keep implausible transactions, which Intratec's method removes.

NO MARKET DETAIL

Intratec's compiled prices come from public price sources and keep the market detail that unit values lose:

* **Market:** compiled prices separate wholesale, retail and industrial prices; unit values do not name the market.
* **Price type:** compiled prices separate long-term contract prices from spot prices; unit values mix them.
* **Specification:** compiled prices keep each quality grade apart; unit values average across grades.

WHICH CHAPTERS DOES MY PLAN INCLUDE?

Intratec Energy Prices & Markets comes in three plans: Starter, Pro and Advanced. Each plan prints its own set of chapters, and the Advanced plan prints them all.

The content of each plan is listed at:
► https://intrat.ec/iep-subscription-plans

An active subscription can move to a larger plan at any time, with access to the chapters of that plan. The steps are at https://intrat.ec/upgrade-subscription

ARE INTRATEC PRICES ENOUGH TO SET A CONTRACT?

Some customers use Intratec prices as an index in contracts between suppliers, processors and end customers. Intratec advises against using its prices as the only reference in a contract, and recommends pairing them with other price indexes, such as those of third parties.

The advice does not come from doubts about the accuracy of Intratec's data. A contract tied to several indexes rests on more data sources and on a wider base of market reports.

WHAT DO PRELIMINARY PRICES MEAN?

A price marked (P) is preliminary: Intratec's own price models estimate it until the official data arrive. Intratec's prices rest mainly on official data from public sources, such as national statistics offices, foreign trade agencies and international organizations.

These sources often publish their data 1 to 3 months late. The models fill that gap until the official figures come out.

Appendix D, Price Models Accuracy, shows how close the models came to the official prices.

WHICH PRICES MEASURE THE ACCURACY OF PRELIMINARY PRICES?

No single price is the right one: what a customer pays depends on order size, trade terms, location, contract type and other factors. Intratec builds every price with one method.

The accuracy of a preliminary price is measured against the final price that the same method gives for the same series once the official data arrive. Until then, the preliminary price is Intratec's best estimate.

The method behind every Intratec price is at:
► https://intrat.ec/iep-methodology

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