ENERGY PRICES & MARKETS IN HUNGARY

APRIL 2025

ADVANCED EDITION

BY INTRATEC SOLUTIONS LLC

ENERGY PRICES & MARKETS

SUBSCRIPTION PROGRAM

BY INTRATEC SOLUTIONS LLC

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This report is part of a subscription program providing monthly reports on energy commodity prices and markets, with each report focused on a specific country. The program covers the following 33 countries: United States, Australia, Belgium, Brazil, Canada, Chile, China, Colombia, Czech Republic, Finland, France, Germany, Hungary, India, Indonesia, Italy, Japan, Mexico, Netherlands, Norway, Philippines, Poland, Russia, Saudi Arabia, Singapore, South Africa, South Korea, Spain, Sweden, Taiwan, Thailand, Turkey, and United Kingdom.

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IMPORTANT NOTICE

This document is a preview report provided by Intratec, showcasing the full structure of an energy prices and markets analysis in Hungary.

To protect proprietary data, numerical values have been replaced with “X” placeholders and charts have been intentionally blurred. Nonetheless, this preview faithfully reflects the structure and depth of the commercial report, including the types of tables, charts, and descriptions presented.

Intratec offers multiple preview and sample reports to support purchasing decisions. Therefore, free trials are not available.

An up-to-date commercial report about energy prices and markets in Hungary can be purchased at https://www.intratec.us/iep.

Preamble

Understanding Intratec Energy Prices & Markets Program

Amid a global push for renewable sources and ever-evolving geopolitical dynamics, energy markets have never been more complex or unpredictable. Shifting trade alliances, supply chain disruptions, and volatile pricing trends create a landscape that demands constant monitoring and strategic foresight.

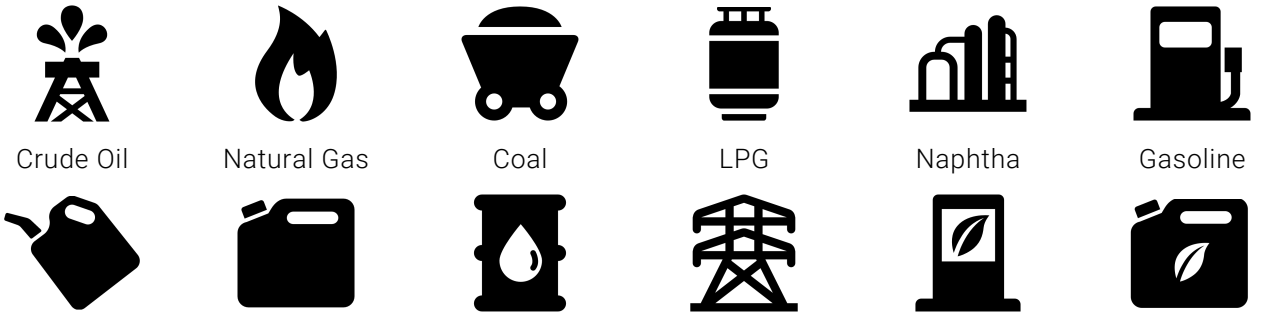
To help businesses and decision-makers navigate such uncertainties, we designed the Intratec Energy Prices & Markets, a subscription-based program that provides monthly reports with comprehensive and up-to-date assessments into the energy prices and markets worldwide.

Each report helps subscribers answer essential questions around a country's energy market, such as:

* How have energy prices changed historically, and recently?
* What are the price forecasts for energy commodities?
* How do local energy prices compare to global market prices?
* What are the key trends in the country's energy production and consumption?
* How are freight and insurance costs affecting the competitiveness of energy imports and exports?
* To what extent is the country self-sufficient in energy production?
* Which are its main energy trade partners, and how reliant is it on energy imports or exports?
* How exposed is the country to financial or supply risks in its energy trade relationships?

Commodities Approached by Report

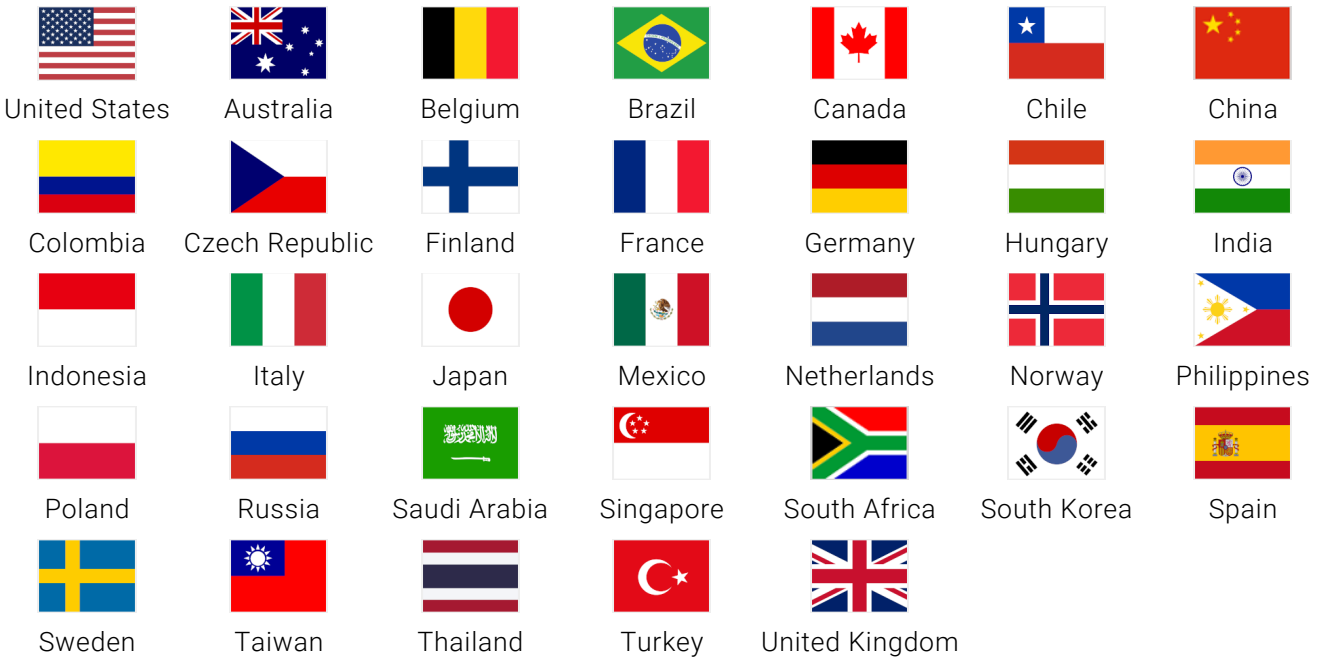
Every report under Intratec Energy Prices & Markets program includes price and market assessments on essential energy commodities:



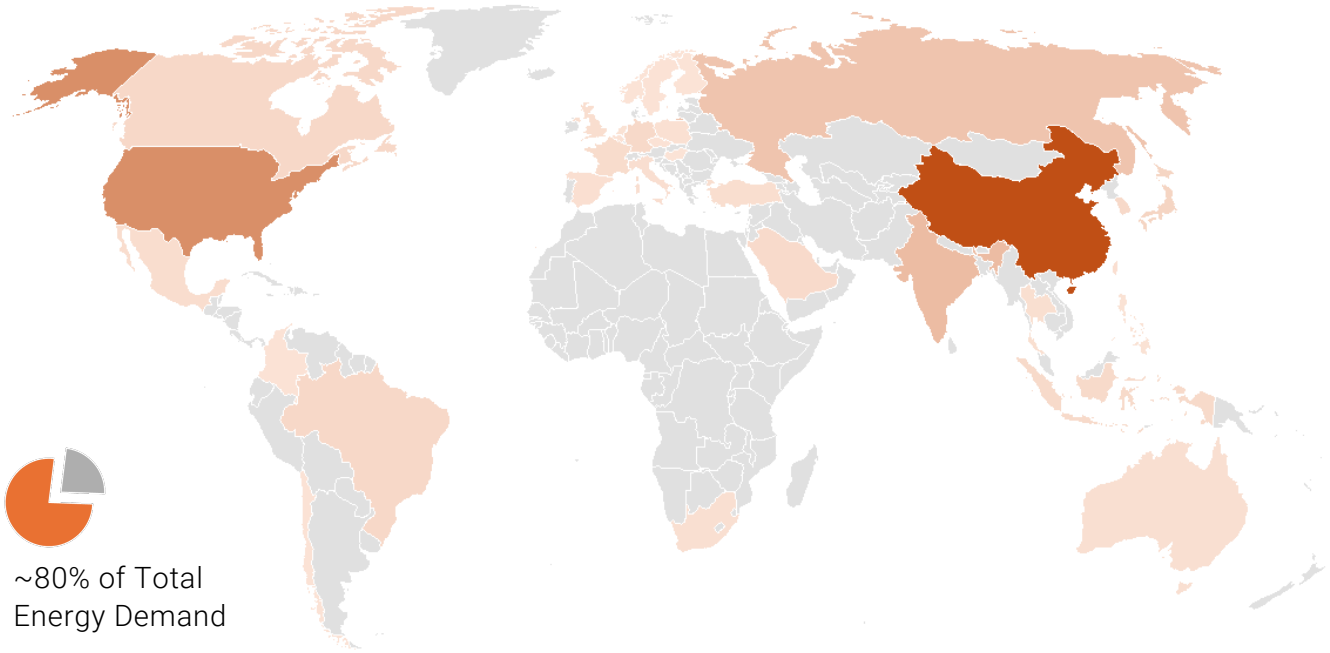
Each report is focused on a specific country. Subscribers receive new PDF reports every month, featuring the latest data and analyses, allowing them to stay informed about market trends.

Available Reports

The Intratec Energy Prices & Markets program offers a selection of 33 country-specific reports, allowing subscribers to choose the countries that matter most to them. Upon subscription, they can tailor the coverage to their specific needs and receive only the selected reports monthly.



Such selection of countries covered in the program encompasses key players in the global energy landscape. These countries collectively account for significant shares of global energy production and demand, ensuring that subscribers gain insights into the most relevant markets influencing supply chains, price dynamics, and industry trends.



How the Program is Organized

Each Intratec Energy Prices & Markets report is dedicated to a specific country, delivering in-depth analyses tailored to the selected location. The scope and depth of insights vary according to the subscription plan, ensuring that subscribers receive the level of detail that best suits their needs. Reports are released at the beginning of each month, providing timely updates on energy prices, forecasts, market trends, and key trade dynamics.

To ensure clarity and consistency, each report follows a structured identification format, which includes a unique code representing the subscription plan, the country covered, the release month and year, and the Intratec Energy Prices & Markets program designation:

INTRATEC-IEP-2403-USA-ADV

- Edition – Report edition code (e.g., ADV)
- Location – Code of the country covered in the report (e.g., USA)
- Issue – Year and month of the release (YYMM format, e.g., 2403)
- Product – Intratec Energy Prices & Markets (IEP)

This organization allows subscribers to effortlessly track their reports and stay up to date with the latest energy market developments in their regions of interest.

Subscription Plans

To meet the diverse needs of our customers, Intratec Energy Prices & Markets is offered through three subscription plans, each providing reports with increasing levels of data coverage and analysis. These reports include key market insights and are released monthly, with different access features depending on the chosen plan.

* Starter Plan. Reports in this plan include the latest monthly prices for key energy commodities, along with a 1-year price history. Reports are updated on the 8th business day of each month. This plan provides online access to read-only PDFs for up to 2 users, making it ideal for those who need essential, regularly updated pricing data.

* Pro Plan. In addition to all the content available in the Starter Plan, reports in this plan include 3 years of historical price data, price forecasts, and key global price benchmarks. Reports are updated earlier, on the 5th business day of each month. This plan allows downloading of PDFs and includes global access for up to 3 users, making it suitable for professionals who require deeper market insights.

* Advanced Plan. This plan provides the most comprehensive reports, covering everything in the Pro Plan plus 10 years of historical prices, global price comparisons, trade balance data, freight and insurance costs, production and demand analysis, and electricity generation by source. Reports are updated on the 3rd business day of the month. The plan also includes advanced access features such as Excel and Power BI integration, API access, and unrestricted internal use for up to 5 users.

For more details on each subscription plan's features, please refer to the full plan comparison at:

► https://www.intratec.us/solutions/energy-prices-markets/features

About this Report

Report Content

This report, focused on Hungary, was released on April 2025 and is organized in fourteen parts:

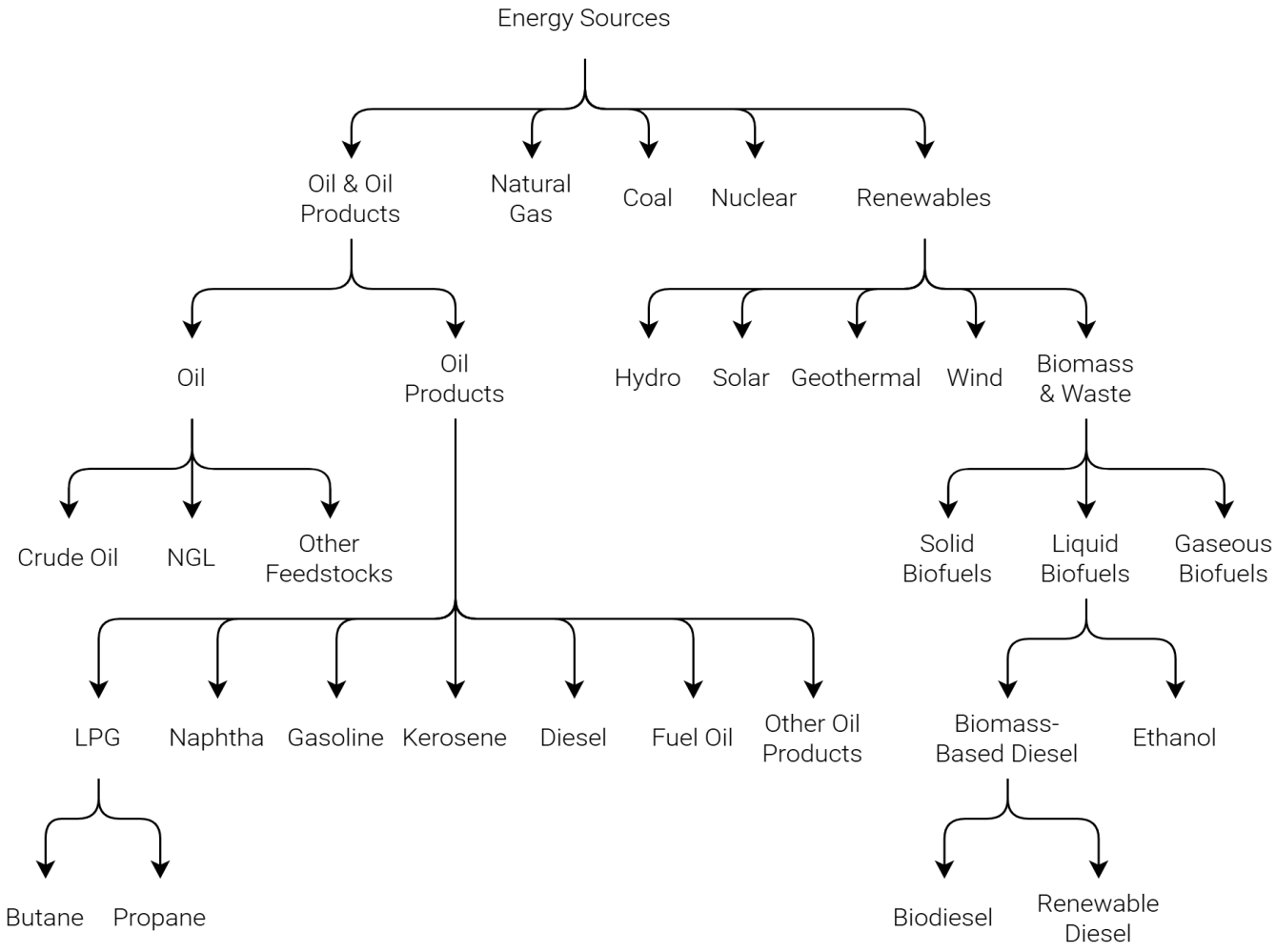
* Executive Summary: Brief context of key energy prices and recent market changes.
* Current Prices: Summary of variations from previous month and year for all assessments.
* Historical Prices: Evolution of energy commodity prices.
* Price Forecasts: Short-term forecasts for selected energy price assessments.
* Market Outlook: Information on energy market, imports, exports, production, and demand in recent years.
* Freight and Insurance: Analysis of freight rates and insurance costs for key trade routes.
* Glossary and Methodology (Appendix): Presentation of key terms and methodology.
* Currency and Unit Conversion Factors (Appendix): Summary of currency rates and unit conversions.
* Alternative Data Delivery Methods (Appendix): Explanation of Intratec's data delivery formats.
* Price Models Accuracy (Appendix): Evaluation of Intratec's preliminary price model accuracies.
* Price Forecasts Accuracy (Appendix): Assessment of relevant global sources price forecast accuracies.
* Global Prices Comparison (Appendix): Comparison of the Hungary energy prices with other countries.
* Frequently Asked Questions (Appendix): Answers to questions about pricing methodologies, data reliability, and key concepts.

Analytical Approach

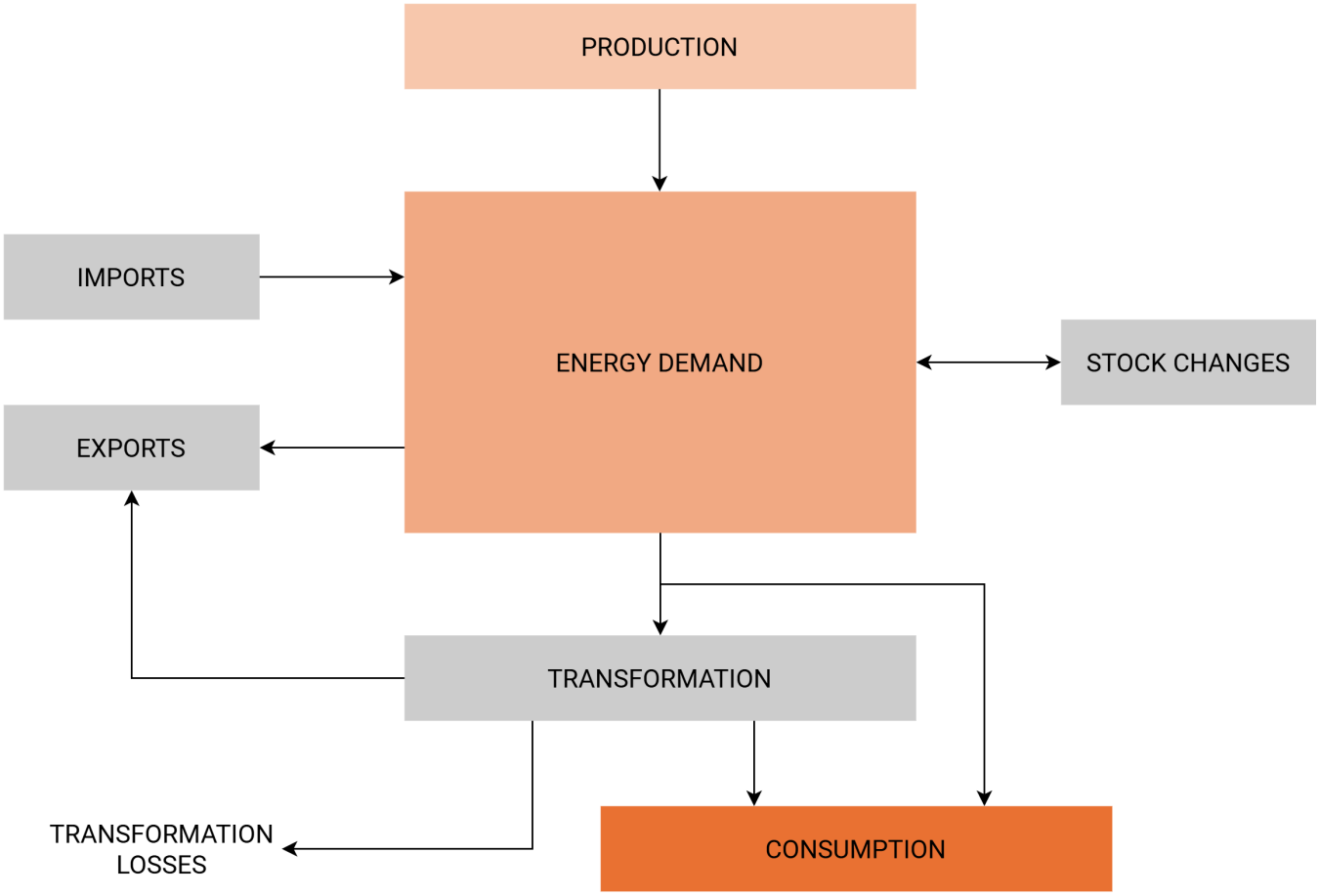
This report examines energy commodities from multiple perspectives, considering them both individually and in groups aligned with specific assessment types. To enhance clarity, this section outlines the key commodity groupings used throughout the analyses.

* Market Assessments

In market assessments, energy commodities are categorized based on distinctions between primary and secondary energy sources, exploring their transformation into usable energy products. The following diagram illustrates the classification framework used:



Additionally, the energy flows analyzed in this report are represented in the diagram below:

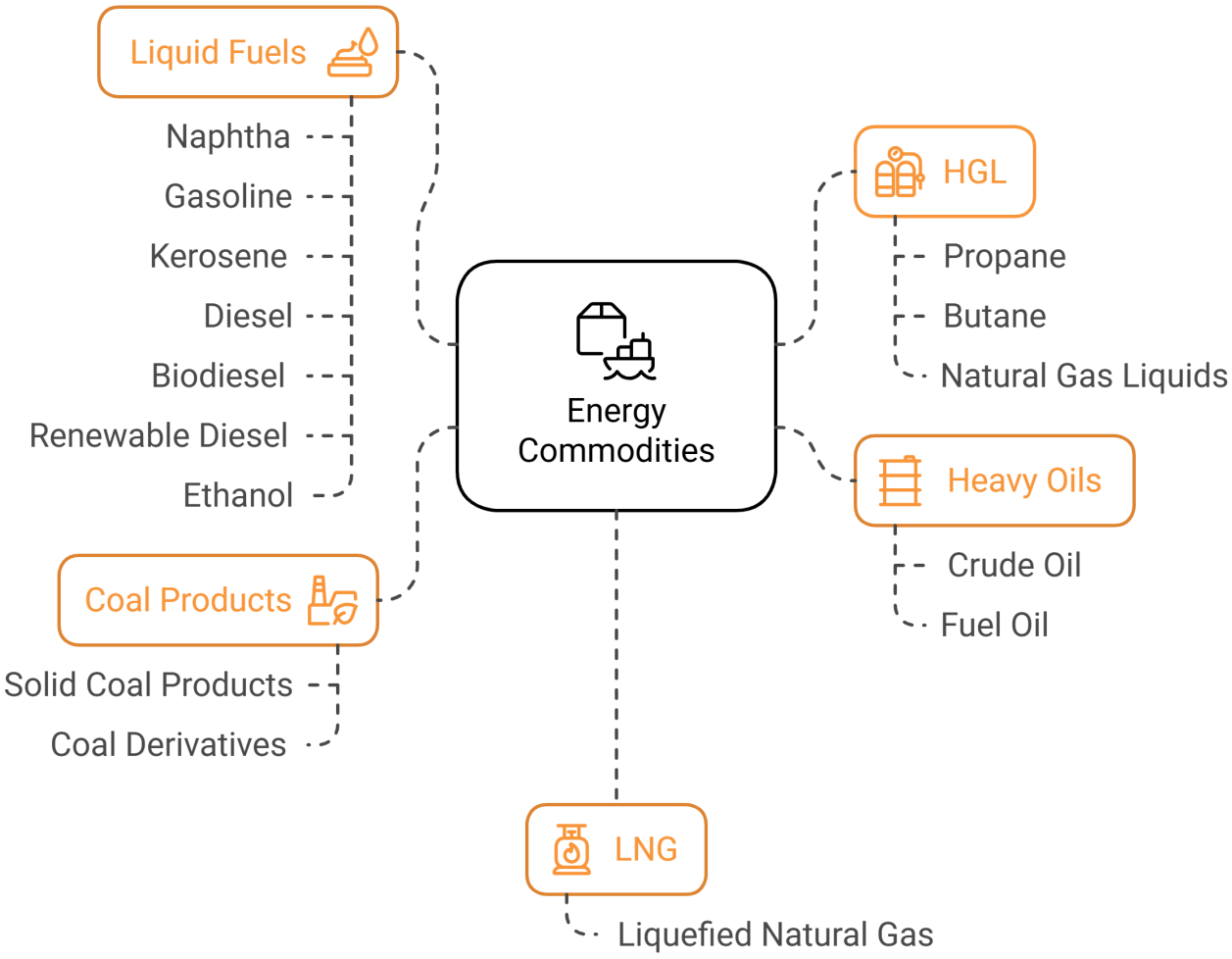


* **Freight Cost Assessments**

For transportation and freight cost assessments, energy commodities are classified according to industry standards commonly used in maritime shipping. This approach reflects both logistical considerations and the distinct physical and economic characteristics of different fuel types. The main categories include:

* Heavy Oils
* Liquid Fuels
* Hydrocarbon Gas Liquids (HGL)
* Liquefied Natural Gas (LNG)
* Coal Products

These categories streamline classification and transportation, ensuring consistency with shipping practices. The diagram below illustrates how energy commodities are grouped for freight cost assessments:



How to Use This Report

Intratec Energy Prices & Markets delivers reliable, data-driven insights by relying on official trade statistics and advanced computational models, rather than subjective estimates from market participants. Unlike competitors that base assessments on buyer and seller quotes – often reflecting expectations rather than actual trades – Intratec data are primarily based on effectively closed international trade deals. This ensures transparent, auditable, and unbiased energy assessments, providing a clear, objective view of market conditions.

In this context, over the years, our reports have been successfully used to:

* Track historical energy price movements and short-term forecasts.
* Assess procurement strategies and cost planning.
* Evaluate a country's energy self-sufficiency and trade dependencies.
* Compare local energy prices with global market prices.
* Identify trends in freight rates and their impact on energy imports and exports.
* Support investment analyses and commercial decision-making.

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Chapter 1

Executive Summary

1.1 Overview

Assessments Variations

Crude Oil price ↓ 9.4%

Crude Oil prices narrowed from Feb 25 to Mar 25

Electricity price ↓ 30.1%

Industrial Electricity prices declined from Feb 25 to Mar 25

Natural Gas price ↓ 22.8%

Natural Gas prices decreased from Feb 25 to Mar 25

Gasoline price ↓ 6.0%

Gasoline prices contracted from Feb 25 to Mar 25

Oil Products price ↓ 4.4%

On average, the prices of Oil Products fell from Mar 25 to Apr 25

Average energy price ↓ 17.7%

The general energy price slipped from Mar 25 to Apr 25

Energy consumption ↑ 10.7%

Energy consumption ramped up from Oct 24 to Nov 24

Energy production ↓ 2.5%

Energy production weakened from Oct 24 to Nov 24

Energy exports ↑ 3.2%

Energy exports have gone up from Oct 24 to Nov 24

Energy imports ↓ 6.9%

Energy imports lost ground from Oct 24 to Nov 24

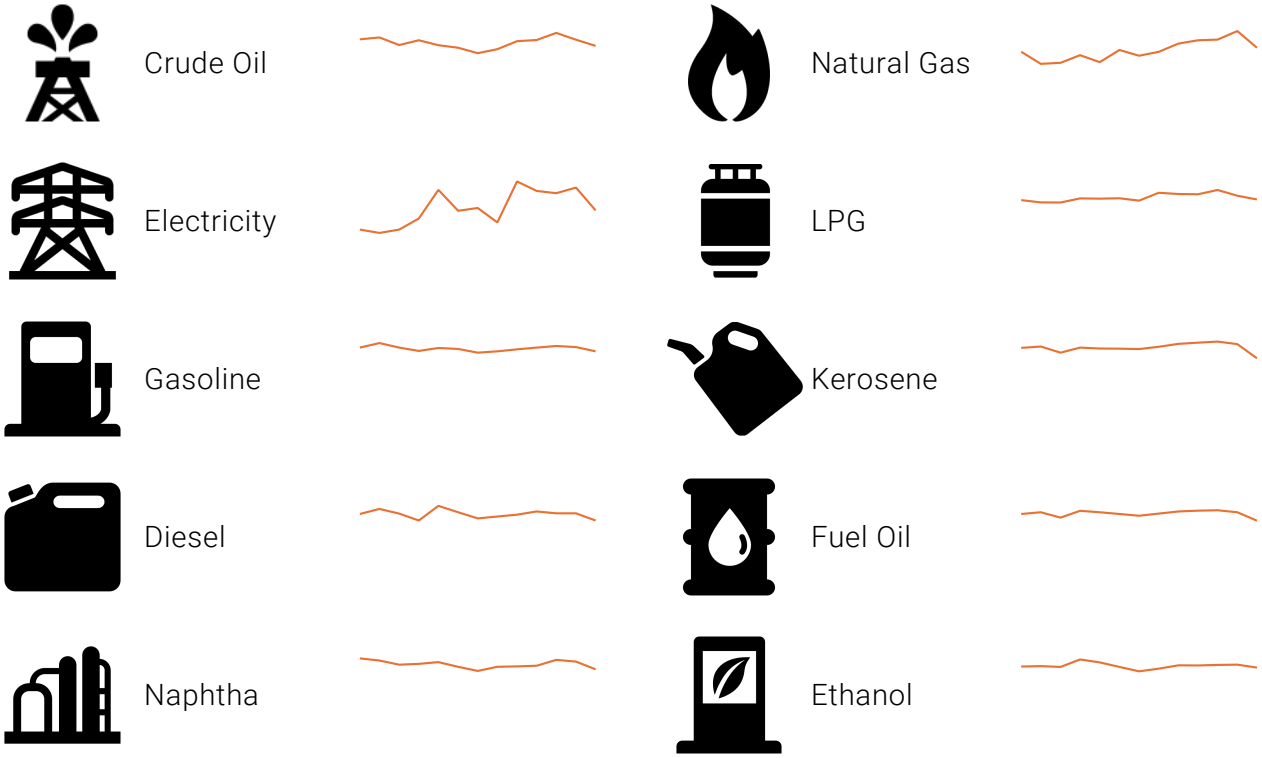
Electricity consumption ↑ 6.4%

Electricity consumption escalated from Oct 24 to Nov 24

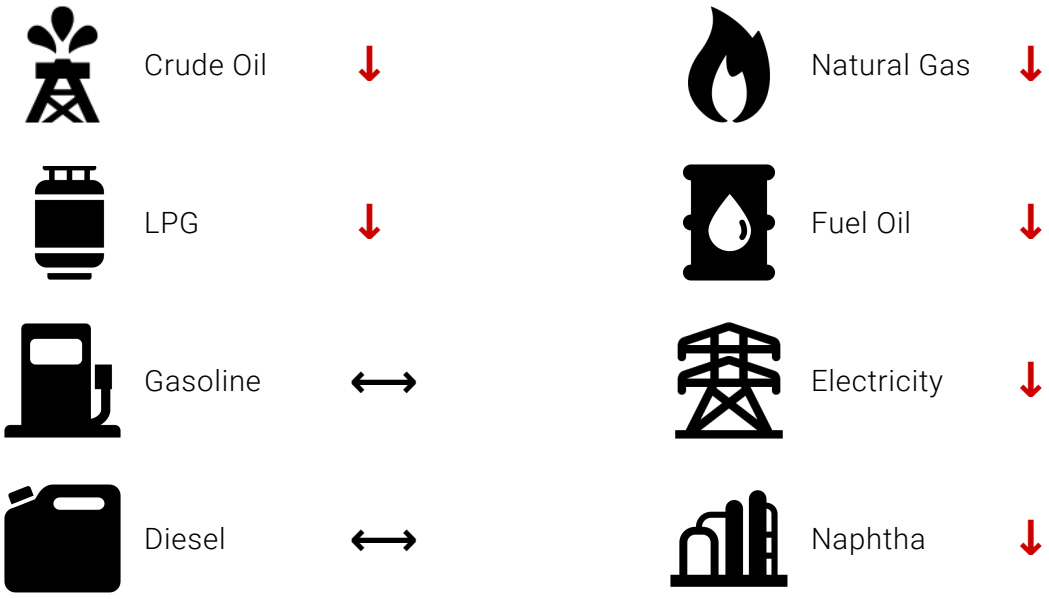
Energy self-sufficiency ↓ 15%

Energy self-sufficiency dropped from Oct 24 to Nov 24

Energy Prices (Last 12 Months)



Expected Energy Prices Trend (Forward Month)



1.2 Current Prices

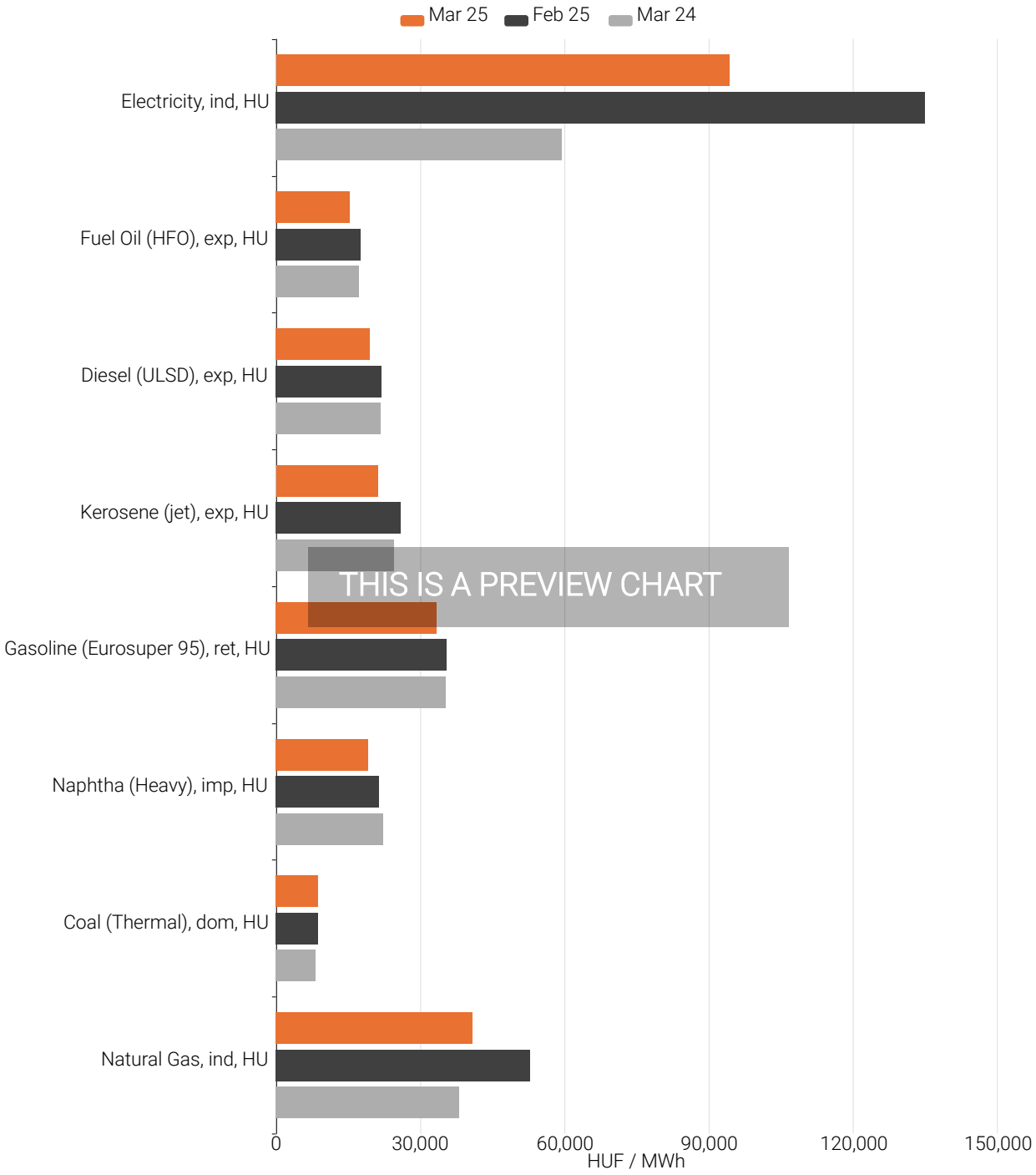


Figure 1.1 Current Energy Prices in Hungary

Table 1.1 Energy Price Summary - National Currency

	Mar 25	Feb 25	Jan 25	QoQ (%)	YoY (%)
Natural Gas, industrial sector, dpu (HUF/MWh)	40,900	52,900	46,800	-11.9 ↓	+7.4 ↑
Coal (thermal), domestic spot, ddp (HUF/kg)	73.1	73.1	72.6	+3.0 ↑	+6.7 ↑
Naphtha (heavy), import spot, cif (HUF/kg)	242	270	276	-5.3 ↓	-14.0 ↓
Gasoline (premium 95), retail (HUF/kg)	415	441	448	-5.3 ↓	-5.3 ↓
Kerosene (jet fuel), export spot, fob (HUF/kg)	262	321	332	-19.8 ↓	-13.9 ↓
Diesel (ultra-low-sulfur), export transaction, fob (HUF/kg)	244	274	274	-13.6 ↓	-9.9 ↓
Fuel Oil (heavy), export spot, fob (HUF/kg)	174	199	205	-14.6 ↓	-10.4 ↓
Electricity, industrial sector (HUF/kWh)	94.3	135	125	-26.8 ↓	+58.3 ↑

Table 1.2 Energy Price Summary - US Dollars

	Mar 25	Feb 25	Jan 25	QoQ (%)	YoY (%)
Natural Gas, industrial sector, dpu (USD/MWh)	111	136	117	-6.4 ↓	+5.5 ↑
Coal (thermal), domestic spot, ddp (USD/kg)	0.198	0.188	0.182	+9.4 ↑	+4.8 ↑
Naphtha (heavy), import spot, cif (USD/kg)	0.654	0.697	0.691	+0.6 ↑	-15.5 ↓
Gasoline (premium 95), retail (USD/kg)	1.12	1.14	1.12	+0.6 ↑	-7.0 ↓
Kerosene (jet fuel), export spot, fob (USD/kg)	0.709	0.826	0.830	-14.8 ↓	-15.4 ↓
Diesel (ultra-low-sulfur), export transaction, fob (USD/kg)	0.660	0.706	0.685	-8.2 ↓	-11.5 ↓
Fuel Oil (heavy), export spot, fob (USD/kg)	0.470	0.512	0.513	-9.3 ↓	-12.0 ↓
Electricity, industrial sector (¢/kWh)	25.5	34.8	31.3	-22.3 ↓	+55.5 ↑

1.3 Price Forecast

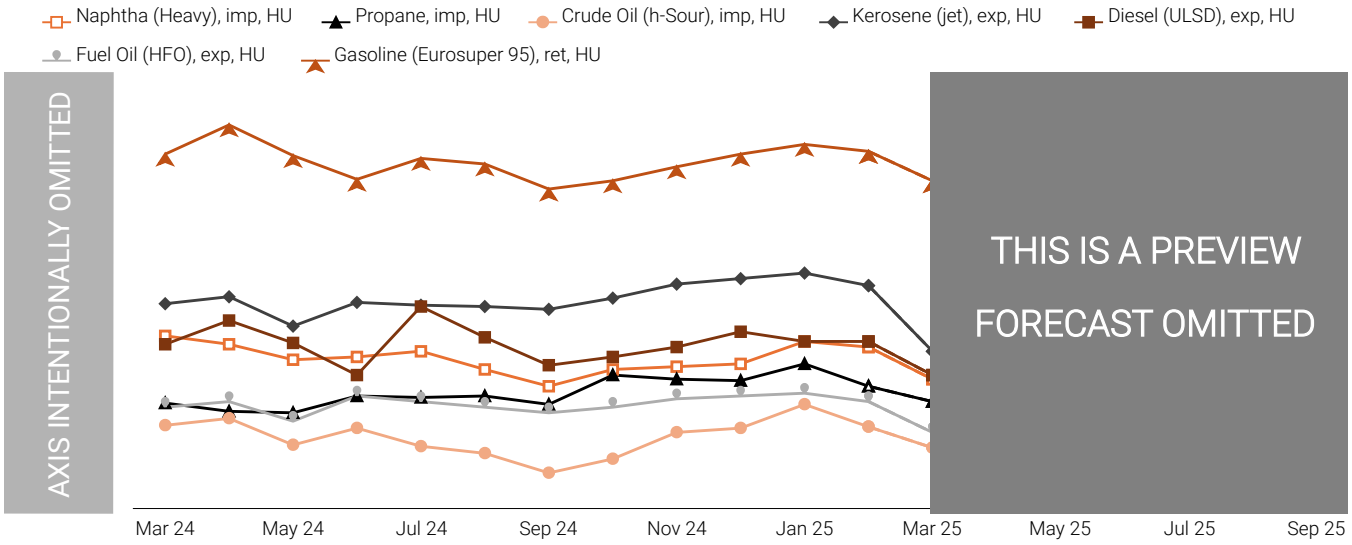


Figure 1.2 Energy Price Forecasts in Hungary

Table 1.3 Energy Price Forecasts

	Apr 25	May 25	Jun 25	Jul 25	Aug 25	Sep 25
Naphtha (heavy), import spot, cif (HUF/kg)	XXX	XXX	XXX	XXX	XXX	XXX
Propane, import spot, cif (HUF/kg)	XXX	XXX	XXX	XXX	XXX	XXX
Crude Oil (heavy sour), import spot, cif (HUF/Bbl)	XXX	XXX	XXX	XXX	XXX	XXX
Kerosene (jet fuel), export spot, fob (HUF/kg)	XXX	XXX	XXX	XXX	XXX	XXX
Diesel (ultra-low-sulfur), export transaction, fob (HUF/kg)	XXX	XXX	XXX	XXX	XXX	XXX
Fuel Oil (heavy), export spot, fob (HUF/kg)	XXX	XXX	XXX	XXX	XXX	XXX
Gasoline (premium 95), retail (HUF/kg)	XXX	XXX	XXX	XXX	XXX	XXX

1.4 Market

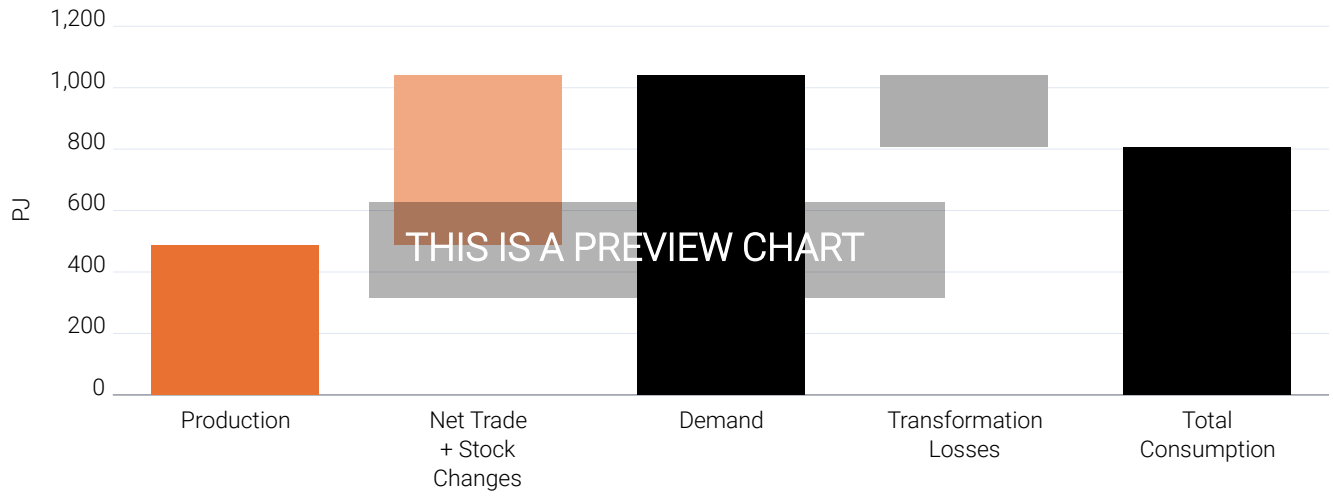


Figure 1.3 Energy Balance in Hungary (Jan 24 - Nov 24)

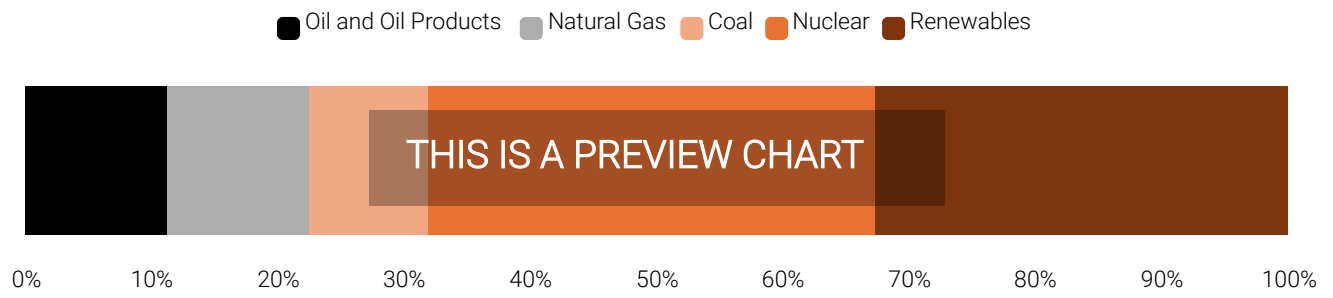


Figure 1.4 Energy Production by Source in Hungary (Jan 24 - Nov 24)

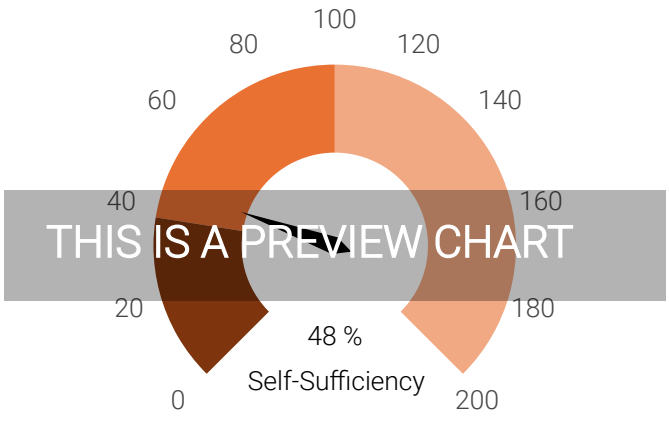


Figure 1.5 Energy Self-Sufficiency in Hungary (Jan 24 - Nov 24)

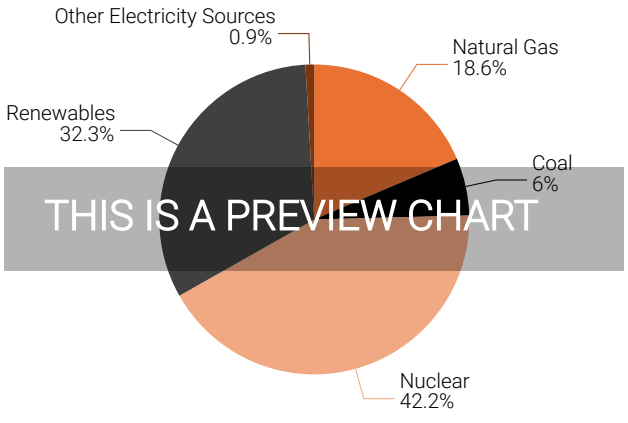


Figure 1.6 Electricity Generation by Source in Hungary (Jan 24 - Nov 24)

1.5 Global Prices Comparison

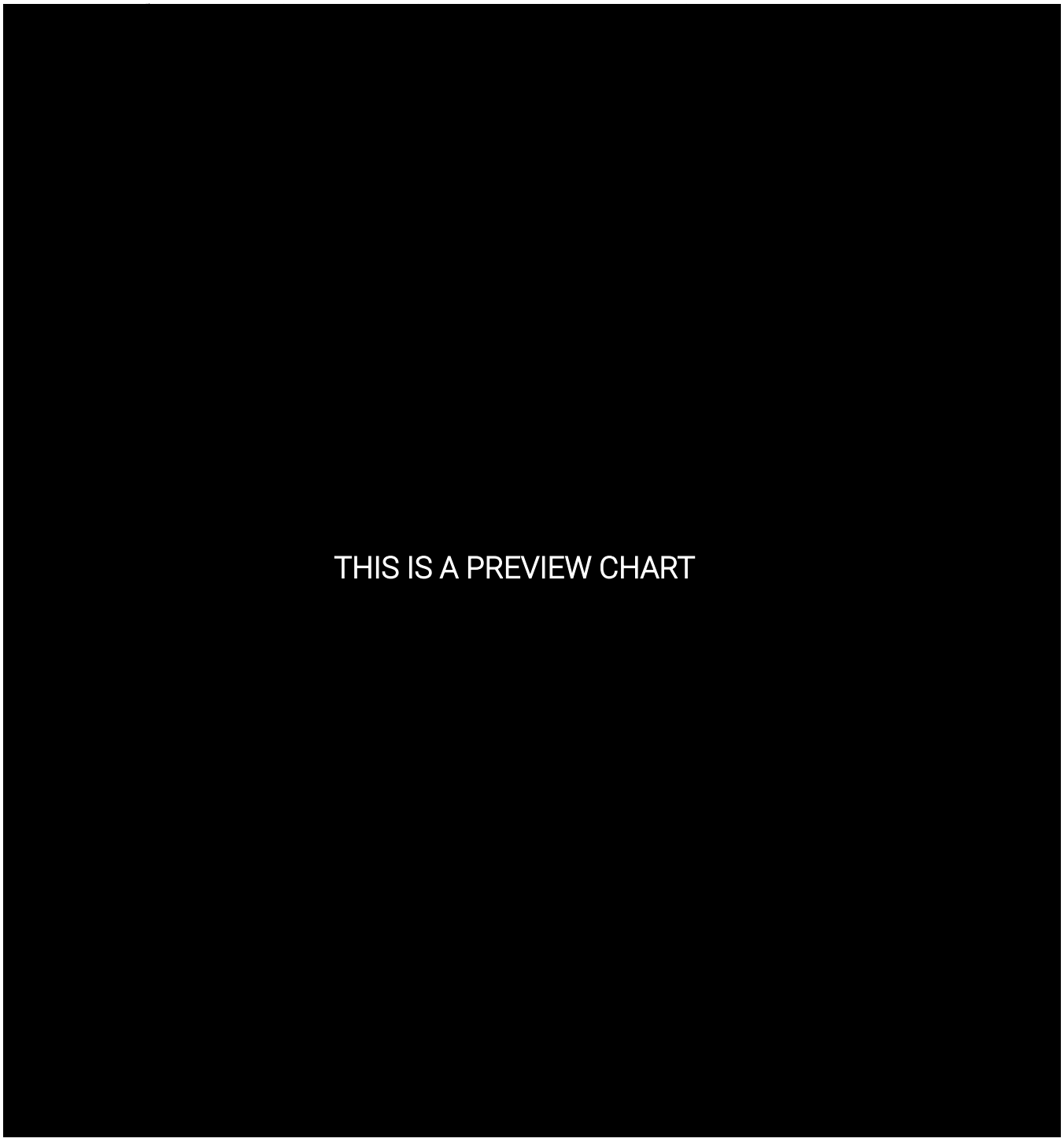


Figure 1.7 Average Energy Price Comparison

Chapter 2

Current Prices

This chapter provides an overview of the most recent energy prices in Hungary, focusing on key commodities such as Crude Oil, Natural Gas, Gasoline, and Electricity. The analysis is presented through charts and tables, offering a comprehensive view of price trends and assessments.

To ensure clarity, readers can refer to "*Appendix A. Glossary and Methodology*" for explanations of key terms used to define the basis and types of prices of the assessments presented (e.g., "contract," "spot," and "transaction"). For more detailed information on Intratec's methodologies and assessment specifications, additional resources are available:

- General Methodology: https://intrat.ec/m?f=/iep-methodology-general
- Assessment Guides: https://intrat.ec/m?f=/iep-assessments-hu

2.1 Crude Oil

Figure 2.1 illustrates Crude Oil prices over the past 13 months.

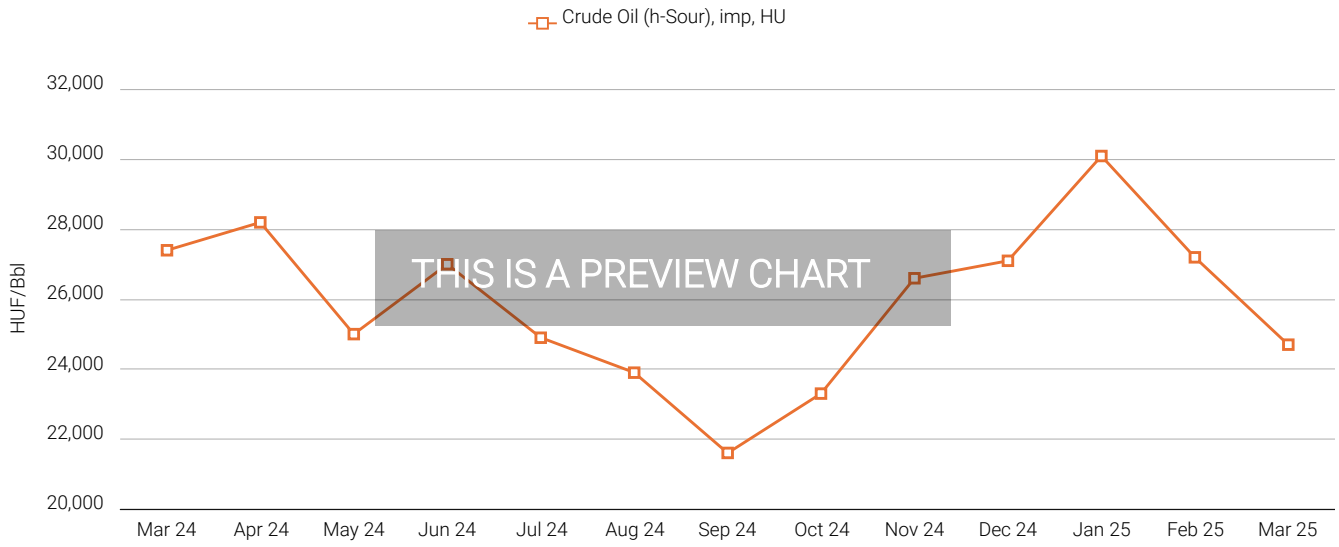


Figure 2.1 Hungary Crude Oil Prices (Mar 24 - Mar 25)

Table 2.1 presents the most recent Crude Oil prices, along with quarterly and yearly price changes.

Table 2.1 Hungary Crude Oil Price Assessments

	Mar 25	Feb 25	Jan 25	QoQ (%)	YoY (%)
Crude Oil (heavy sour), import spot, cif (HUF/Bbl)	24,700	27,200	30,100	-8.9 ↓	-9.8 ↓

Crude Oil (Mar 25). The Crude Oil (heavy sour), import spot, cif price was around 24,700 HUF per Bbl, which represents a fall of 9.4% compared to the previous month's value. On a year-over-year basis, Crude Oil (heavy sour), import spot, cif prices decreased by 9.8%.

Illustrative Case Study: Applying Intratec Data

An energy importer located in Hungary received a Crude Oil quote of HUF 31,300 per Bbl in January 2025. To estimate the price for March 2025, they used Intratec's "Crude Oil (heavy sour), import spot, cif" assessment as a market reference. Intratec's January assessment was HUF 30,100 per Bbl, and by March, it was HUF 24,700 per Bbl.

Using Intratec's price trend, the expected price in March would be approximately HUF 25,700 per Bbl, calculated by applying the percentage change in Intratec's assessments. This approach helps validate supplier quotes and negotiate fair prices based on market trends.

2.2 Natural Gas

Figure 2.2 illustrates Natural Gas prices over the past 13 months.

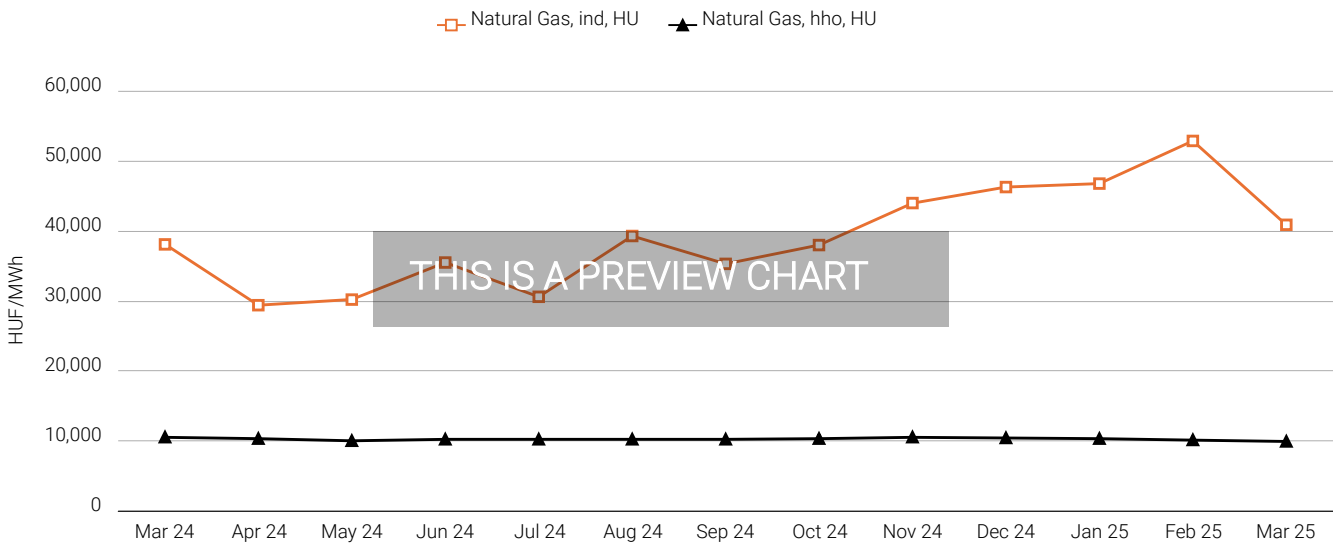


Figure 2.2 Hungary Natural Gas Prices (Mar 24 - Mar 25)

Table 2.2 presents the most recent Natural Gas prices, along with quarterly and yearly price changes.

Table 2.2 Hungary Natural Gas Price Assessments

	Mar 25	Feb 25	Jan 25	QoQ (%)	YoY (%)
Natural Gas, industrial sector, dpu (HUF/MWh)	40,900	52,900	46,800	-11.9 ↓	+7.4 ↑
Natural Gas, household (HUF/MWh)	9,900	10,100	10,300	-5.0 ↓	-5.4 ↓

Natural Gas (Mar 25). The Natural Gas, industrial sector, dpu price was around 40,900 HUF per MWh, which represents a fall of 22.8% compared to the previous month's value. On a year-over-year basis, Natural Gas, industrial sector, dpu prices increased by 7.4%. Meanwhile, the average price of Natural Gas, household amounted to 9,900 HUF per MWh, from 10,500 HUF per MWh one year earlier. On a month-over-month basis, the Natural Gas, household price is 1.6% lower than the price one month before.

2.3 Coal

Figure 2.3 illustrates Coal prices over the past 13 months.

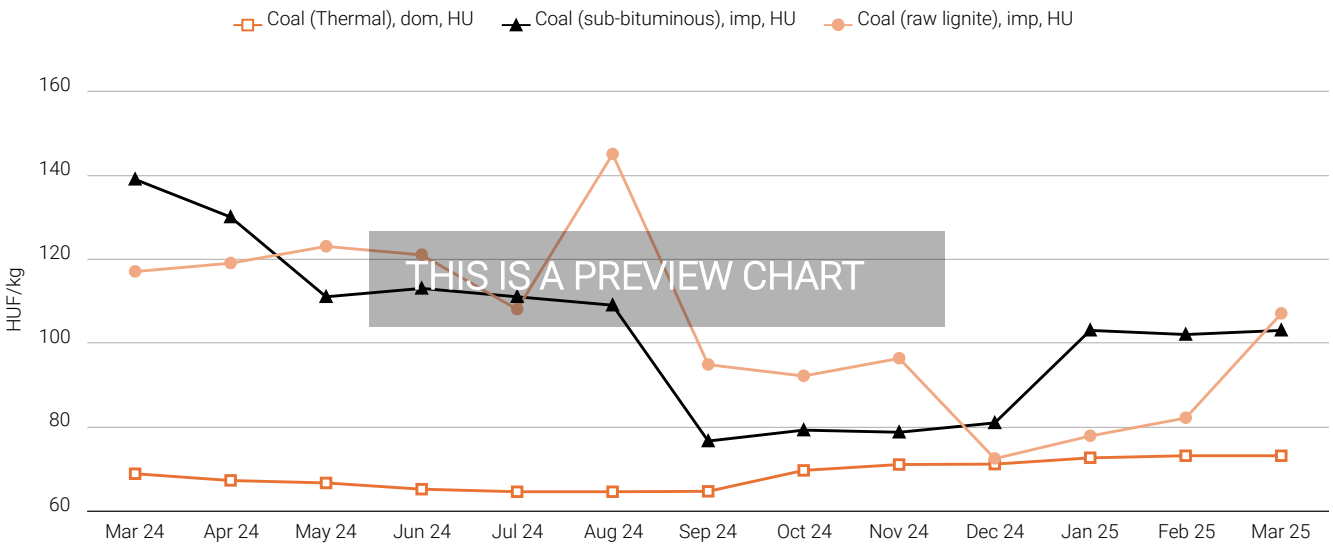


Figure 2.3 Hungary Coal Prices (Mar 24 - Mar 25)

Table 2.3 presents the most recent Coal prices, along with quarterly and yearly price changes.

Table 2.3 Hungary Coal Price Assessments

	Mar 25	Feb 25	Jan 25	QoQ (%)	YoY (%)
Coal (thermal), domestic spot, ddp (HUF/kg)	73.1	73.1	72.6	+3.0 ↑	+6.7 ↑
Coal (sub-bituminous), import transaction, cif (HUF/kg)	103	102	103	+27.0 ↑	-25.7 ↓
Coal (raw lignite), import transaction, cif (HUF/kg)	107	82.1	77.8	+47.3 ↑	-8.7 ↓

Coal (Mar 25). The Coal (thermal), domestic spot, ddp price was around 73.1 HUF per kg, which represents a rise of 0.4% compared to the previous month's value. On a year-over-year basis, Coal (thermal), domestic spot, ddp prices increased by 6.7%. Meanwhile, the average price of Coal (sub-bituminous), import transaction, cif amounted to 103 HUF per kg, from 139 HUF per kg one year earlier. On a month-over-month basis, the Coal (sub-bituminous), import transaction, cif price is 0.8% higher than the price one month before. Another notable point is

that the current Coal (raw lignite), import transaction, cif price, when compared to the average price last month, edged up by 29.5% and is 8.7% below the average price one year ago.

2.4 LPG

Figure 2.4 illustrates LPG prices over the past 13 months.

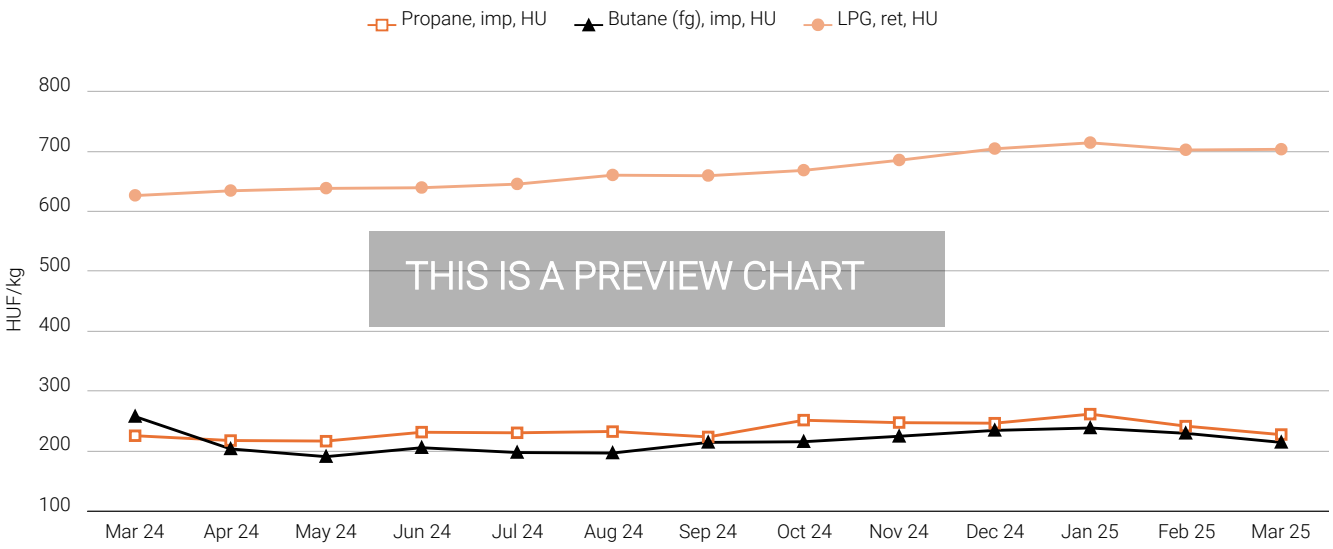


Figure 2.4 Hungary LPG Prices (Mar 24 - Mar 25)

Table 2.4 presents the most recent LPG prices, along with quarterly and yearly price changes.

Table 2.4 Hungary LPG Price Assessments

	Mar 25	Feb 25	Jan 25	QoQ (%)	YoY (%)
Propane, import spot, cif (HUF/kg)	227	241	261	-7.8 ↓	+1.0 ↑
Butane (field grade), import spot, cif (HUF/kg)	214	229	238	-8.6 ↓	-16.8 ↓
LPG (propane, butane and isobutane), retail spot, ddp (HUF/kg)	703	702	714	-0.1 ↓	+12.4 ↑

LPG (Mar 25). The Propane, import spot, cif price was around 227 HUF per kg, which represents a fall of 5.7% compared to the previous month's value. On a year-over-year basis, Propane, import spot, cif prices increased by 1%. Meanwhile, the average price of Butane (field grade), import spot, cif amounted to 214 HUF per kg, from 257 HUF per kg one year earlier. On a month-over-month basis, the Butane (field grade), import spot, cif price is 6.9% lower than the price one month before. Another notable point is that the current LPG (propane,

butane and isobutane), retail spot, ddp price, when compared to the average price last month, edged up by 0.2% and is 12.4% above the average price one year ago.

2.5 Naphtha

Figure 2.5 illustrates Naphtha prices over the past 13 months.

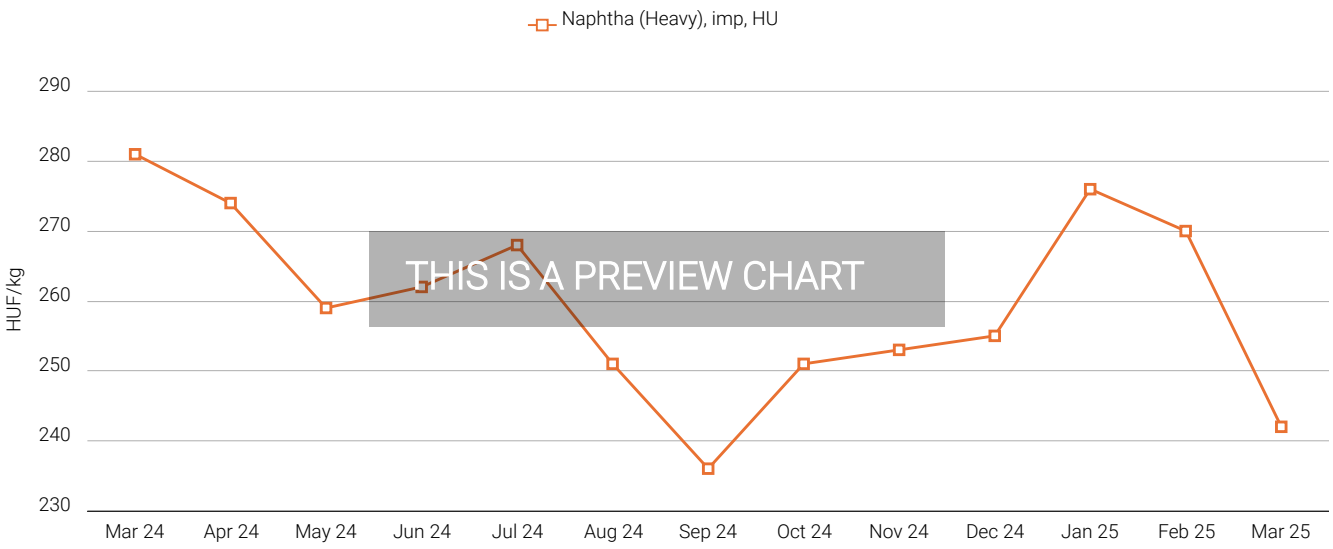


Figure 2.5 Hungary Naphtha Prices (Mar 24 - Mar 25)

Table 2.5 presents the most recent Naphtha prices, along with quarterly and yearly price changes.

Table 2.5 Hungary Naphtha Price Assessments

	Mar 25	Feb 25	Jan 25	QoQ (%)	YoY (%)
Naphtha (heavy), import spot, cif (HUF/kg)	242	270	276	-5.3 ↓	-14.0 ↓

Naphtha (Mar 25). The Naphtha (heavy), import spot, cif price was around 242 HUF per kg, which represents a fall of 10.5% compared to the previous month's value. On a year-over-year basis, Naphtha (heavy), import spot, cif prices decreased by 14%.

2.6 Gasoline

Figure 2.6 illustrates Gasoline prices over the past 13 months.

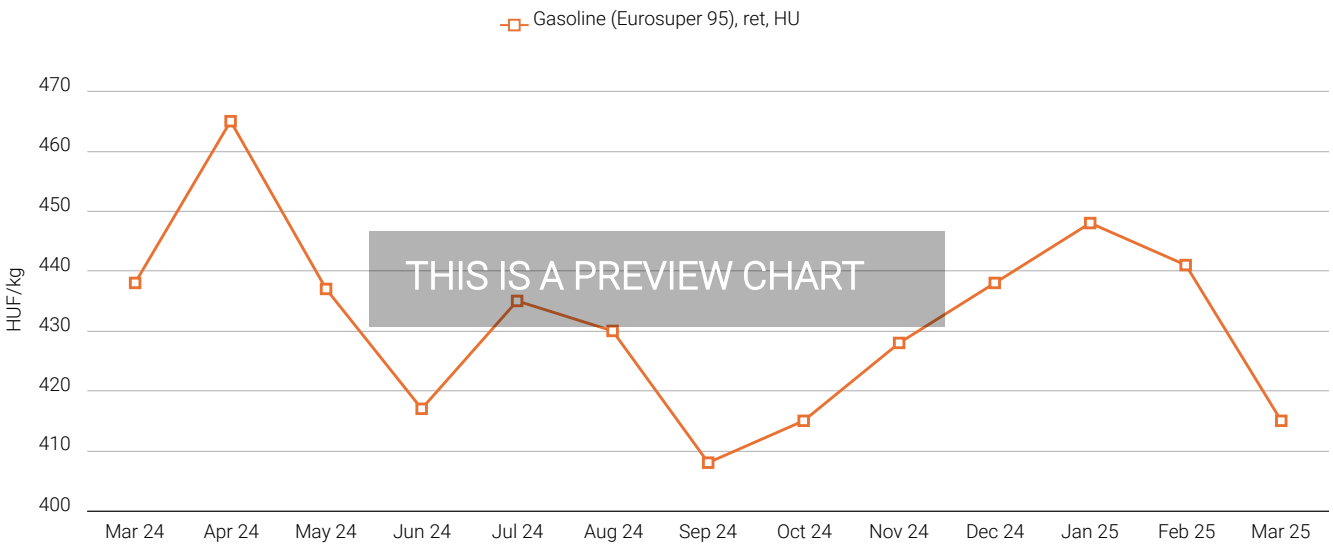


Figure 2.6 Hungary Gasoline Prices (Mar 24 - Mar 25)

Table 2.6 presents the most recent Gasoline prices, along with quarterly and yearly price changes.

Table 2.6 Hungary Gasoline Price Assessments

	Mar 25	Feb 25	Jan 25	QoQ (%)	YoY (%)
Gasoline (premium 95), retail (HUF/kg)	415	441	448	-5.3 ↓	-5.3 ↓

Gasoline (Mar 25). The Gasoline (premium 95), retail price was around 415 HUF per kg, which represents a fall of 6% compared to the previous month's value. On a year-over-year basis, Gasoline (premium 95), retail prices decreased by 5.3%.

2.7 Kerosene

Figure 2.7 illustrates Kerosene prices over the past 13 months.

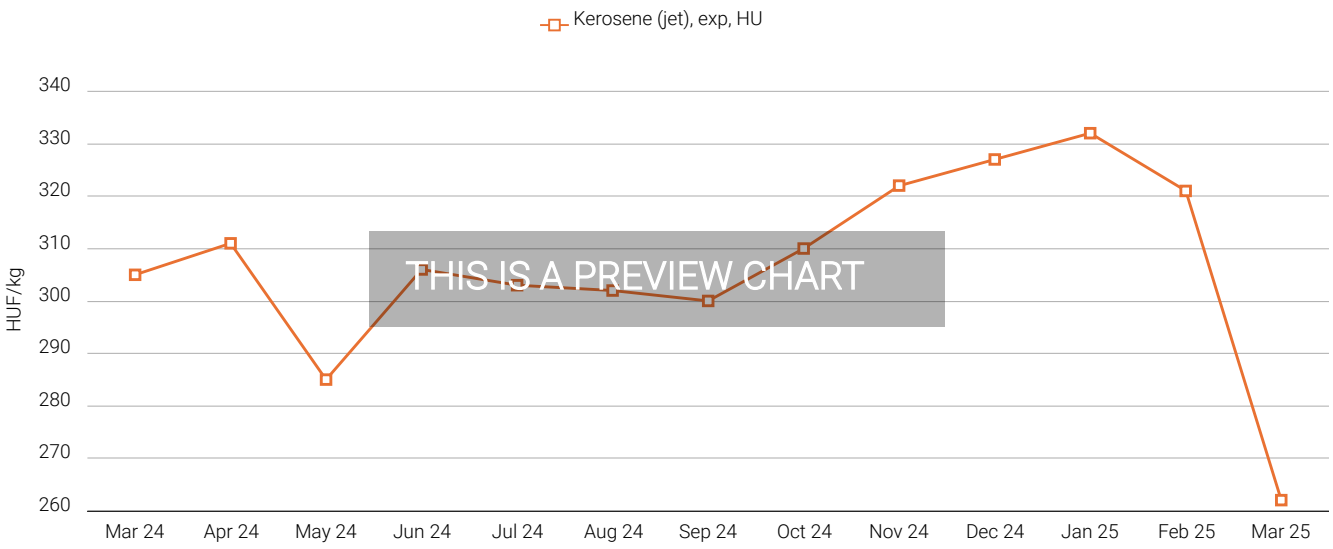


Figure 2.7 Hungary Kerosene Prices (Mar 24 - Mar 25)

Table 2.7 presents the most recent Kerosene prices, along with quarterly and yearly price changes.

Table 2.7 Hungary Kerosene Price Assessments

	Mar 25	Feb 25	Jan 25	QoQ (%)	YoY (%)
Kerosene (jet fuel), export spot, fob (HUF/kg)	262	321	332	-19.8 ↓	-13.9 ↓

Kerosene (Mar 25). The Kerosene (jet fuel), export spot, fob price was around 262 HUF per kg, which represents a fall of 18.1% compared to the previous month's value. On a year-over-year basis, Kerosene (jet fuel), export spot, fob prices decreased by 13.9%.

2.8 Diesel

Figure 2.8 illustrates Diesel prices over the past 13 months.

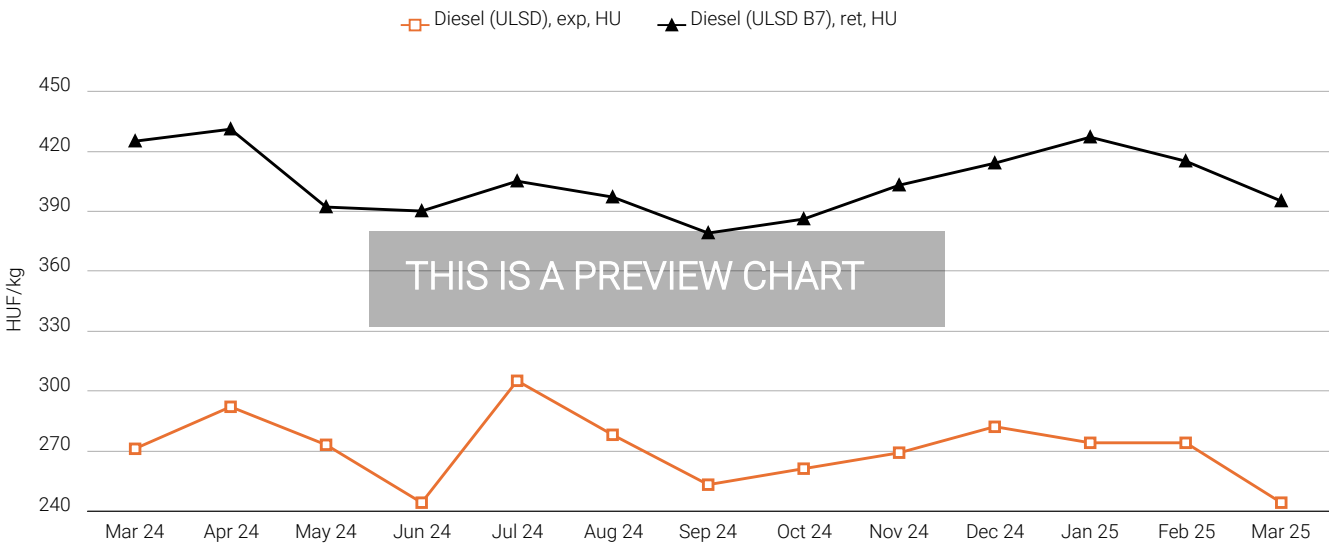


Figure 2.8 Hungary Diesel Prices (Mar 24 - Mar 25)

Table 2.8 presents the most recent Diesel prices, along with quarterly and yearly price changes.

Table 2.8 Hungary Diesel Price Assessments

	Mar 25	Feb 25	Jan 25	QoQ (%)	YoY (%)
Diesel (ultra-low-sulfur), export transaction, fob (HUF/kg)	244	274	274	-13.6 ↓	-9.9 ↓
Diesel (automotive ULSD B7), retail (HUF/kg)	395	415	427	-4.5 ↓	-7.0 ↓

Diesel (Mar 25). The Diesel (ultra-low-sulfur), export transaction, fob price was around 244 HUF per kg, which represents a fall of 10.8% compared to the previous month's value. On a year-over-year basis, Diesel (ultra-low-sulfur), export transaction, fob prices decreased by 9.9%. Meanwhile, the average price of Diesel (automotive ULSD B7), retail amounted to 395 HUF per kg, from 425 HUF per kg one year earlier. On a month-over-month basis, the Diesel (automotive ULSD B7), retail price is 4.8% lower than the price one month before.

2.9 Fuel Oil

Figure 2.9 illustrates Fuel Oil prices over the past 13 months.

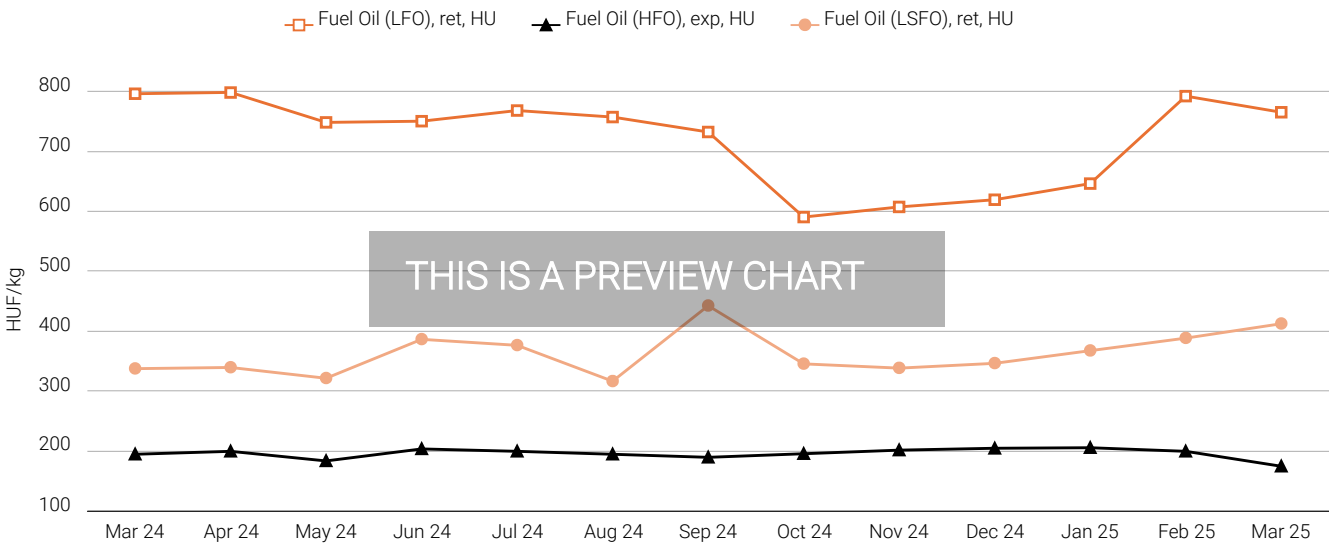


Figure 2.9 Hungary Fuel Oil Prices (Mar 24 - Mar 25)

Table 2.9 presents the most recent Fuel Oil prices, along with quarterly and yearly price changes.

Table 2.9 Hungary Fuel Oil Price Assessments

	Mar 25	Feb 25	Jan 25	QoQ (%)	YoY (%)
Fuel Oil (light), retail (HUF/kg)	765	792	646	+23.6 ↑	-3.9 ↓
Fuel Oil (heavy), export spot, fob (HUF/kg)	174	199	205	-14.6 ↓	-10.4 ↓
Fuel Oil (LSFO), retail (HUF/kg)	412	388	367	+19.1 ↑	+22.0 ↑

Fuel Oil (Mar 25). The Fuel Oil (light), retail price was around 765 HUF per kg, which represents a fall of 3.4% compared to the previous month's value. On a year-over-year basis, Fuel Oil (light), retail prices decreased by 3.9%. Meanwhile, the average price of Fuel Oil (heavy), export spot, fob amounted to 174 HUF per kg, from 194 HUF per kg one year earlier. On a month-over-month basis, the Fuel Oil (heavy), export spot, fob price is 12.5% lower than the price one month before. Another notable point is that the current Fuel Oil (LSFO), retail

price, when compared to the average price last month, edged up by 6.2% and is 22% above the average price one year ago.

2.10 Electricity

Figure 2.10 illustrates Electricity prices over the past 13 months.

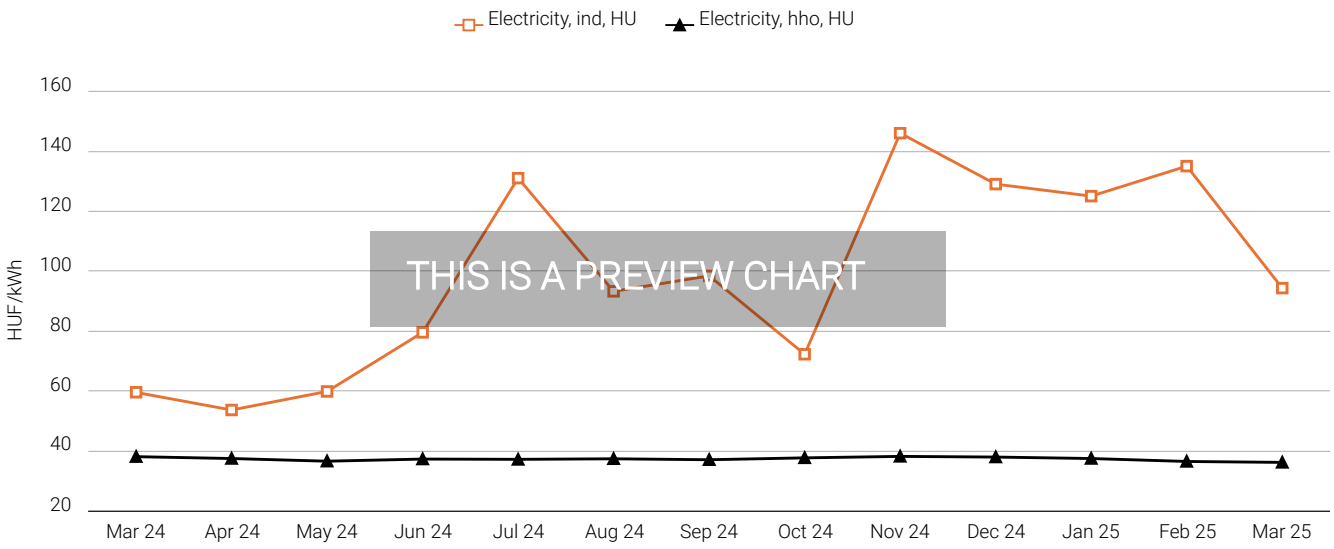


Figure 2.10 Hungary Electricity Prices (Mar 24 - Mar 25)

Table 2.10 presents the most recent Electricity prices, along with quarterly and yearly price changes.

Table 2.10 Hungary Electricity Price Assessments

	Mar 25	Feb 25	Jan 25	QoQ (%)	YoY (%)
Electricity, industrial sector (HUF/kWh)	94.3	135	125	-26.8 ↓	+58.3 ↑
Electricity, household (HUF/kWh)	36.1	36.4	37.4	-4.8 ↓	-5.4 ↓

Electricity (Mar 25). The Electricity, industrial sector price was around 94.3 HUF per kWh, which represents a fall of 30.1% compared to the previous month's value. On a year-over-year basis, Electricity, industrial sector prices increased by 58.3%. Meanwhile, the average price of Electricity, household amounted to 36.1 HUF per kWh, from 38.0 HUF per kWh one year earlier. On a month-over-month basis, the Electricity, household price is 0.7% lower than the price one month before.

2.11 Ethanol

Figure 2.11 illustrates Ethanol prices over the past 13 months.

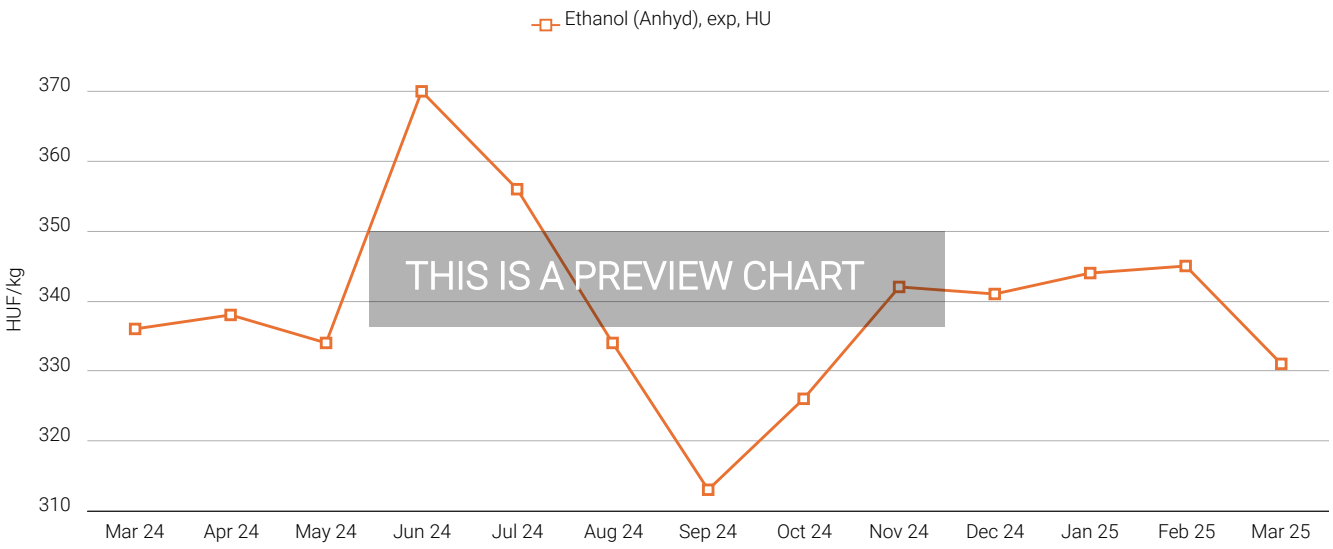


Figure 2.11 Hungary Ethanol Prices (Mar 24 - Mar 25)

Table 2.11 presents the most recent Ethanol prices, along with quarterly and yearly price changes.

Table 2.11 Hungary Ethanol Price Assessments

	Mar 25	Feb 25	Jan 25	QoQ (%)	YoY (%)
Ethanol (anhydrous), export spot, fob (HUF/kg)	331	345	344	-2.8 ↓	-1.3 ↓

Ethanol (Mar 25). The Ethanol (anhydrous), export spot, fob price was around 331 HUF per kg, which represents a fall of 4.1% compared to the previous month's value. On a year-over-year basis, Ethanol (anhydrous), export spot, fob prices decreased by 1.3%.

Chapter 3

Historical Prices

This chapter provides a comprehensive overview of historical energy prices, offering insights into market trends over different time horizons. The data is organized into three sections:

* **1-Year Monthly History**: Monthly prices for the past year available to all subscription levels.
* **3-Year Quarterly History**: A broader view of price history over the last three years, with quarterly data accessible exclusively to **Pro** and **Advanced** subscribers.
* **10-Year Annual History**: A long-term analysis of annual price trends over the past decade, available only to **Advanced** subscribers.

3.1 1-Year Monthly History

Figure 3.1 presents the energy prices in Hungary in the last year.

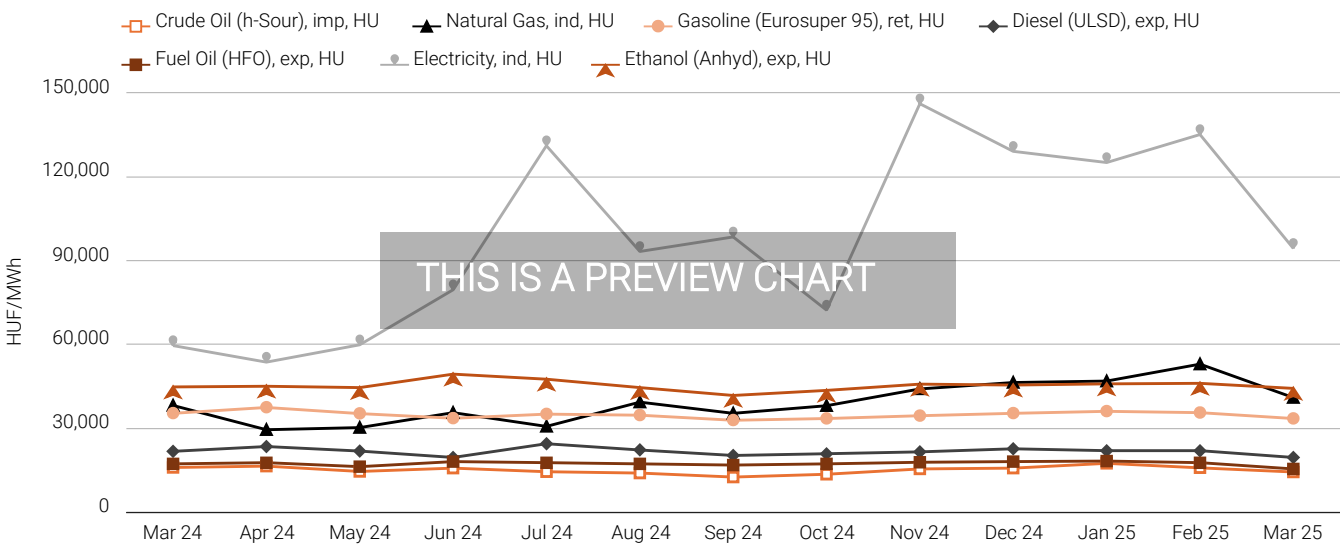


Figure 3.1 **Hungary Key Energy Prices (Mar 24 - Mar 25)**

Table 3.1 presents the energy prices in Hungary in the last year.

Table 3.1 Monthly Price Assessments

	Mar 25	Feb 25	Jan 25	Dec 24	Nov 24	Oct 24	Sep 24	Aug 24	Jul 24	Jun 24	May 24	Apr 24	Mar 24
Crude Oil (heavy sour), import spot, cif (HUF/Bbl)	24,700	27,200	30,100	27,100	26,600	23,300	21,600	23,900	24,900	27,000	25,000	28,200	27,400
Natural Gas, industrial sector, dpu (HUF/MWh)	40,900	52,900	46,800	46,300	44,000	38,000	35,300	39,300	30,600	35,500	30,200	29,400	38,100
Natural Gas, household (HUF/MWh)	9,900	10,100	10,300	10,400	10,500	10,300	10,200	10,200	10,200	10,200	10,000	10,300	10,500
Coal (thermal), domestic spot, ddp (HUF/kg)	73.1	73.1	72.6	71.1	71.0	69.6	64.6	64.5	64.5	65.1	66.6	67.2	68.8
Coal (sub-bituminous), import transaction, cif (HUF/kg)	103	102	103	80.9	78.7	79.2	76.6	109	111	113	111	130	139
Coal (raw lignite), import transaction, cif (HUF/kg)	107	82.1	77.8	72.4	96.3	92.1	94.8	145	108	121	123	119	117
Propane, import spot, cif (HUF/kg)	227	241	261	246	247	251	223	232	230	231	216	217	225
Butane (field grade), import spot, cif (HUF/kg)	214	229	238	234	224	215	214	196	197	205	190	203	257
LPG (propane, butane and isobutane), retail spot, ddp (HUF/kg)	703	702	714	704	685	668	659	660	645	639	638	634	626
Naphtha (heavy), import spot, cif (HUF/kg)	242	270	276	255	253	251	236	251	268	262	259	274	281
Gasoline (premium 95), retail (HUF/kg)	415	441	448	438	428	415	408	430	435	417	437	465	438
Kerosene (jet fuel), export spot, fob (HUF/kg)	262	321	332	327	322	310	300	302	303	306	285	311	305
Diesel (ultra-low-sulfur), export transaction, fob (HUF/kg)	244	274	274	282	269	261	253	278	305	244	273	292	271
Diesel (automotive ULSD B7), retail (HUF/kg)	395	415	427	414	403	386	379	397	405	390	392	431	425
Fuel Oil (light), retail (HUF/kg)	765	792	646	619	607	590	732	757	768	750	748	798	796
Fuel Oil (heavy), export spot, fob (HUF/kg)	174	199	205	204	201	195	189	194	199	203	183	199	194
Fuel Oil (LSFO), retail (HUF/kg)	412	388	367	346	338	345	442	316	376	386	321	339	337
Electricity, industrial sector (HUF/kWh)	94.3	135	125	129	146	72.2	98.4	93.2	131	79.5	59.8	53.6	59.5
Electricity, household (HUF/kWh)	36.1	36.4	37.4	37.9	38.1	37.6	37.0	37.3	37.1	37.2	36.5	37.4	38.0
Ethanol (anhydrous), export spot, fob (HUF/kg)	331	345	344	341	342	326	313	334	356	370	334	338	336

Easily Accessing Intratec Database

Advanced subscribers can easily access the last year price history via Excel Add-in. Monthly price history covering more than 10 years are provided through Web API and Power BI. More information in "*Appendix C. Data Delivery Methods*."

3.2 3-Year Quarterly History

Table 3.2 presents the energy prices in Hungary in the last three years.

Table 3.2 Quarterly Price Assessments

	Q4 24	Q3 24	Q2 24	Q1 24	Q4 23	Q3 23	Q2 23	Q1 23	Q4 22	Q3 22	Q2 22	Q1 22
Crude Oil (heavy sour), import spot, cif (HUF/Bbl)	25,700	23,500	26,700	25,500	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Natural Gas, industrial sector, dpu (HUF/MWh)	42,800	35,100	31,700	38,300	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Natural Gas, household (HUF/MWh)	10,400	10,200	10,200	10,400	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Coal (thermal), domestic spot, ddp (HUF/kg)	70.6	64.5	66.3	68.9	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Coal (sub-bituminous), import transaction, cif (HUF/kg)	79.6	98.9	118	114	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Coal (raw lignite), import transaction, cif (HUF/kg)	86.9	116	121	79.3	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Propane, import spot, cif (HUF/kg)	248	228	221	226	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Butane (field grade), import spot, cif (HUF/kg)	224	202	199	233	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
LPG (propane, butane and isobutane), retail spot, ddp (HUF/kg)	686	655	637	610	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Naphtha (heavy), import spot, cif (HUF/kg)	253	252	265	262	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Gasoline (premium 95), retail (HUF/kg)	427	424	440	418	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Kerosene (jet fuel), export spot, fob (HUF/kg)	320	302	301	309	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Diesel (ultra-low-sulfur), export transaction, fob (HUF/kg)	271	279	270	278	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Diesel (automotive ULSD B7), retail (HUF/kg)	401	394	404	413	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Fuel Oil (light), retail (HUF/kg)	605	752	765	782	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Fuel Oil (heavy), export spot, fob (HUF/kg)	200	194	195	186	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Fuel Oil (LSFO), retail (HUF/kg)	343	378	349	318	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Electricity, industrial sector (HUF/kWh)	116	108	64.3	64.2	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Electricity, household (HUF/kWh)	37.9	37.1	37.0	37.5	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX

	Q4 24	Q3 24	Q2 24	Q1 24	Q4 23	Q3 23	Q2 23	Q1 23	Q4 22	Q3 22	Q2 22	Q1 22
Ethanol (anhydrous), export spot, fob (HUF/kg)												
	336	334	347	311	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX

Figure 3.2 presents the energy prices in Hungary in the last three years.

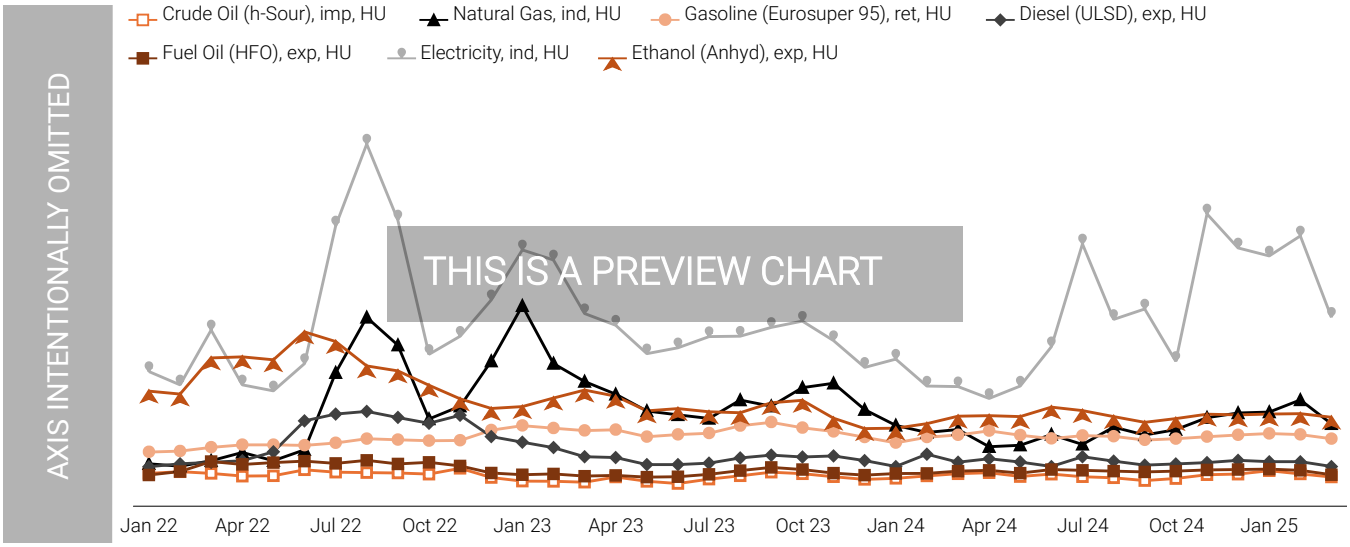


Figure 3.2 Hungary Key Energy Prices (Jan 22 - Mar 25)

3.3 10-Year Annual History

Table 3.3 presents the energy prices in Hungary in the last ten years.

Table 3.3 Yearly Price Assessments

2024	2023	2022	2021	2020	2019	2018	2017	2016	2015
Crude Oil (heavy sour), import spot, cif (HUF/Bbl)									
25,300	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Natural Gas, industrial sector, dpu (HUF/MWh)									
37,000	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Natural Gas, household (HUF/MWh)									
10,300	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Coal (thermal), domestic spot, ddp (HUF/kg)									
67.6	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Coal (sub-bituminous), import transaction, cif (HUF/kg)									
103	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Coal (raw lignite), import transaction, cif (HUF/kg)									
101	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Propane, import spot, cif (HUF/kg)									
231	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Butane (field grade), import spot, cif (HUF/kg)									
215	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
LPG (propane, butane and isobutane), retail spot, ddp (HUF/kg)									
647	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Naphtha (heavy), import spot, cif (HUF/kg)									
258	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Gasoline (premium 95), retail (HUF/kg)									
427	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Kerosene (jet fuel), export spot, fob (HUF/kg)									
308	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Diesel (ultra-low-sulfur), export transaction, fob (HUF/kg)									
274	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Diesel (automotive ULSD B7), retail (HUF/kg)									
403	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Fuel Oil (light), retail (HUF/kg)									
726	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Fuel Oil (heavy), export spot, fob (HUF/kg)									
194	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Fuel Oil (LSFO), retail (HUF/kg)									
347	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Electricity, industrial sector (HUF/kWh)									
87.9	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
Electricity, household (HUF/kWh)									
37.4	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX

	2024	2023	2022	2021	2020	2019	2018	2017	2016	2015
Ethanol (anhydrous), export spot, fob (HUF/kg)	332	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX

Figure 3.3 presents the energy prices in Hungary in the last ten years.

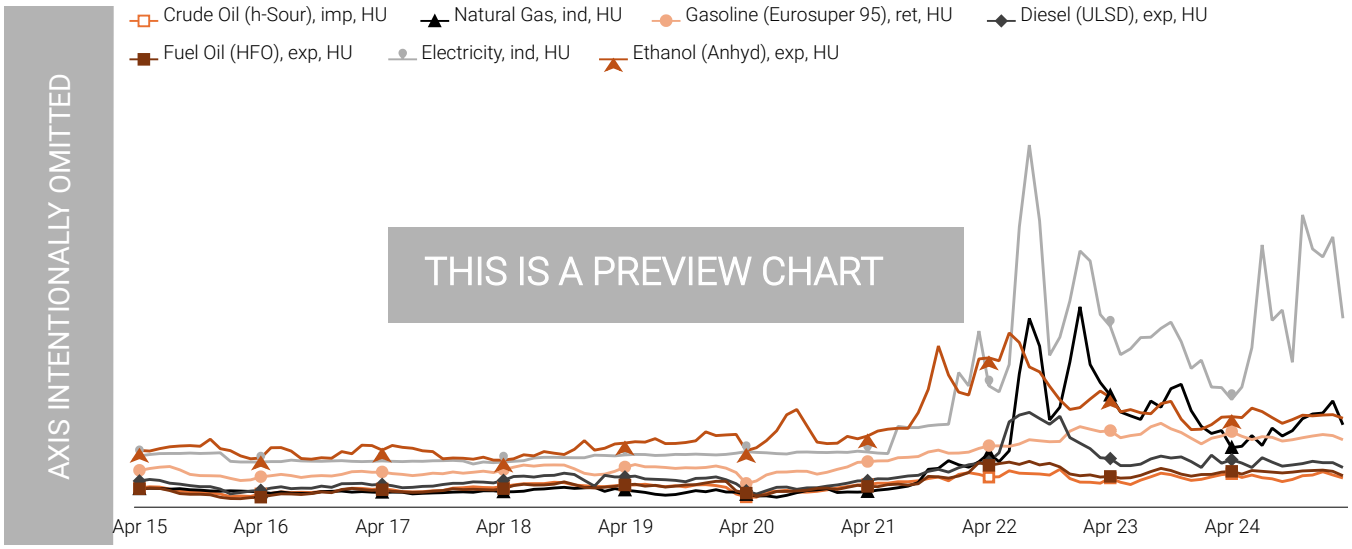


Figure 3.3 Hungary Key Energy Prices (Apr 15 - Mar 25)

Chapter 4

Price Forecasts

This chapter provides short-term price forecasts for key energy commodities, covering the next six months. The forecasts are organized into sections based on commodity categories: Oil, Oil Products, Natural Gas, Coal, Electricity, and Biofuels.

Additionally, each section features a chart comparing the forecasted prices of major commodities using a common energy unit (e.g., HUF/Bbl). This approach allows for a clear understanding of relative price movements across different energy sources and facilitates comparisons between commodities.

4.1 Crude Oil

Table 4.1 presents the six-month price forecast for Crude Oil.

Table 4.1 Crude Oil Monthly Price Forecast Assessments

	Apr 25	May 25	Jun 25	Jul 25	Aug 25	Sep 25
Crude Oil (heavy sour), import spot, cif (HUF/Bbl)	XXX	XXX	XXX	XXX	XXX	XXX

Figure 4.1 illustrates the six-month price trend forecast for Crude Oil.

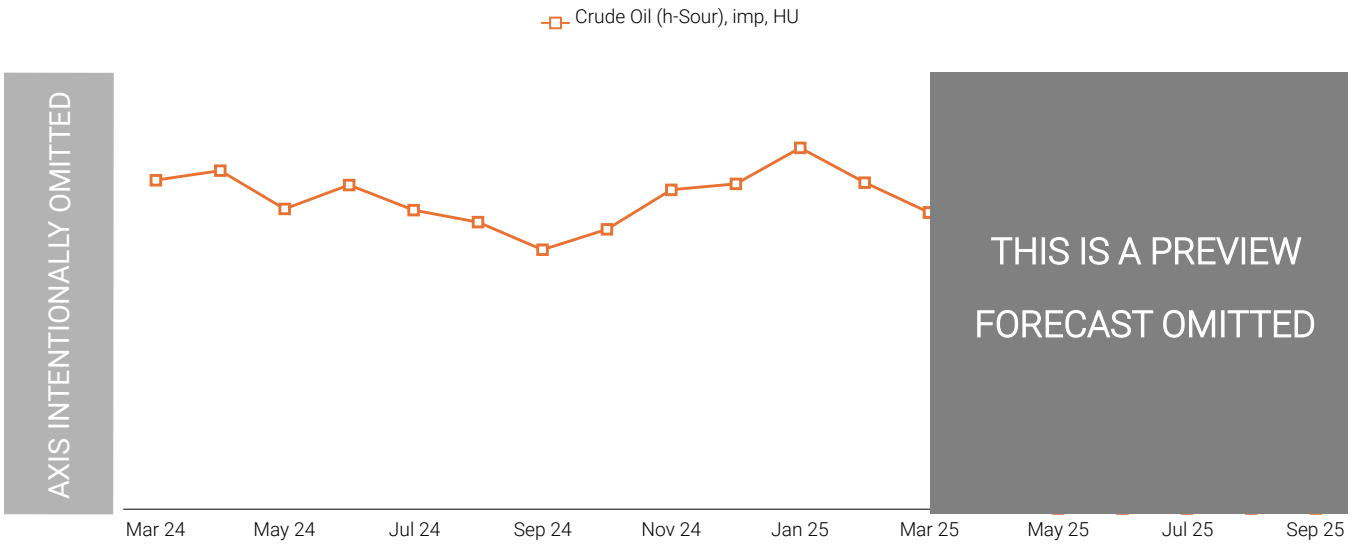


Figure 4.1 Crude Oil Historical Prices (12M) + Forecast (6M) (Mar 24 - Sep 25)

4.2 Natural Gas

Table 4.2 presents the six-month price forecast for Natural Gas.

Table 4.2 Natural Gas Monthly Price Forecast Assessments

	Apr 25	May 25	Jun 25	Jul 25	Aug 25	Sep 25
Natural Gas, industrial sector, dpu (HUF/MWh)	XXX	XXX	XXX	XXX	XXX	XXX

Figure 4.2 illustrates the six-month price trend forecast for Natural Gas.

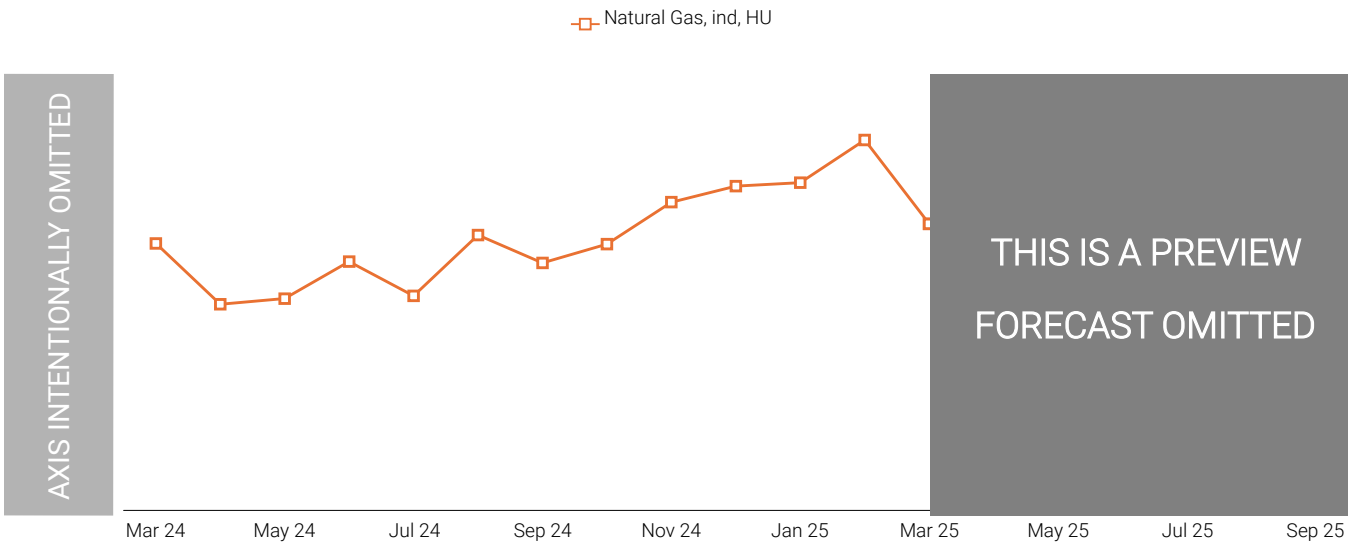


Figure 4.2 Natural Gas Historical Prices (12M) + Forecast (6M) (Mar 24 - Sep 25)

4.3 LPG

Table 4.3 presents the six-month price forecast for LPG.

Table 4.3 LPG Monthly Forecast Price Assessments

	Apr 25	May 25	Jun 25	Jul 25	Aug 25	Sep 25
Propane, import spot, cif (HUF/kg)	XXX	XXX	XXX	XXX	XXX	XXX
Butane (field grade), import spot, cif (HUF/kg)	XXX	XXX	XXX	XXX	XXX	XXX

Figure 4.3 illustrates the six-month price trend forecast for LPG.

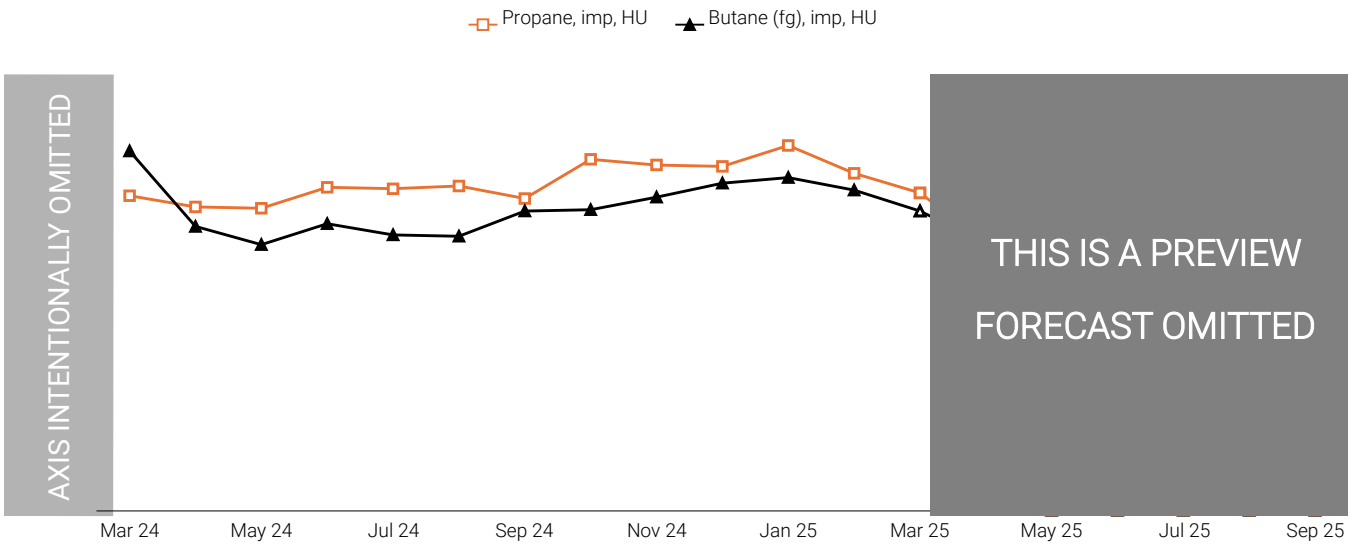


Figure 4.3 LPG Historical Prices (12M) + Forecast (6M) (Mar 24 - Sep 25)

4.4 Naphtha

Table 4.4 presents the six-month price forecast for Naphtha.

Table 4.4 Naphtha Monthly Price Forecast Assessments

	Apr 25	May 25	Jun 25	Jul 25	Aug 25	Sep 25
Naphtha (heavy), import spot, cif (HUF/kg)	XXX	XXX	XXX	XXX	XXX	XXX

Figure 4.4 illustrates the six-month price trend forecast for Naphtha.

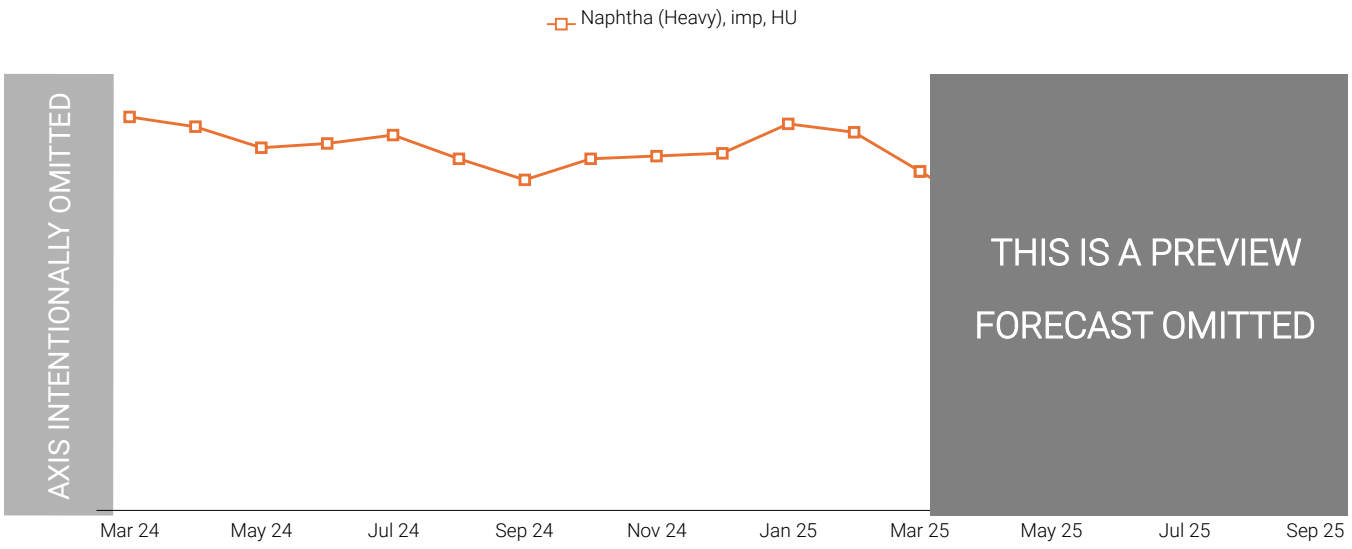


Figure 4.4 Naphtha Historical Prices (12M) + Forecast (6M) (Mar 24 - Sep 25)

4.5 Gasoline

Table 4.5 presents the six-month price forecast for Gasoline.

Table 4.5 Gasoline Monthly Price Forecast Assessments

	Apr 25	May 25	Jun 25	Jul 25	Aug 25	Sep 25
Gasoline (premium 95), retail (HUF/kg)	XXX	XXX	XXX	XXX	XXX	XXX

Figure 4.5 illustrates the six-month price trend forecast for Gasoline.

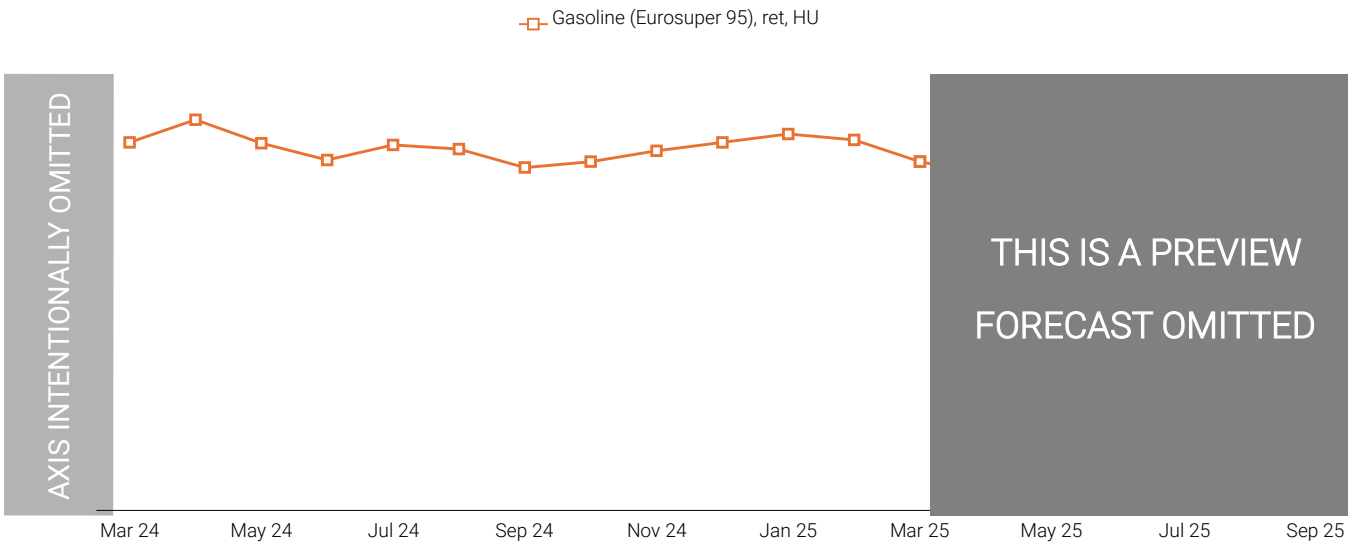


Figure 4.5 Gasoline Historical Prices (12M) + Forecast (6M) (Mar 24 - Sep 25)

4.6 Kerosene

Table 4.6 presents the six-month price forecast for Kerosene.

Table 4.6 Kerosene Monthly Price Forecast Assessments

	Apr 25	May 25	Jun 25	Jul 25	Aug 25	Sep 25
Kerosene (jet fuel), export spot, fob (HUF/kg)	XXX	XXX	XXX	XXX	XXX	XXX

Figure 4.6 illustrates the six-month price trend forecast for Kerosene.

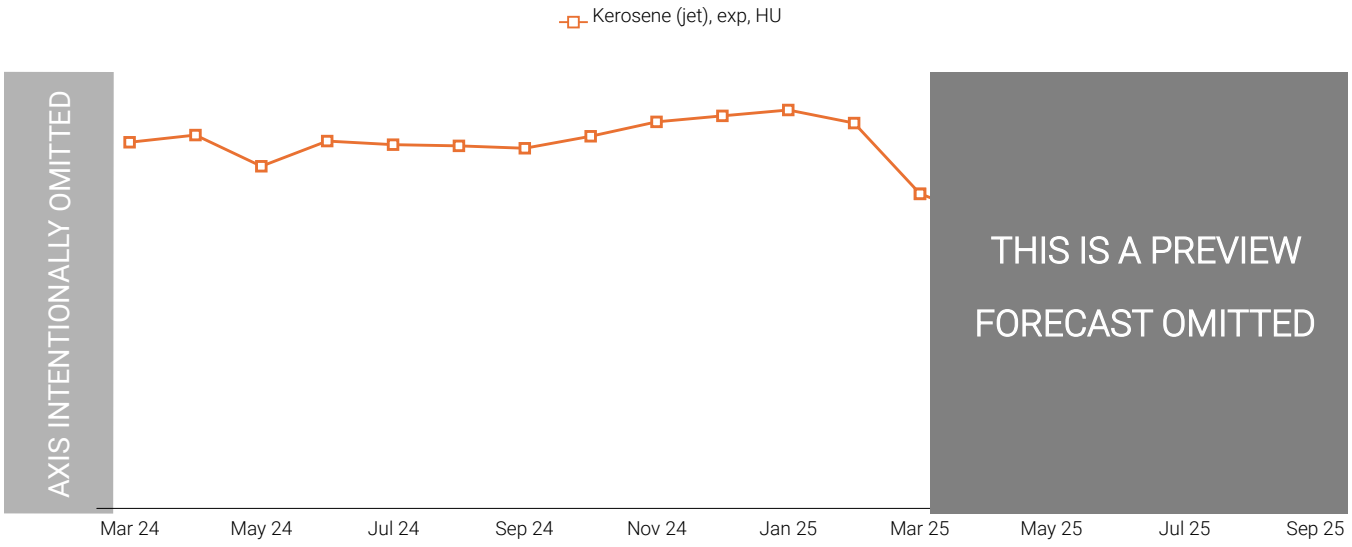


Figure 4.6 Kerosene Historical Prices (12M) + Forecast (6M) (Mar 24 - Sep 25)

4.7 Diesel

Table 4.7 presents the six-month price forecast for Diesel.

Table 4.7 Diesel Monthly Price Forecast Assessments

	Apr 25	May 25	Jun 25	Jul 25	Aug 25	Sep 25
Diesel (ultra-low-sulfur), export transaction, fob (HUF/kg)	XXX	XXX	XXX	XXX	XXX	XXX

Figure 4.7 illustrates the six-month price trend forecast for Diesel.

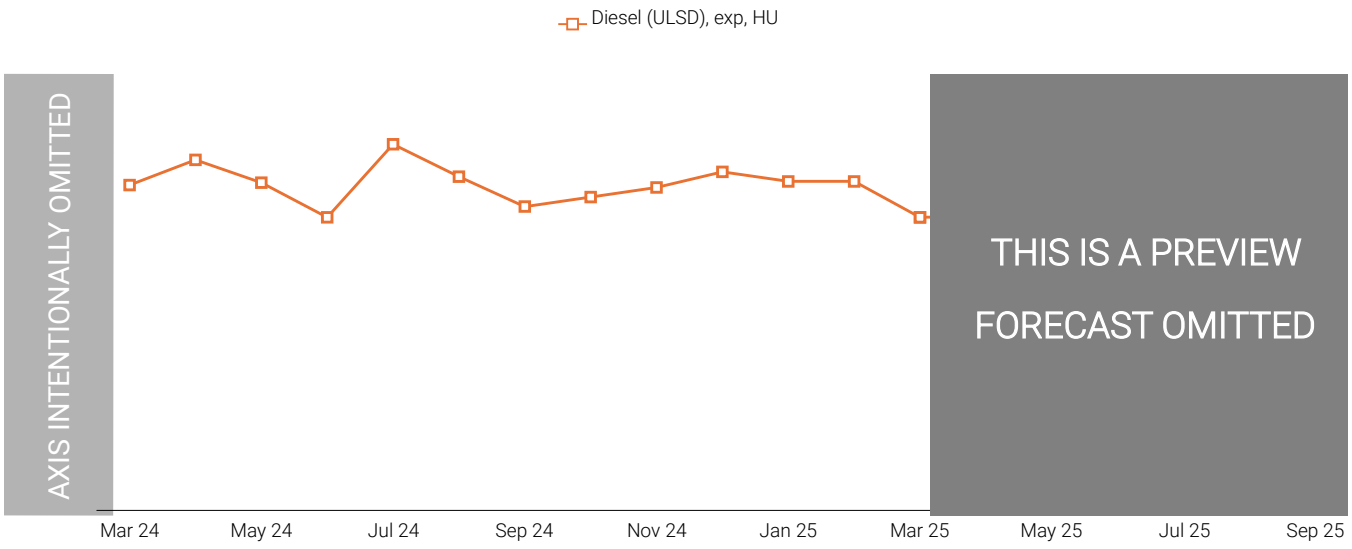


Figure 4.7 Diesel Historical Prices (12M) + Forecast (6M) (Mar 24 - Sep 25)

4.8 Fuel Oil

Table 4.8 presents the six-month price forecast for Fuel Oil.

Table 4.8 Fuel Oil Monthly Price Forecast Assessments

	Apr 25	May 25	Jun 25	Jul 25	Aug 25	Sep 25
Fuel Oil (heavy), export spot, fob (HUF/kg)	XXX	XXX	XXX	XXX	XXX	XXX

Figure 4.8 illustrates the six-month price trend forecast for Fuel Oil.

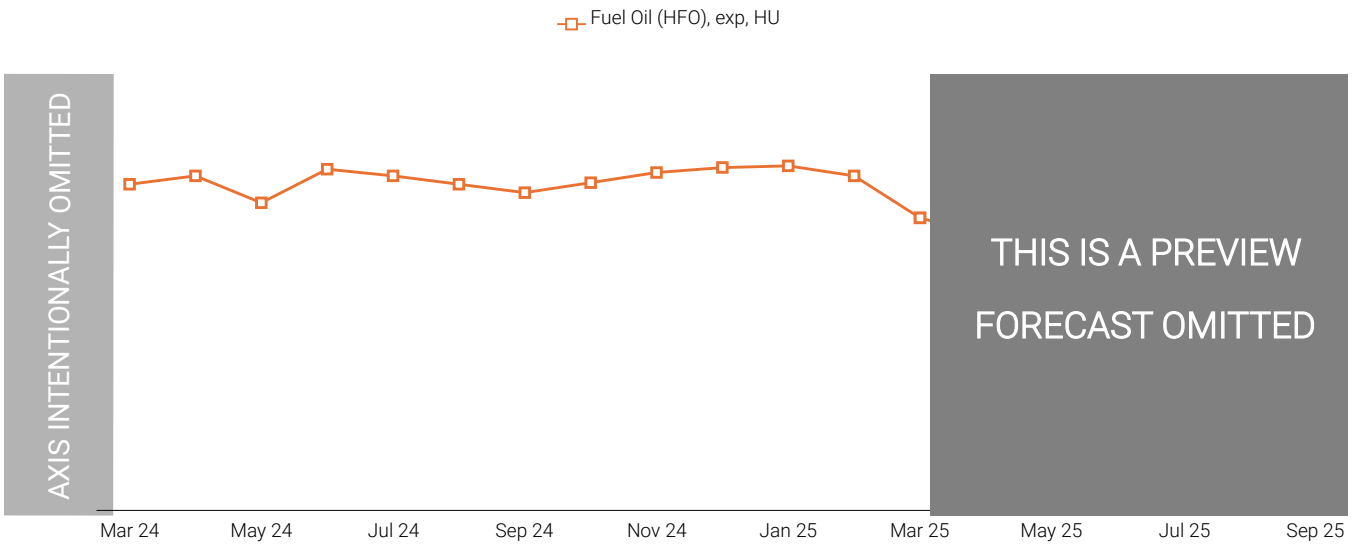


Figure 4.8 Fuel Oil Historical Prices (12M) + Forecast (6M) (Mar 24 - Sep 25)

4.9 Electricity

Table 4.9 presents the six-month price forecast for Electricity.

Table 4.9 Electricity Monthly Price Forecast Assessments

	Apr 25	May 25	Jun 25	Jul 25	Aug 25	Sep 25
Electricity, industrial sector (HUF/kWh)	XXX	XXX	XXX	XXX	XXX	XXX
Electricity, household (HUF/kWh)	XXX	XXX	XXX	XXX	XXX	XXX

Figure 4.9 illustrates the six-month price trend forecast for Electricity.

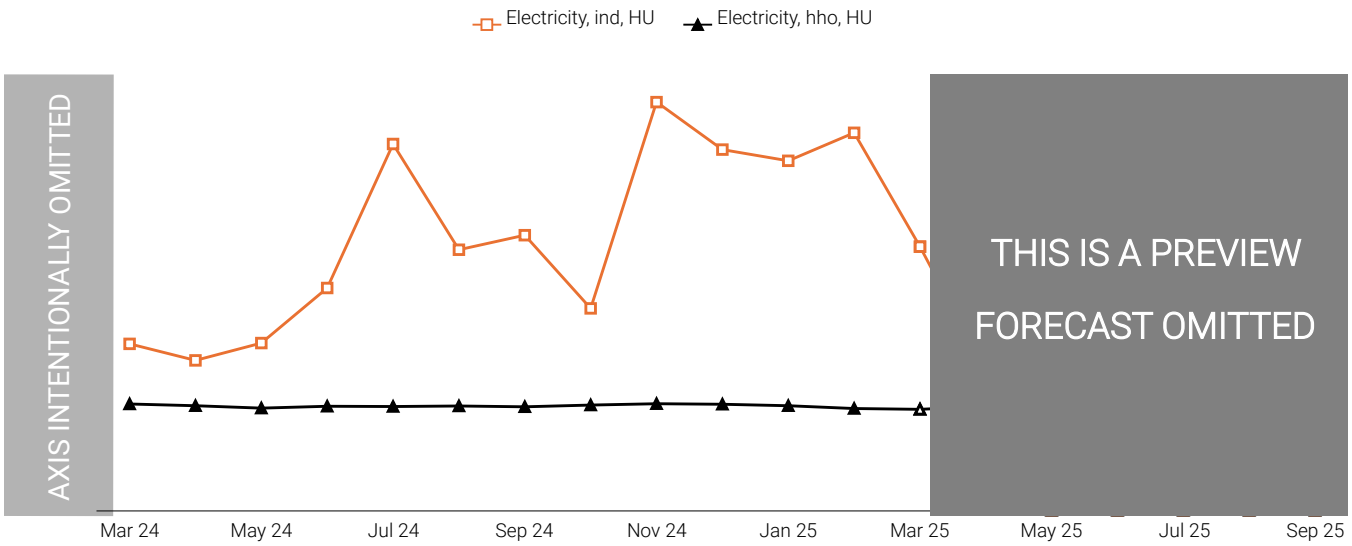


Figure 4.9 Electricity Historical Prices (12M) + Forecast (6M) (Mar 24 - Sep 25)

4.10 Ethanol

Table 4.10 presents the six-month price forecast for Ethanol.

Table 4.10 Ethanol Monthly Forecast Price Assessments

	Apr 25	May 25	Jun 25	Jul 25	Aug 25	Sep 25
Ethanol (anhydrous), export spot, fob (HUF/kg)	XXX	XXX	XXX	XXX	XXX	XXX

Figure 4.10 illustrates the six-month price trend forecast for Ethanol.

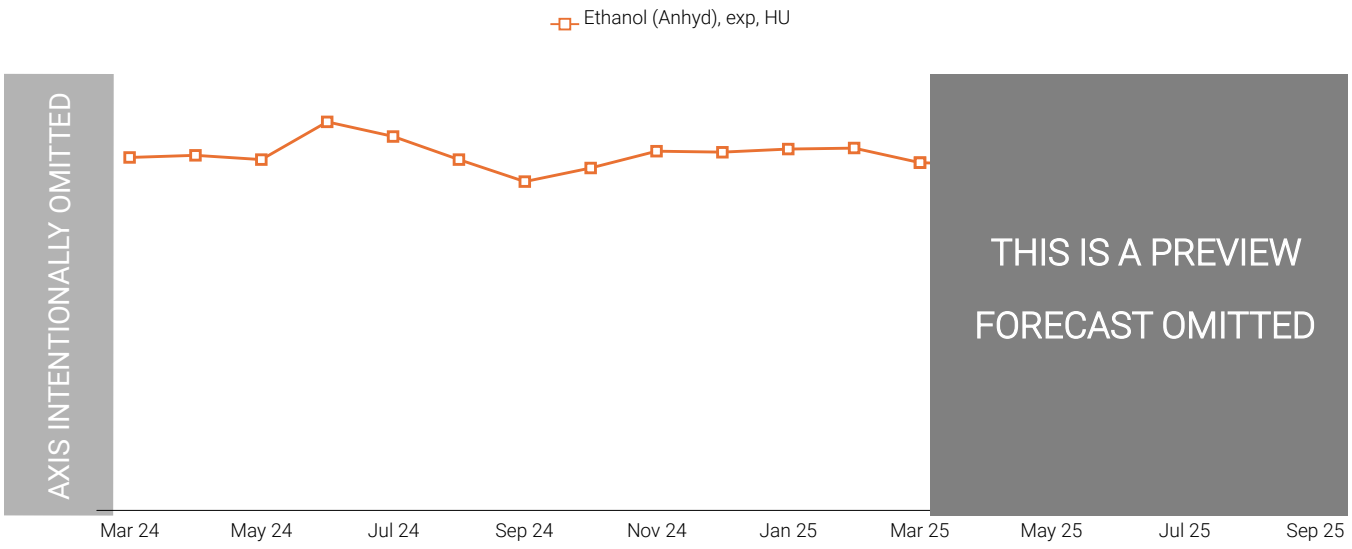


Figure 4.10 Ethanol Historical Prices (12M) + Forecast (6M) (Mar 24 - Sep 25)

Chapter 5

Market Outlook

This chapter provides a comprehensive analysis of the energy market in Hungary, focusing on key aspects such as international trade, domestic production, total demand, final consumption, energy self-sufficiency, and trade dependencies.

The analysis is structured as follows:

* **Imports and Exports:** Examines the energy trade balance, highlighting net imports and trends in energy commodity trade over recent years.
* **Trade Partners:** Identifies key countries involved in energy imports and exports across different commodity categories.
* **Production and Demand**: Analyzes trends in domestic energy production and total demand while exploring factors influencing these metrics.
* **Energy Balance:** Summarizes how energy supply and demand interact to define overall equilibrium.
* **Electricity Generation by Source:** Breaks down electricity generation by fuel type, highlighting contributions from renewables, nuclear, and fossil fuels.
* **Energy Self-Sufficiency and Trade Dependencies**: Evaluates reliance on imports, economic implications of energy trade, and the significance of exports to global markets.

Through this analysis, the chapter aims to provide a deeper understanding of the energy landscape in Hungary, offering valuable insights into production trends, consumption patterns, trade relationships, and the country's role in global energy markets.

Readers seeking further details on energy commodity categories and energy flows can refer to *"Appendix A. Glossary and Methodology."*

5.1 Imports and Exports

This section provides a detailed analysis of the energy trade in Hungary, focusing on net imports as well as energy commodity imports and exports over the past years. Figure 5.1 illustrates the energy net imports from Nov 23 to Nov 24, offering insights into the country's overall energy trade balance.

Following this, Tables 5.1 and 5.2 present a breakdown of energy commodity imports and exports by category, including Oil and Oil Products, Natural Gas, Coal, Renewables, and Electricity. The units used for each commodity are tailored to their specific characteristics (e.g., barrels for Oil, metric tons for Coal), while aggregated values are expressed in energy terms where appropriate (e.g., PJ).

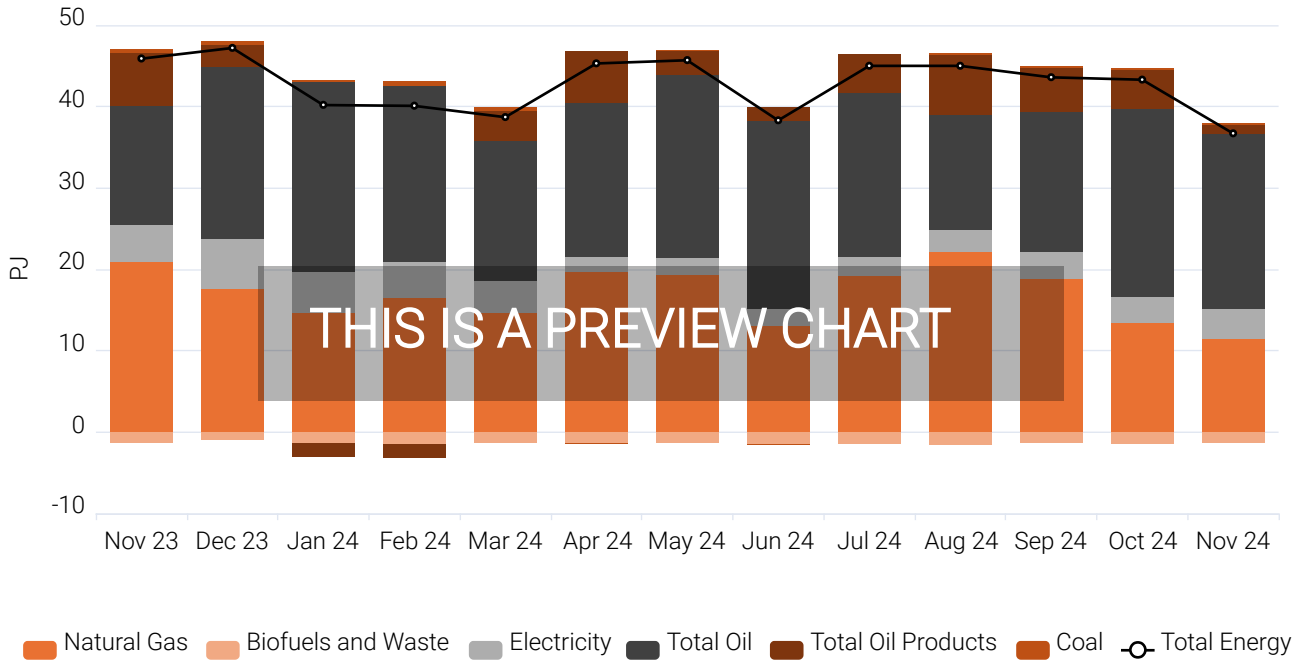


Figure 5.1 Hungary Energy Net Trade, in PJ (Nov 23 - Nov 24)

Table 5.1 Energy Commodities Imports

Imports	Unit	2024 (i)	2023	2022	2021
Crude Oil	MMbbl (PJ)	42.4 (249)	XXX (XXX)	XXX (XXX)	XXX (XXX)
NGL	MMbbl (PJ)	0.00 (0.00)	XXX (XXX)	XXX (XXX)	XXX (XXX)
Other Feedstock	MMbbl (PJ)	0.271 (1.44)	XXX (XXX)	XXX (XXX)	XXX (XXX)
Total Oil	**PJ**	**250**	**XXX**	**XXX**	**XXX**
LPG	kt (PJ)	342 (15.0)	XXX (XXX)	XXX (XXX)	XXX (XXX)
Naphtha	kt (PJ)	212 (9.14)	XXX (XXX)	XXX (XXX)	XXX (XXX)
Gasoline	kt (PJ)	500 (21.2)	XXX (XXX)	XXX (XXX)	XXX (XXX)
Kerosenes	kt (PJ)	137 (5.72)	XXX (XXX)	XXX (XXX)	XXX (XXX)
Diesel	kt (PJ)	2,900 (120)	XXX (XXX)	XXX (XXX)	XXX (XXX)
Fuel oil	kt (PJ)	0.00 (0.00)	XXX (XXX)	XXX (XXX)	XXX (XXX)
Other oil products	kt (PJ)	408 (15.6)	XXX (XXX)	XXX (XXX)	XXX (XXX)
Total Oil Products	**PJ**	**186**	**XXX**	**XXX**	**XXX**
Total Oil & Oil Products	**PJ**	**436**	**XXX**	**XXX**	**XXX**
Natural Gas	PJ	356	XXX	XXX	XXX
Coal	MMT (PJ)	0.329 (5.09)	XXX (XXX)	XXX (XXX)	XXX (XXX)
Biofuels and waste	PJ	5.58	XXX	XXX	XXX
Electricity	GWh (PJ)	22,700 (81.7)	XXX (XXX)	XXX (XXX)	XXX (XXX)
Total Energy Imports	**PJ**	**885**	**XXX**	**XXX**	**XXX**

(i) Data for 2024 are incomplete and represent January to November values only.

Table 5.2 Energy Commodities Exports

Exports	Unit	2024 (i)	2023	2022	2021
Crude Oil	MMbbl (PJ)	0.464 (2.72)	XXX (XXX)	XXX (XXX)	XXX (XXX)
NGL	MMbbl (PJ)	0.169 (0.557)	XXX (XXX)	XXX (XXX)	XXX (XXX)
Other Feedstock	MMbbl (PJ)	0.255 (1.36)	XXX (XXX)	XXX (XXX)	XXX (XXX)
Total Oil	**PJ**	**4.64**	**XXX**	**XXX**	**XXX**
LPG	kt (PJ)	71.0 (3.11)	XXX (XXX)	XXX (XXX)	XXX (XXX)
Naphtha	kt (PJ)	1.00 (0.0431)	XXX (XXX)	XXX (XXX)	XXX (XXX)
Gasoline	kt (PJ)	236 (10.0)	XXX (XXX)	XXX (XXX)	XXX (XXX)
Kerosenes	kt (PJ)	3.00 (0.125)	XXX (XXX)	XXX (XXX)	XXX (XXX)
Diesel	kt (PJ)	2,070 (85.2)	XXX (XXX)	XXX (XXX)	XXX (XXX)
Fuel oil	kt (PJ)	146 (5.81)	XXX (XXX)	XXX (XXX)	XXX (XXX)
Other oil products	kt (PJ)	1,170 (44.7)	XXX (XXX)	XXX (XXX)	XXX (XXX)
Total Oil Products	**PJ**	**149**	**XXX**	**XXX**	**XXX**
Total Oil & Oil Products	**PJ**	**154**	**XXX**	**XXX**	**XXX**
Natural Gas	PJ	161	XXX	XXX	XXX
Coal	MMT (PJ)	0.163 (3.29)	XXX (XXX)	XXX (XXX)	XXX (XXX)
Biofuels and waste	PJ	22.4	XXX	XXX	XXX
Electricity	GWh (PJ)	12,000 (43.1)	XXX (XXX)	XXX (XXX)	XXX (XXX)
Total Energy Exports	**PJ**	**384**	**XXX**	**XXX**	**XXX**

(i) Data for 2024 are incomplete and represent January to November values only.

5.2 Trade Partners

This section examines the key trade partners involved in Hungary energy imports and exports, focusing on major commodity categories such as Oil, Oil Products, Natural Gas, and Coal.

Oil

Figure 5.2 illustrates the primary countries exporting and importing Oil in 2024 (January to November). Additionally, Table 5.3 presents a detailed breakdown of Oil trade partners over recent years, expressed as a percentage of total Hungary imports and exports.

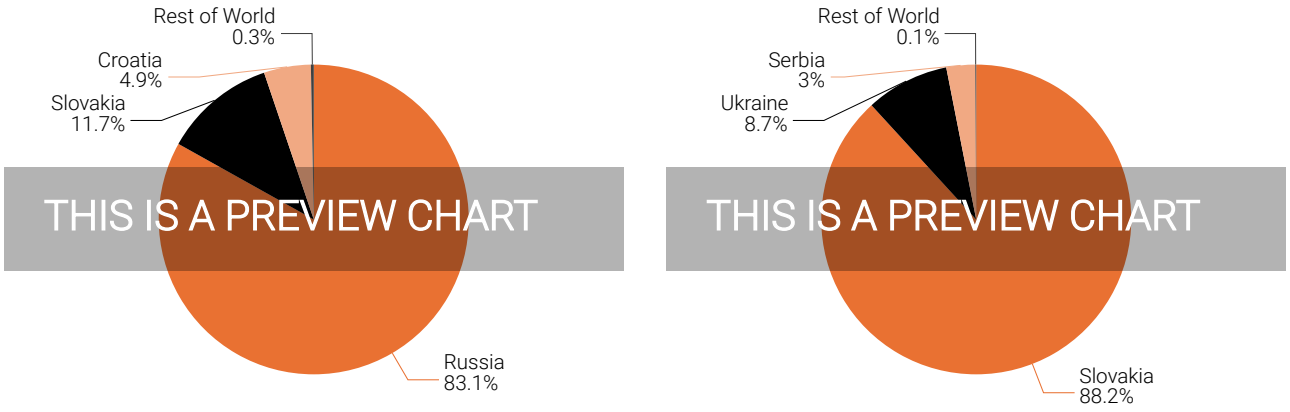


Figure 5.2 Oil Exporters, left, and Importers, right (Jan 24 - Nov 24)

Table 5.3 Hungary Oil Trade Partners (%)

Key Partners	2024 (i)	2023	2022	2021
Top Exporters				
1st	83.1 (Russia)	XXX (XXXXXX)	XXX (XXXXXX)	XXX (XXXXXX)
2nd	11.7 (Slovakia)	XXX (XXXXXX)	XXX (XXXXXX)	XXX (XXXXXX)
3rd	4.9 (Croatia)	XXX (XXXXXX)	XXX (XXXXXX)	XXX (XXXXXX)
Rest of World	0.3	XXX	XXX	XXX
Top Importers				
1st	88.2 (Slovakia)	XXX (XXXXXX)	XXX (XXXXXX)	XXX (XXXXXX)
2nd	8.7 (Ukraine)	XXX (XXXXXX)	XXX (XXXXXX)	XXX (XXXXXX)
3rd	3 (Serbia)	XXX (XXXXXX)	XXX (XXXXXX)	XXX (XXXXXX)
Rest of World	0.1	XXX	XXX	XXX

(i) Data for 2024 are incomplete and represent January to November values only.

Oil Products

Figure 5.3 illustrates the key countries exporting and importing Oil Products in 2024 (January to November). Additionally, Table 5.4 provides a detailed breakdown of oil product trade partners over recent years, expressed as a percentage of total Hungary imports and exports.

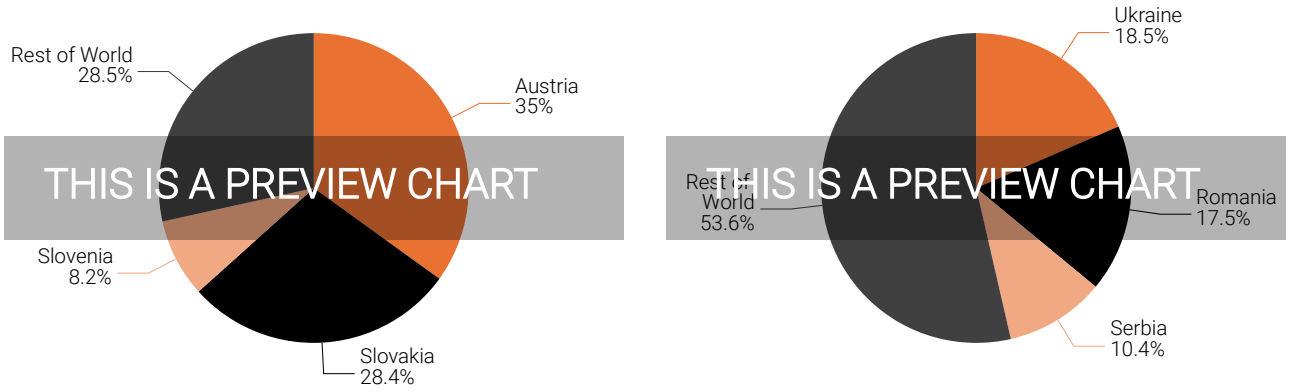


Figure 5.3 Oil Products Exporters, left, and Importers, right (Jan 24 - Nov 24)

Table 5.4 Hungary Oil Products Trade Partners (%)

Key Partners	2024 (i)	2023	2022	2021
Top Exporters				
1st	35 (Austria)	XXX (XXXXXX)	XXX (XXXXXX)	XXX (XXXXXX)
2nd	28.4 (Slovakia)	XXX (XXXXXX)	XXX (XXXXXX)	XXX (XXXXXX)
3rd	8.2 (Slovenia)	XXX (XXXXXX)	XXX (XXXXXX)	XXX (XXXXXX)
Rest of World	28.5	XXX	XXX	XXX
Top Importers				
1st	18.5 (Ukraine)	XXX (XXXXXX)	XXX (XXXXXX)	XXX (XXXXXX)
2nd	17.5 (Romania)	XXX (XXXXXX)	XXX (XXXXXX)	XXX (XXXXXX)
3rd	10.4 (Serbia)	XXX (XXXXXX)	XXX (XXXXXX)	XXX (XXXXXX)
Rest of World	53.6	XXX	XXX	XXX

(i) Data for 2024 are incomplete and represent January to November values only.

Natural Gas

Figure 5.4 highlights the key countries exporting and importing Natural Gas in 2024 (January to November). Additionally, Table 5.5 presents a detailed breakdown of Natural Gas trade partners over recent years, expressed as a percentage of total Hungary imports and exports.

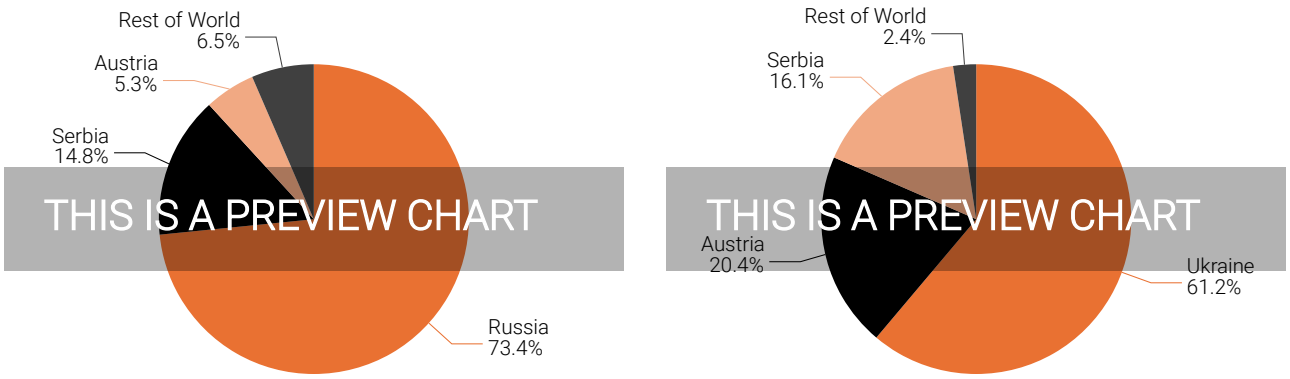


Figure 5.4 Natural Gas Exporters, left, and Importers, right (Jan 24 - Nov 24)

Table 5.5 Hungary Natural Gas Trade Partners (%)

Key Partners	2024 (i)	2023	2022	2021
Top Exporters				
1st	73.4 (Russia)	XXX (XXXXXX)	XXX (XXXXXX)	XXX (XXXXXX)
2nd	14.8 (Serbia)	XXX (XXXXXX)	XXX (XXXXXX)	XXX (XXXXXX)
3rd	5.3 (Austria)	XXX (XXXXXX)	XXX (XXXXXX)	XXX (XXXXXX)
Rest of World	6.5	XXX	XXX	XXX
Top Importers				
1st	61.2 (Ukraine)	XXX (XXXXXX)	XXX (XXXXXX)	XXX (XXXXXX)
2nd	20.4 (Austria)	XXX (XXXXXX)	XXX (XXXXXX)	XXX (XXXXXX)
3rd	16.1 (Serbia)	XXX (XXXXXX)	XXX (XXXXXX)	XXX (XXXXXX)
Rest of World	2.4	XXX	XXX	XXX

(i) Data for 2024 are incomplete and represent January to November values only.

Coal

Figure 5.5 highlights the primary countries exporting and importing Coal in 2024 (January to November). Additionally, Table 5.6 provides a detailed breakdown of Coal trade partners over recent years, expressed as a percentage of total Hungary imports and exports.

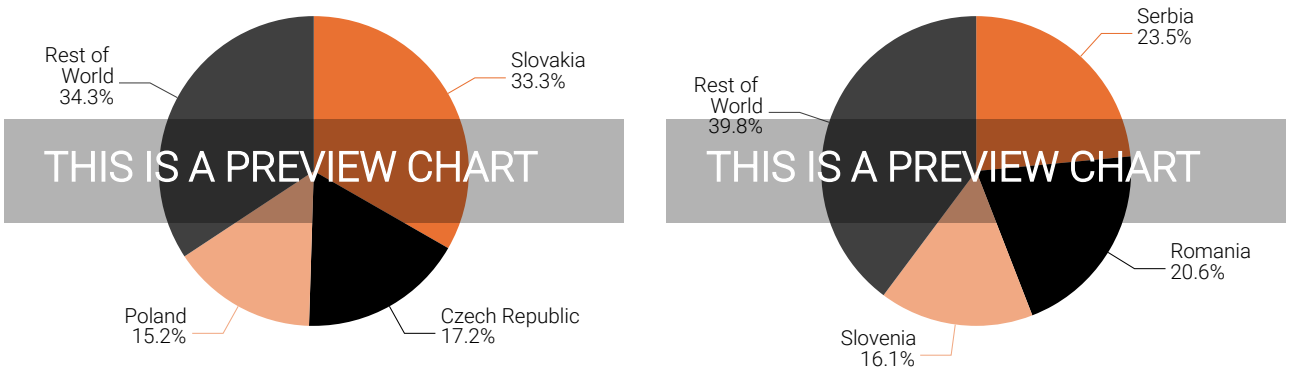


Figure 5.5 Coal Exporters, left, and Importers, right (Jan 24 - Nov 24)

Table 5.6 Hungary Coal Trade Partners (%)

Key Partners	2024 (i)	2023	2022	2021
Top Exporters				
1st	33.3 (Slovakia)	XXX (XXXXXX)	XXX (XXXXXX)	XXX (XXXXXX)
2nd	17.2 (Czech Republic)	XXX (XXXXXX)	XXX (XXXXXX)	XXX (XXXXXX)
3rd	15.2 (Poland)	XXX (XXXXXX)	XXX (XXXXXX)	XXX (XXXXXX)
Rest of World	34.3	XXX	XXX	XXX
Top Importers				
1st	23.5 (Serbia)	XXX (XXXXXX)	XXX (XXXXXX)	XXX (XXXXXX)
2nd	20.6 (Romania)	XXX (XXXXXX)	XXX (XXXXXX)	XXX (XXXXXX)
3rd	16.1 (Slovenia)	XXX (XXXXXX)	XXX (XXXXXX)	XXX (XXXXXX)
Rest of World	39.8	XXX	XXX	XXX

(i) Data for 2024 are incomplete and represent January to November values only.

5.3 Production and Demand

Production

Energy production involves extracting and generating energy from various sources. These include fossil fuels (Coal, Oil, and Natural Gas), which are used as fuels and for electricity generation, as well as Nuclear Power and Renewable energy sources (Hydropower, Wind, and Solar).

The trends in domestic energy production over recent years in Hungary are presented in Figure 5.6, highlighting shifts in the contribution of energy sources to the overall energy mix.

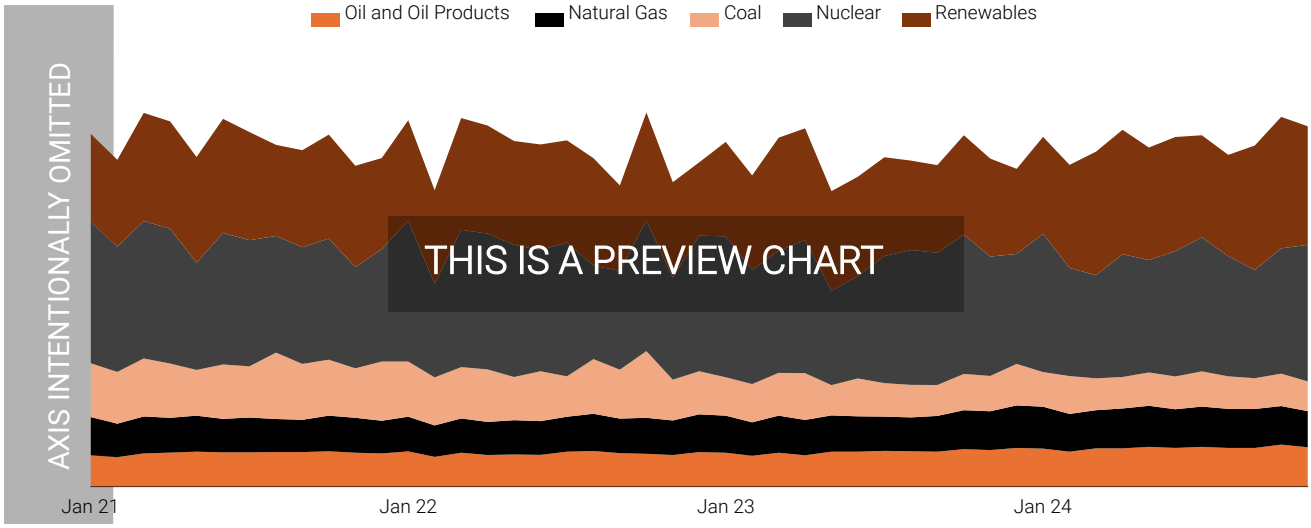


Figure 5.6 Hungary Energy Production (Jan 21 - Nov 24)

Table 5.7 Hungary Energy Production

Production	Unit	2024 (i)	2023	2022	2021
Oil & Oil Products	PJ	54.2	XXX	XXX	XXX
Natural Gas	PJ	54.4	XXX	XXX	XXX
Coal	MMT (PJ)	1.80 (46.1)	XXX (XXX)	XXX (XXX)	XXX (XXX)
Nuclear	PJ	172	XXX	XXX	XXX
Hydro	PJ	0.820	XXX	XXX	XXX
Geothermal	PJ	0.186	XXX	XXX	XXX
Solar	PJ	33.0	XXX	XXX	XXX
Wind	PJ	2.33	XXX	XXX	XXX
Biofuels and waste	PJ	123	XXX	XXX	XXX
Total Energy Production	**PJ**	**486**	**XXX**	**XXX**	**XXX**

(i) Data for 2024 are incomplete and represent January to November values only.

Demand

Energy demand represents the total energy required to meet the needs of end users within a country, calculated as:

Demand = Production + Imports – Exports – Stock Change

This metric reflects the energy needed for various applications, including industrial processes, transportation, residential heating, and electricity generation. While some energy sources are consumed in their original form, most are transformed into fuels or electricity before final use. Recent trends in energy demand in Hungary are illustrated in Figure 5.7, showcasing how total demand has evolved over the years. Additional details are provided in Table 5.8, which presents a breakdown of energy demand by year.

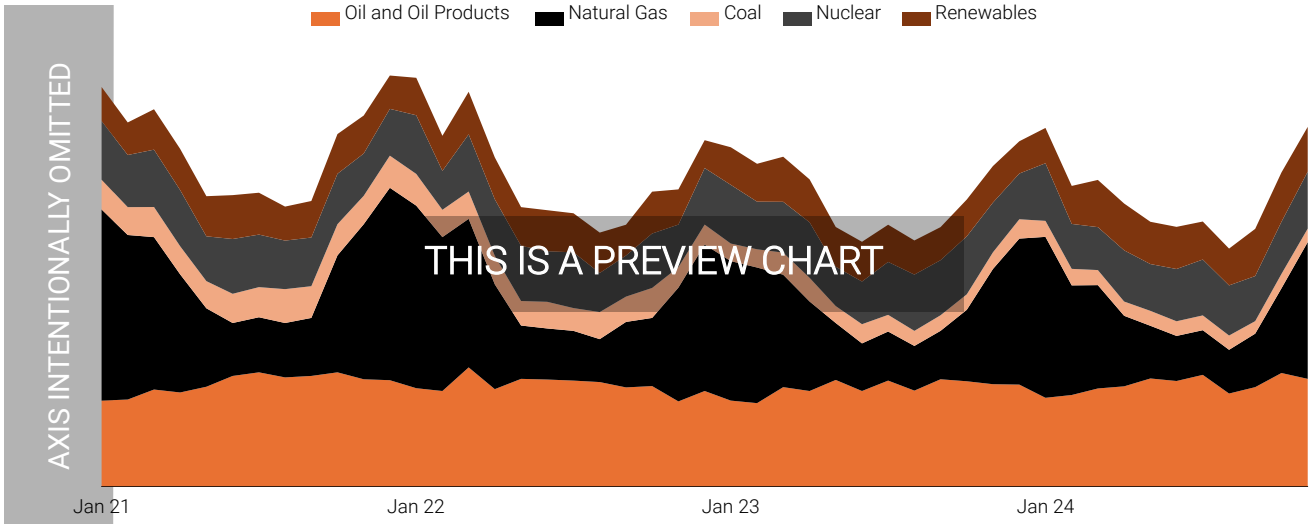


Figure 5.7 Hungary Energy Demand (Jan 21 - Nov 24)

Table 5.8 Hungary Energy Demand

Demand	Unit	2024 (i)	2023	2022	2021
Oil	PJ	300	XXX	XXX	XXX
Oil Products	PJ	37.7	XXX	XXX	XXX
Natural Gas	PJ	297	XXX	XXX	XXX
Coal	MMT (PJ)	1.78 (49.0)	XXX (XXX)	XXX (XXX)	XXX (XXX)
Nuclear	PJ	172	XXX	XXX	XXX
Hydro	PJ	0.820	XXX	XXX	XXX
Geothermal, solar, wind, etc.	PJ	35.5	XXX	XXX	XXX
Biofuels and waste	PJ	106	XXX	XXX	XXX
Total Energy Demand	**PJ**	**1,040**	**XXX**	**XXX**	**XXX**

(i) Data for 2024 are incomplete and represent January to November values only.

Oil Products Domestic Supply

The domestic supply of oil products reflects availability and demand for petroleum products within a country. It accounts for the transformation of Crude Oil, Natural Gas Liquids, and other inputs into refined products at refineries, as well as their direct use to meet energy needs.

Refined petroleum products serve various purposes, including transportation (e.g., Gasoline, Diesel), residential heating, industrial applications, and power generation. They are also key raw materials for petrochemical production, contributing to plastics, synthetic rubber, and other industrial goods.

Figure 5.8 illustrates recent trends in the domestic supply of refined oil products in Hungary. Table 5.9 provides an overview of key oil products and their shares in total supply.

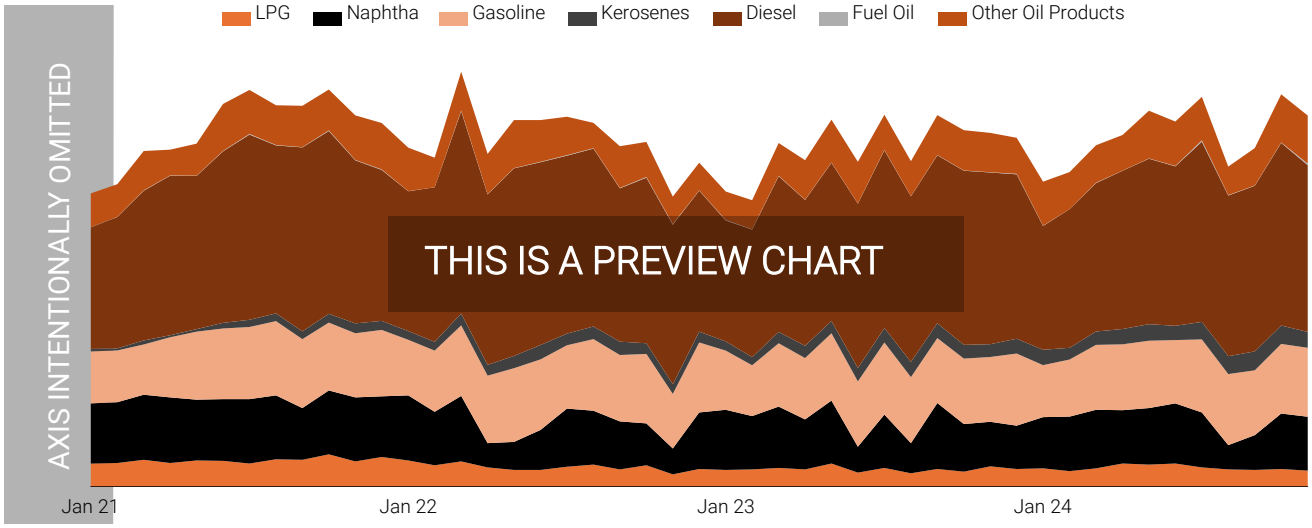


Figure 5.8 Hungary Oil Products Supply (Jan 21 - Nov 24)

Table 5.9 Hungary Oil Products Domestic Supply

	Unit	2024 (i)	2023	2022	2021
LPG	kt (PJ)	401 (17.6)	XXX (XXX)	XXX (XXX)	XXX (XXX)
Naphtha	kt (PJ)	1,170 (50.3)	XXX (XXX)	XXX (XXX)	XXX (XXX)
Gasoline	kt (PJ)	1,500 (64.0)	XXX (XXX)	XXX (XXX)	XXX (XXX)
Kerosenes	kt (PJ)	374 (15.6)	XXX (XXX)	XXX (XXX)	XXX (XXX)
Diesel	kt (PJ)	3,730 (154)	XXX (XXX)	XXX (XXX)	XXX (XXX)
Fuel oil	kt (PJ)	11.4 (0.454)	XXX (XXX)	XXX (XXX)	XXX (XXX)
Other oil products	kt (PJ)	1,040 (39.9)	XXX (XXX)	XXX (XXX)	XXX (XXX)
Total Oil Products	**PJ**	**342**	**XXX**	**XXX**	**XXX**

(i) Data for 2024 are incomplete and represent January to November values only.

Consumption

Consumption refers to the energy directly used by individuals, businesses, and industries for various activities such as heating and cooling buildings, powering appliances, lighting, transportation, and operating industrial machinery. It also includes non-energy applications, such as the use of fossil fuels as raw materials in chemical production.

During the conversion of primary energy sources into usable forms (e.g., electricity or refined fuels), a portion of energy is inevitably lost. As a result, the composition of final energy consumption often differs from demand. Understanding both metrics is essential for analyzing the efficiency of energy systems and identifying trends in energy use across sectors.

Recent trends in consumption are illustrated in Figure 5.9, which highlights changes over the years. Additional details are provided in Table 5.10, presenting a year-by-year breakdown of energy consumption across key commodity sectors.

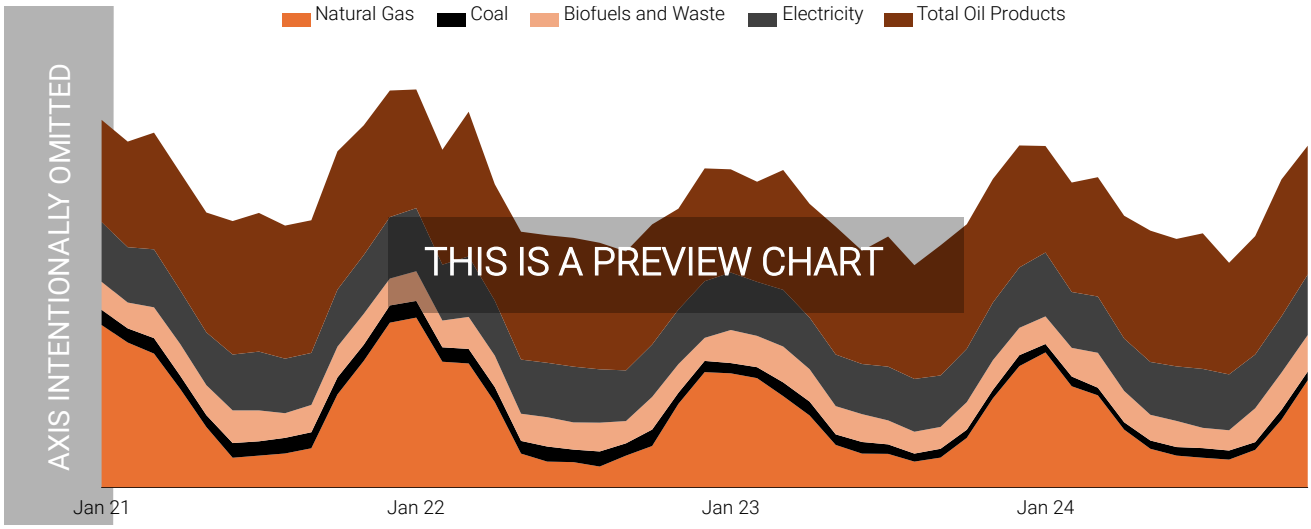


Figure 5.9 Hungary Energy Consumption (Jan 21 - Nov 24)

Table 5.10 Hungary Energy Consumption

Consumption	Unit	2024 (i)	2023	2022	2021
Oil Products	PJ	341	XXX	XXX	XXX
Natural Gas	PJ	198	XXX	XXX	XXX
Coal	MMT (PJ)	0.852 (24.0)	XXX (XXX)	XXX (XXX)	XXX (XXX)
Biofuels and waste	PJ	83.6	XXX	XXX	XXX
Electricity	PJ	159	XXX	XXX	XXX
Total Consumption	**PJ**	**806**	**XXX**	**XXX**	**XXX**

(i) Data for 2024 are incomplete and represent January to November values only.

5.4 Energy Balance

The energy balance provides a comprehensive overview of the relationship between energy production, imports, exports, total demand, and consumption. It serves as a key indicator of how energy flows within the country, highlighting self-sufficiency levels, trade dependencies, and consumption patterns.

Table 5.11 summarizes the energy balance for recent years, presenting data on production, imports, exports, total demand, and final consumption in petajoule (PJ).

Additionally, Figure 5.10 illustrates the energy balance for 2024 (January to November), providing a visual representation of how energy supply and demand interact during this period.

Table 5.11 Hungary Energy Balance (in PJ)

Energy Balance	2024 (i)	2023	2022	2021
Production	486	XXX	XXX	XXX
Net Trade + Stock Changes	552	XXX	XXX	XXX
Demand	**1,040**	**XXX**	**XXX**	**XXX**
Transformation Losses	-234	XXX	XXX	XXX
Total Consumption	**806**	**XXX**	**XXX**	**XXX**

(i) Data for 2024 are incomplete and represent January to November values only.

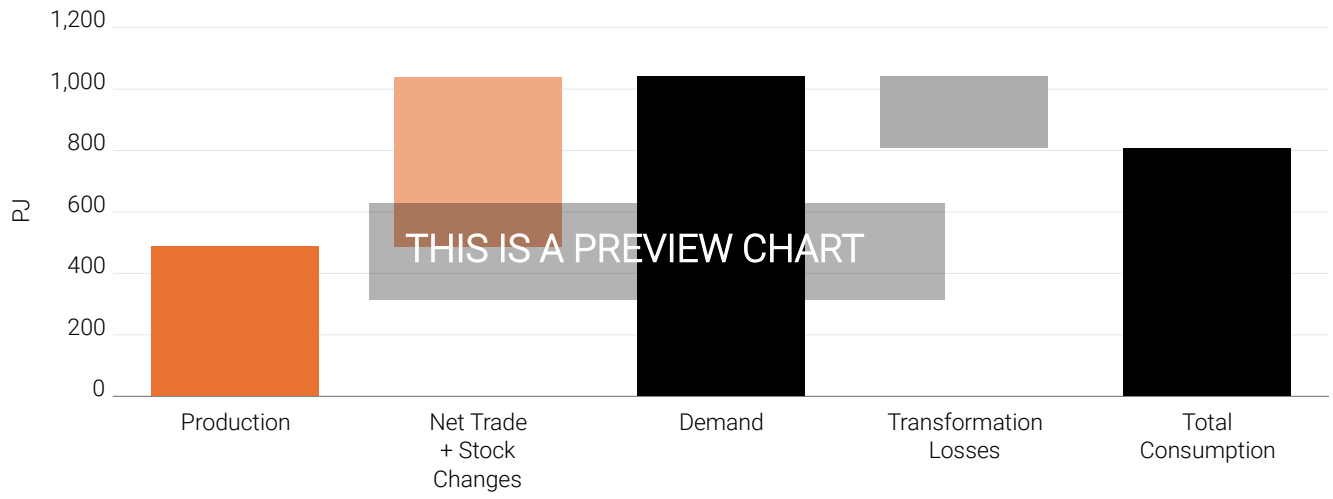


Figure 5.10 Hungary Energy Balance (Jan 24 - Nov 24)

5.5 Electricity Generation by Source

Electricity is classified as a secondary energy source because it is produced through the conversion of primary energy sources such as Coal, Natural Gas, Nuclear Energy, and Renewables (e.g., Wind, Solar, and Hydropower). This transformation process enables Electricity to serve as an energy carrier, powering homes, businesses, industries, and transportation systems.

Figure 5.11 illustrates Electricity generation by source for 2024 (January to November), highlighting contributions of Fossil Fuels, Nuclear Power, and Renewable Energy. Additionally, Table 5.12 presents detailed data on Electricity generation by source (in GWh) over recent years.

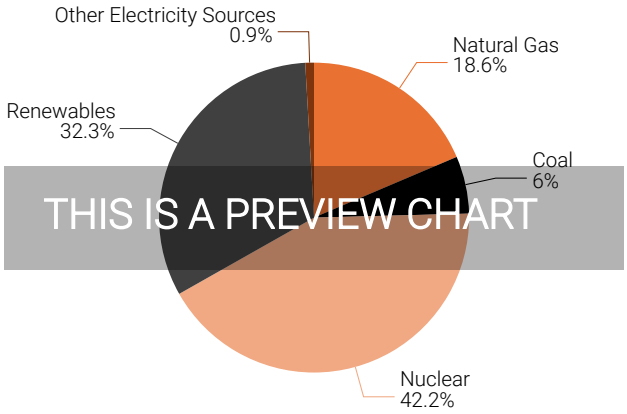


Figure 5.11 Hungary Electricity Generation by Source (Jan 24 - Nov 24)

Table 5.12 Hungary Electricity Generated by Source (in GWh)

Electricity Source	2024 (i)	2023	2022	2021
Nuclear	15,800	XXX	XXX	XXX
Hydro	228	XXX	XXX	XXX
Coal	2,240	XXX	XXX	XXX
Natural Gas	6,980	XXX	XXX	XXX
Biofuels & Waste	2,030	XXX	XXX	XXX
Geothermal	6.19	XXX	XXX	XXX
Solar	9,160	XXX	XXX	XXX
Wind	647	XXX	XXX	XXX
Other Sources	329	XXX	XXX	XXX
Total Electricity	**36,000**	**XXX**	**XXX**	**XXX**

(i) Data for 2024 are incomplete and represent January to November values only.

5.6 Energy Self-Sufficiency and Trade Dependencies

This chapter examines the energy self-sufficiency and trade dependencies of Hungary, providing insights into its ability to meet domestic energy demand through local production and its reliance on international trade. Energy self-sufficiency is a critical metric for understanding a country's energy security, while trade dependencies highlight the economic relationships with key energy import and export partners.

The analysis begins with an overview of the energy self-sufficiency ratio over the last years, illustrating the balance between domestic production and demand. This is followed by an exploration of the country's dependency on energy imports, including the share of GDP attributed to imports and the contribution of top trading partners to this dependency.

In addition, the chapter evaluates the role of energy exports in the economy of Hungary, presenting exports as a percentage of GDP and analyzing their contribution to the economies of top partner countries. Together, these insights offer a comprehensive view of the position of Hungary in global energy markets and its economic ties to key trading partners.

Energy Self-Sufficiency

Figure 5.12 illustrates the energy self-sufficiency ratio of Hungary over the years, calculated as domestic production divided by total demand. A ratio above 100% indicates self-sufficiency, while below 100% signals import reliance.

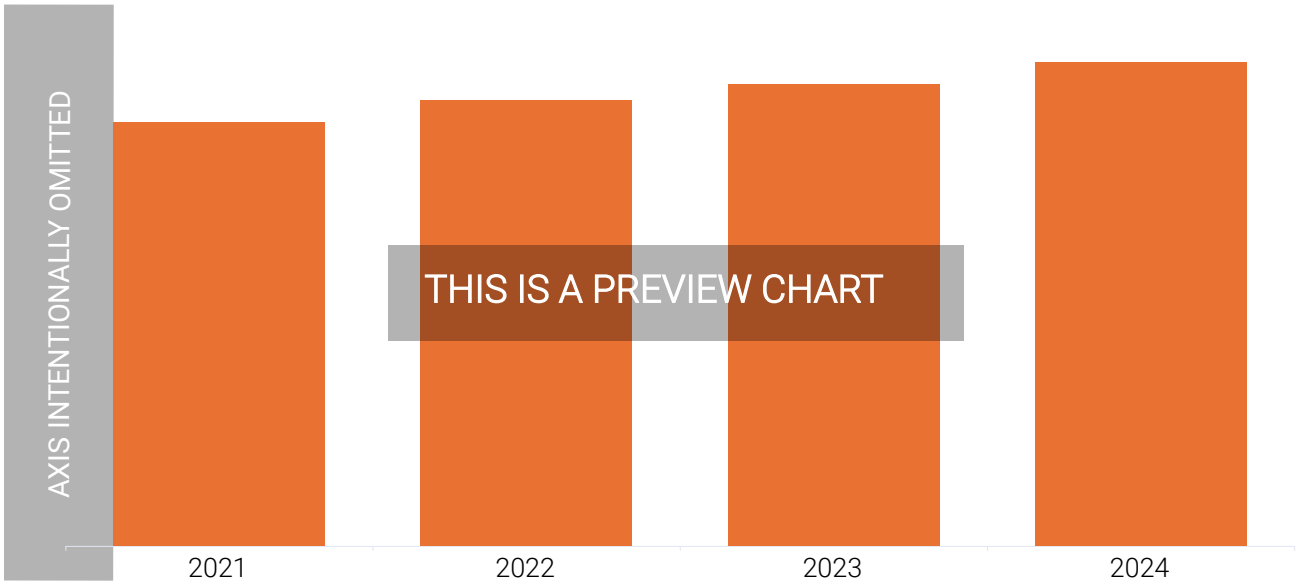


Figure 5.12 Hungary Energy Self-Sufficiency (2024 = Jan - Nov)

Economic Impact of Energy Imports

Figure 5.13 presents energy imports as a percentage of Hungary GDP over recent years, highlighting the contribution of key exporting countries. Figure 5.14 shows the share of GDP that Hungary energy imports represent for these exporters, emphasizing the economic importance of Hungary trade to their economies.

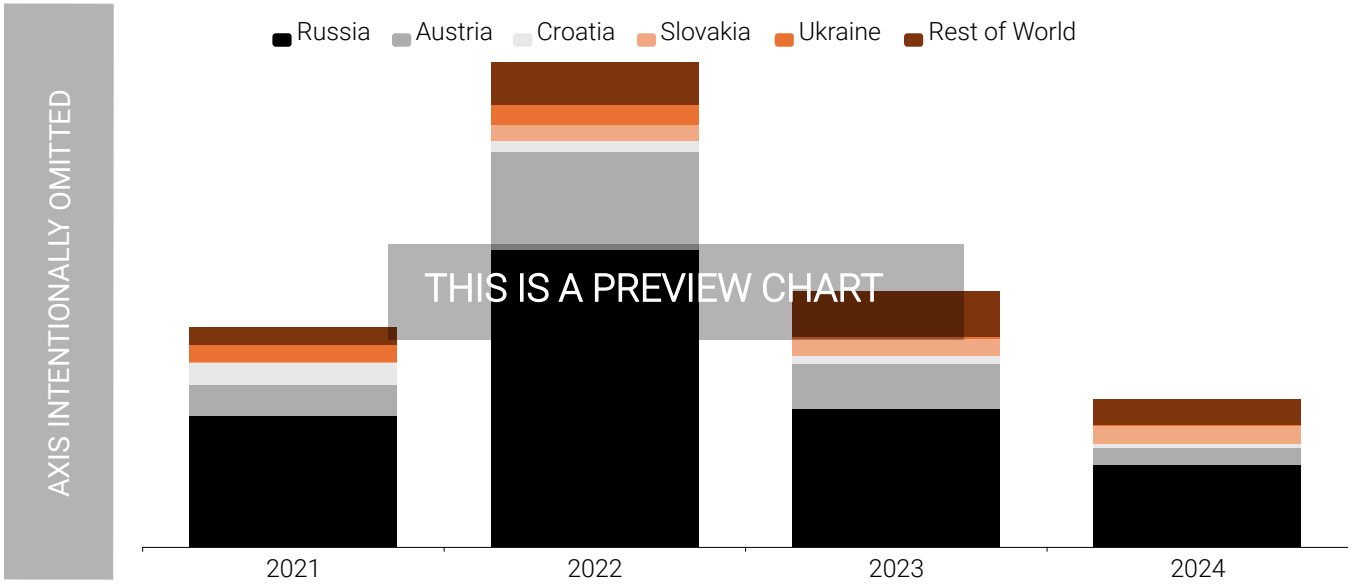


Figure 5.13 Hungary Energy Imports Over the Last Years (2024 = Jan - Nov)

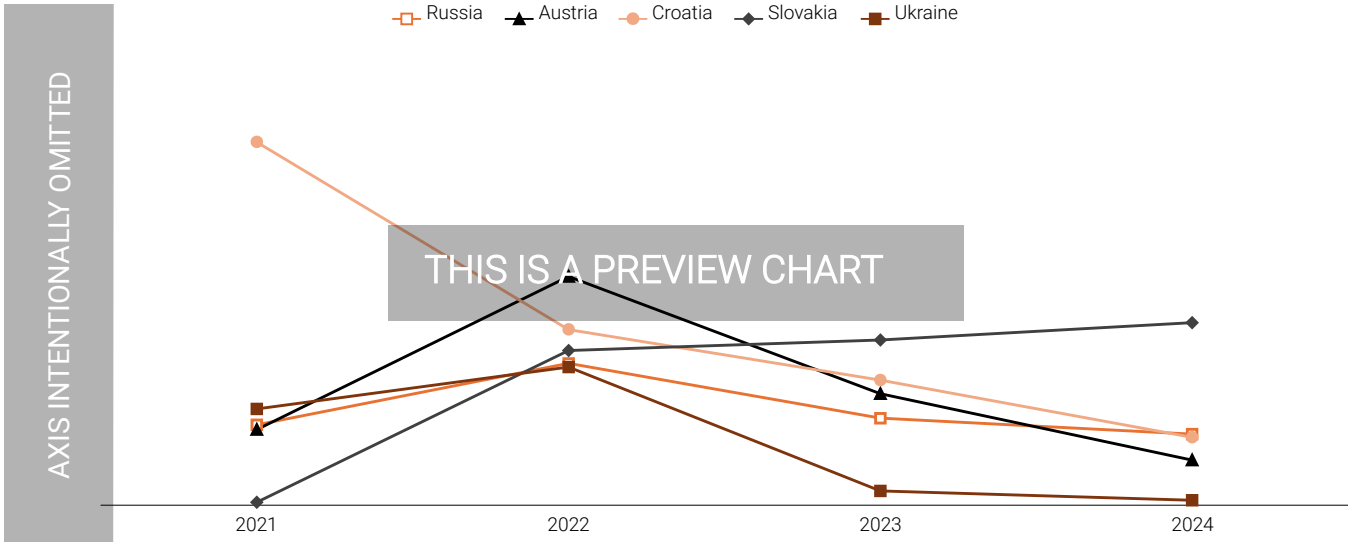


Figure 5.14 Hungary Imports as % of Exporters' GDP (2024 = Jan - Nov)

Economic Impact of Energy Exports

Figure 5.15 presents energy exports as a percentage of Hungary GDP over recent years, highlighting the role of key importing countries. Figure 5.16 shows the share of GDP that Hungary energy exports represent for these importers, underscoring the importance of Hungary trade to their economies.

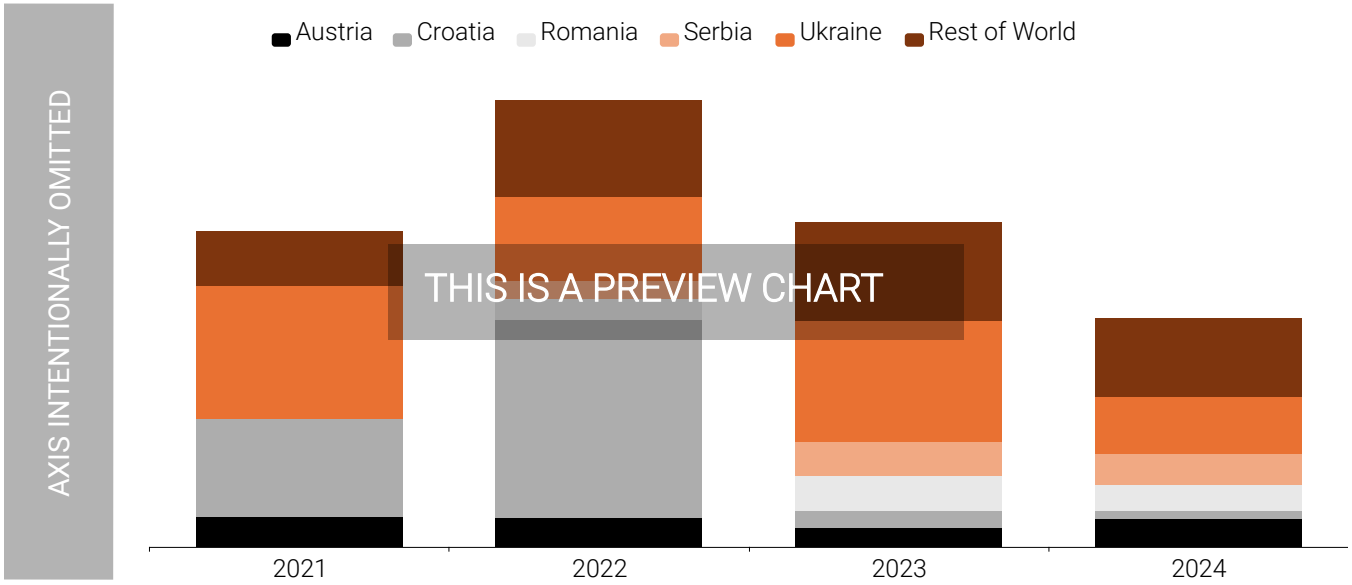


Figure 5.15 Hungary Energy Exports Over the Last Years (2024 = Jan - Nov)

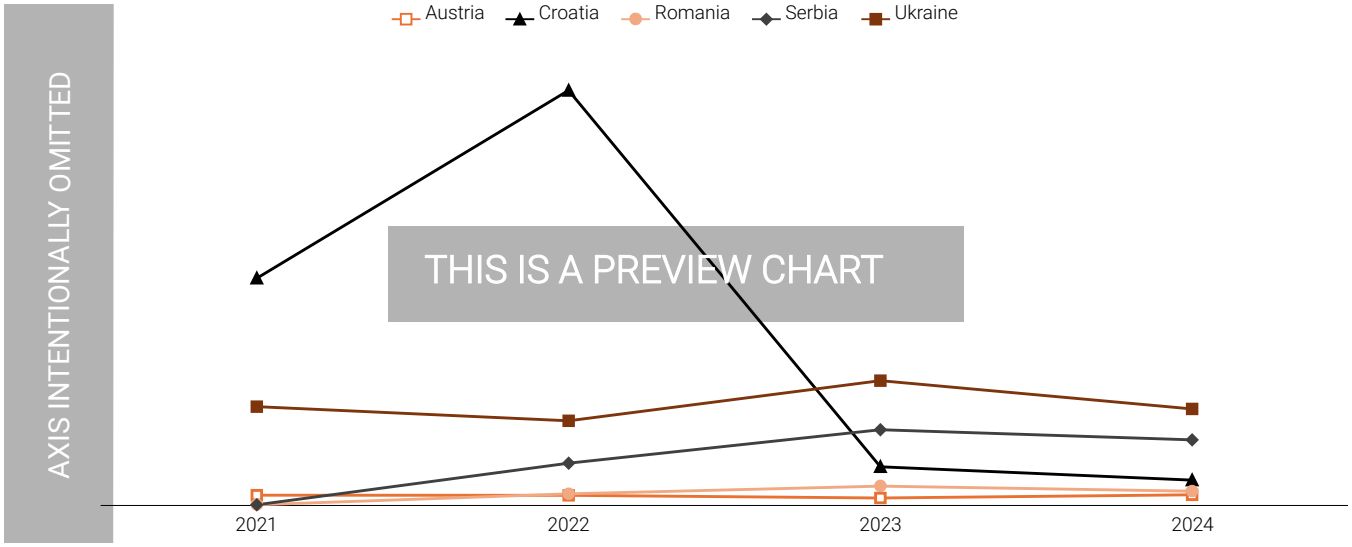


Figure 5.16 Hungary Exports as % of Importers' GDP (2024 = Jan - Nov)

Chapter 6

Freight and Insurance

Transportation costs play a crucial role in energy markets, shaping the final price of commodities and influencing the competitiveness of suppliers across regions. This chapter examines the key cost components of moving energy commodities via maritime shipping, including sea freight rates, marine insurance costs, and their impact on market pricing.

Maritime freight rates represent the cost of shipping energy commodities along various international trade routes by sea. In addition to historical data, this chapter provides short-term sea freight rate forecasts, offering insights into expected marine transportation costs in the near future.

Marine insurance costs are another vital component of energy trade, covering risks associated with cargo transportation by sea and safeguarding shipments against potential losses. By incorporating both maritime freight and insurance costs, this chapter also presents netback and netforward prices – key metrics for evaluating commodity value along the supply chain. Netback prices reflect a commodity's value at its origin after deducting sea transportation and insurance costs, while netforward prices represent its delivered value at the destination, including these costs.

Together, these analyses provide a clearer understanding of how logistics impact energy pricing, trade flows, and market dynamics.

As presented in the report Preamble, this section organizes fuels into categories commonly used in maritime shipping, reflecting industry practices and the distinct characteristics of each fuel type transported by sea. The categories include Heavy Oils, Light Fuels, Hydrocarbon Gas Liquids (HGL), Liquefied Natural Gas (LNG), and Coal Products.

This report presents data for Hungary, which is a landlocked country. In this case, the maritime freight and insurance figures presented refer to the port in a nearby country through which the goods are typically brought or shipped by sea. The freight and insurance figures cover maritime transportation only and do NOT include the cost of transportation between the port and Hungary.

6.1 Maritime Freight Rates

Figure 6.1 presents key maritime energy freight rates related to Hungary over the past year and for the foreseeable future. These sea freight rates are expressed in HUF/mt to standardize the comparison across energy commodities with different units.

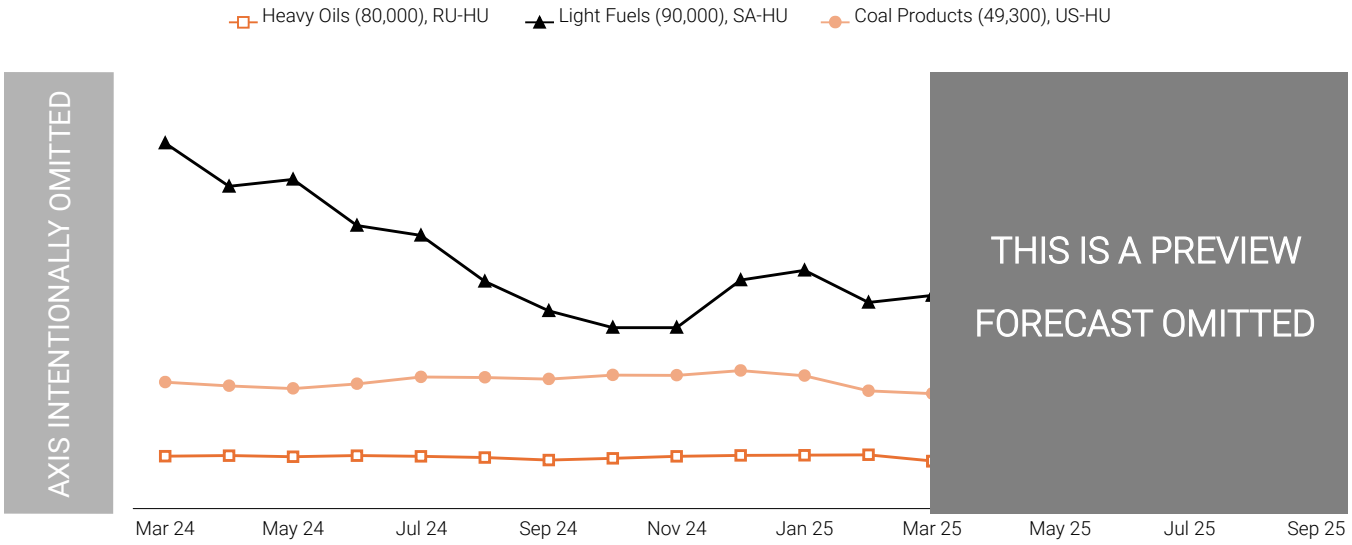


Figure 6.1 Hungary Key Maritime Freight Rates (Mar 24 - Sep 25)

Heavy Oils

Table 6.1 presents maritime freight rates for Heavy Oils, including Crude Oil and Fuel Oil. It provides data on sea freight rates over recent months for key shipping routes related to Hungary, specifying the country of origin, country of destination, and vessel size.

Table 6.1 Heavy Oil Maritime Freight Rates (HUF/mt)

Origin	Destination	Vessel Size	Mar 25	Feb 25	Jan 25	QoQ (%)	YoY (%)
Russia	Hungary	80,000 mt	3,350	3,800	3,770	-11.1 ↓	-9.7 ↓

Light Fuels

Table 6.2 presents maritime freight rates for Light Fuel commodities, including Naphtha, Gasoline, Kerosene, and Diesel.

Table 6.2 Light Fuels Maritime Freight Rates (HUF/mt)

Origin	Destination	Vessel Size	Mar 25	Feb 25	Jan 25	QoQ (%)	YoY (%)
Saudi Arabia	Hungary	90,000 mt	15,200	14,700	17,000	-6.8 ↓	-41.8 ↓
Spain	Hungary	30,000 mt	19,500	20,500	21,100	-8.3 ↓	-39.7 ↓
Algeria	Hungary	30,000 mt	11,900	12,500	12,900	-8.2 ↓	-39.7 ↓

Hydrocarbon Gas Liquids

Table 6.3 presents maritime freight rates for Hydrocarbon Gas Liquids (HGL) commodities, including LPG and NGL.

Table 6.3 HGL Maritime Freight Rates (HUF/mt)

Origin	Destination	Vessel Size	Mar 25	Feb 25	Jan 25	QoQ (%)	YoY (%)
Russia	Hungary	44,000 mt	4,860	5,000	5,360	-10.0 ↓	-21.1 ↓

Coal Products

Table 6.4 presents maritime freight rates for solid coal products and derivatives.

Table 6.4 Coal Products Maritime Freight Rates (HUF/mt)

Origin	Destination	Vessel Size	Mar 25	Feb 25	Jan 25	QoQ (%)	YoY (%)
United States	Hungary	49,300 mt	8,170	8,370	9,450	-16.8 ↓	-8.9 ↓

6.2 Freight Rates Forecast

This section provides short-term freight rate forecasts, offering insights into expected transportation costs in the near future.

Heavy Oils

Table 6.5 presents six-month forecasted freight rates for Heavy Oils.

Table 6.5 Heavy Oil Maritime Freight Rates Forecasts (HUF/mt)

Origin	Destination	Vessel Size	Apr 25	May 25	Jun 25	Jul 25	Aug 25	Sep 25
Russia	Hungary	80,000 mt	XXX	XXX	XXX	XXX	XXX	XXX

Light Fuels

Table 6.6 presents six-month forecasted freight rates for Light Fuels.

Table 6.6 Liquid Fuels Maritime Freight Rates Forecasts (HUF/mt)

Origin	Destination	Vessel Size	Apr 25	May 25	Jun 25	Jul 25	Aug 25	Sep 25
Saudi Arabia	Hungary	90,000 mt	XXX	XXX	XXX	XXX	XXX	XXX

6.3 Insurance Costs

Table 6.7 presents the most recent insurance costs for energy commodities.

Table 6.7 Energy Commodity Insurance Costs (% of CFR Price)

Commodity	Shipping Category	Mar 25	Feb 25	2025 (i)	2024	2023	2022
Naphtha	Light Fuels	0.3	0.4	0.4	XXX	XXX	XXX
Propane	Hydrocarbon Gas Liquids	0.1	0.1	0.1	XXX	XXX	XXX
Butane	Hydrocarbon Gas Liquids	1.7	1.1	1.1	XXX	XXX	XXX
Ethanol	Light Fuels	0.6	0.3	0.3	XXX	XXX	XXX
Coal	Coal Products	0.1	0.1	0.1	XXX	XXX	XXX
Natural Gas	LNG	0.1	0.1	0.1	XXX	XXX	XXX
Crude Oil	Heavy Oils	0.1	0.1	0.1	XXX	XXX	XXX
LPG	Hydrocarbon Gas Liquids	0.1	0.1	0.2	XXX	XXX	XXX
Kerosene	Light Fuels	0.1	0.1	0.1	XXX	XXX	XXX
Diesel	Light Fuels	0.1	0.1	0.1	XXX	XXX	XXX
Fuel Oil	Heavy Oils	0.1	0.1	0.1	XXX	XXX	XXX
Gasoline	Light Fuels	0.1	0.2	0.1	XXX	XXX	XXX
Biodiesel	Light Fuels	0.2	0.1	0.1	XXX	XXX	XXX

(i) Data for 2025 are incomplete and represent January to March values only.

6.4 Netback and Netforward Prices

Netback and netforward prices are calculated by adjusting price assessments to account for maritime freight rates and insurance costs. Netback prices are derived by subtracting freight and insurance costs from the delivered price (CIF), while netforward prices are calculated by adding these costs to the free-on-board (FOB) price. The formulas for these calculations are:

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

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

The values presented in this report can be used in these formulas to estimate other price assessments. CIF and FOB prices are presented in "*Chapter 2. Current Prices*," while maritime freight rates and insurance costs are detailed in sections "*6.1. Maritime Freight Rates*" and "*6.3. Insurance Costs*" of this chapter, respectively.

This process is illustrated in Figure 6.2.

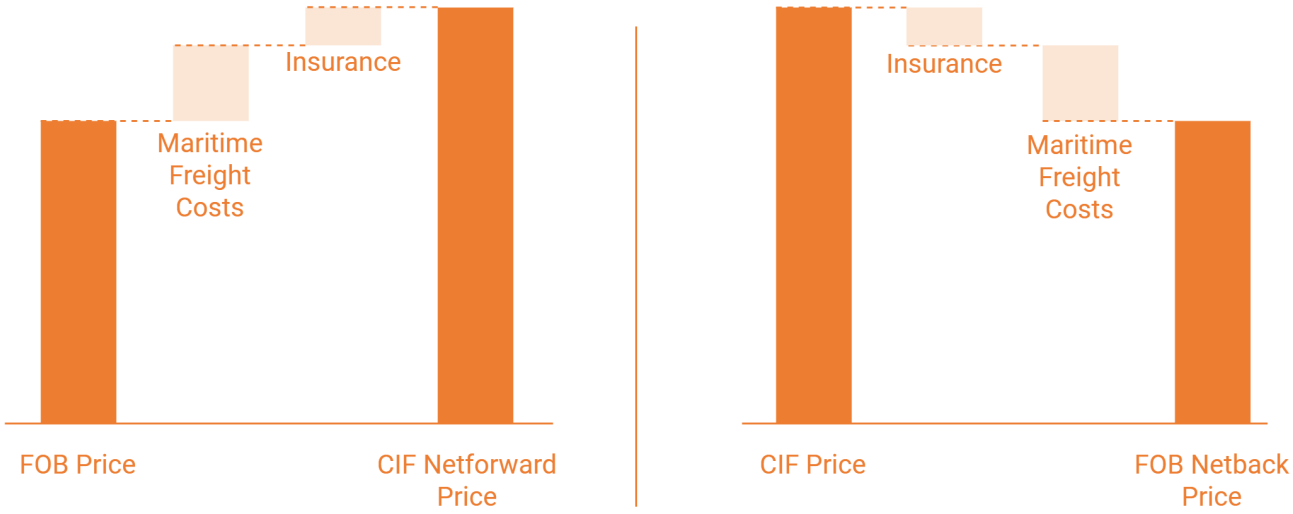


Figure 6.2 Netforward / Netback Price Calculation

Table 6.8 presents examples of key price assessments estimated using the freight rates and insurance costs detailed in this section.

Table 6.8 Hungary Netback and Netforward Price Assessments (Mar 25)

Origin	Destination	Distance / Shipping Time	FOB Price	Freight	Insurance	CIF Price
Naphtha (heavy), import spot price (HUF/kg)						
Spain	Hungary	1,390 nm / 3 d	242 (N)	19.5	0.784	262
Crude Oil (heavy sour), import spot price (HUF/Bbl)						
Russia	Hungary	1,180 nm / 5 d	24,700 (N)	461	25.1	25,200

(N) Indicates prices calculated using netback or netforward methodologies.

Appendix A

Glossary and Methodology

This appendix offers a detailed overview of the key terms, concepts, and methodologies that underpin the Intratec Energy Prices & Markets report. It is designed to enhance transparency and provide readers with a clear understanding of the foundational elements used throughout the analyses. The appendix is structured into two main sections:

* **Glossary:** This section provides concise explanations of essential terms, including price types, product categories, and energy flows. These definitions ensure consistency and clarity in interpreting the data and insights presented in the report.
* **Methodology:** This section outlines the rigorous methodology employed by Intratec to collect, validate, and analyze data for price assessments, forecasts, and market insights.

Complementary Documents

For further details on terms and definitions used in this report, readers can refer to the Glossary & Abbreviations document:

► https://intrat.ec/glossary

For an in-depth understanding of the methodology developed by Intratec for the Intratec Energy Prices & Markets report, readers are encouraged to explore the General Methodology Guide, available here:

► https://intrat.ec/m?f=/iep-methodology-general

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**, that 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-estimate price values for the current period when official trade data are unavailable or delayed, typically by 1 to 3 months. They are derived using mathematical models that adjust related, timely price assessments to provide a reliable estimate until official figures are released.

* **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 with the goal of removing 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' custom authorities. It is calculated with no statistical treatment.

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 essential 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. It is essential for residential, industrial, and infrastructure applications.
* **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 internal combustion engines, valued for its high energy content and efficiency.
* **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. It is crucial 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, making it one of the most reliable renewable sources.
* **Kerosenes** are refined petroleum products used in aviation (jet fuel), heating, and lighting. They are middle distillates valued for stability and clean combustion.
* **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 considers it a key 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 with lower environmental impact than fossil fuels and contribute to sustainability.
* **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.

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, also plays a significant role in domestic energy production across many countries.
* **Demand** is the total energy required in a country, calculated as domestic production plus imports, minus exports. 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 involved in energy imports and exports, shaping market dependencies and geopolitical considerations.
* **Stock Change** refers to variations in energy inventories over a specific period, reflecting increases (stock builds) or decreases (stock draws), which impact supply stability and pricing.
* **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 a comprehensive accounting framework that tracks energy flows within a country, 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** measures the extent to which a country can meet its energy needs with domestic production, reducing reliance on imports.

A.2 Methodology

Intratec provides reliable, data-driven insights by leveraging official trade statistics and advanced computational models. As a leading provider of commodity strategic data, Intratec empowers customers with accurate information for decision-making.

Reports are released monthly, offering timely updates on energy prices, forecasts, and market trends. This approach ensures assessments are available early each month while maintaining accuracy and reliability.

* Data Sources and Processing

Intratec relies exclusively on public sources such as government statistics, market exchanges, and multilateral organizations, ensuring high data reliability. Data processing occurs through structured pipelines developed by a team of market experts, computer scientists, and data analysts. Automated systems gather data from open sources, complemented by manual checks to minimize errors and biases.

* Data Analysis and Quality Assurance

Collected data undergo formatting, standardization, and normalization to account for variations in location and quality. Exchange rates and adjustments enhance comparability. Short-term forecasts use mathematical models and economic indicators. Rigorous reviews identify inconsistencies, refining calculation models and enhancing reliability.

* Quality Assurance and Continuous Improvement

All data undergo rigorous reviews to identify inconsistencies or anomalies. Cross-market comparisons and statistical analyses are used to refine calculation models and enhance reliability. Assessments are regularly reviewed to ensure alignment with market practices, which may result in new assessment opportunities, assessment retirements, or changes in specifications based on trading conventions and global market conditions.

Complementary Documents

For an in-depth understanding of the methodology developed by Intratec for the Intratec Energy Prices & Markets report, readers are encouraged to explore the General Methodology Guide, available at: https://intrat.ec/m?f=/iep-methodology-general

Appendix B

Currency and Conversion Factors

Table B.1 Currency Conversion from United States Dollar (USD)

Currency	Sep 25	Aug 25	Jul 25	Sep 24	2024	2023	2022	2021
Euro (EUR)	0.852	0.858	0.854	0.901	0.924	0.924	0.951	0.846
Chinese Yuan (CNY)	7.12	7.18	7.17	7.08	7.19	7.08	6.71	6.45
Japanese Yen (JPY)	148	147	147	143	151	140	131	110
Pound Sterling (GBP)	0.740	0.744	0.739	0.758	0.783	0.804	0.809	0.727
Hungarian Forint (HUF)	334	340	341	355	365	353	371	303

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

Table B.2 Unit Conversion

Name	Symbol	Relation to SI	Name	Symbol	Relation to SI
Volume			Energy		
Cubic meter (SI unit)	m3		Joule (SI unit)	J	= 1 N.m
Gallon	gal	= 3.785 x 10^{-3} m3	British thermal unit	Btu	= 1,055 J
Barrel	bbl (oil)	= 0.1589 m3	Kilowatt-hour	kWh	= 3.6 x 10^{6} J
Mass			Tonne of oil equivalent	toe	= 11,630 kWh
Kilogram (SI unit)	kg				
Metric ton	mt	= 10^{3} kg			

* For more unit conversions, visit: https://intrat.ec/unit-conversion

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	37.1
Gasoline, regular	741	44.8	Biodiesel, B99	880	37.1
Kerosenes	803	44.6	Renewable Diesel	800	43

* Values may vary according to the assessment. Typical values are shown; specific values can be found, in "General Assessments Guide" at: https://cdn.intratec.us/docs/methodologies/iep-assessments-hu.pdf

Appendix C

Alternative Data Delivery Methods

Intratec Energy Prices & Markets data can be delivered in various formats to seamlessly integrate with subscribers' systems. In addition to PDF reports, the data presented in this report can also be accessed through Microsoft Excel, Microsoft Power BI, or via integration with users' workflows through a Web API. These alternative delivery methods are available as add-ons exclusively for Advanced Plan subscribers.

* Microsoft Excel

Intratec offers an Excel Add-In that allows subscribers to download updated datasets directly into Excel with a single click. This tool provides up to 1-year monthly history, enabling offline access and streamlined integration into existing workflows. It ensures flexibility for analysis and reporting, making it ideal for professionals in industries such as energy, chemicals, and manufacturing.

For more details, visit: https://www.intratec.us/delivery-methods/excel.

* Microsoft Power BI

Subscribers can integrate Intratec data directly into their Power BI dashboards, accessing up-to-date industrial economics data without additional setup. This delivery method supports real-time visualization of up to 10-year monthly price history alongside other business data, streamlining decision-making processes with visually rich and actionable insights.

For more details, visit: https://www.intratec.us/delivery-methods/power-bi.

* Web API

The Web API enables programmatic access to Intratec's proprietary datasets in standardized formats (JSON, CSV). Subscribers can retrieve historical, current, and forecast data (up to 10-year monthly history) while customizing parameters such as time span, frequency, and currency. This method is ideal for organizations seeking automated updates or integrating data into business intelligence tools, dashboards, or enterprise systems.

For more details, visit: https://www.intratec.us/delivery-methods/api.

Appendix D

Price Models Accuracy

Throughout this report, some prices are marked with (P) to indicate they are preliminary. These preliminary prices are derived from Intratec's proprietary price models, which were developed to address delays in the publication of official statistics. Such statistics are typically released with lags of 1 to 3 months. In cases where insufficient or no data is available, these models provide the best price estimates for periods up to the current month, ensuring timely and reliable information for decision-making.

This appendix evaluates the performance and accuracy of Intratec's price models, emphasizing their transparency and reliability. To assess model quality, Intratec has developed a proprietary metric called the Model Performance Score (MPS), which consolidates key evaluation metrics into a single indicator of reliability. Before delving into how the MPS is calculated, it is important to understand the foundational metrics used in model evaluation:

* **Mean Absolute Percentage Error (MAPE):** Expressed as a percentage, this metric measures the deviation between preliminary and consolidated prices. It contextualizes deviations in relative terms, enabling meaningful comparisons across time periods and datasets.

* **Mean Absolute Percentage Accuracy (MAPA):** Expressed as a percentage and calculated as *100% - MAPE*, this metric measures the accuracy of preliminary prices compared to the consolidated ones.

* **Directional Accuracy (DA):** This metric evaluates the model's ability to correctly predict price trends – whether prices will rise or fall – providing a practical assessment of its reliability for decision-making.

In some cases, there may be insufficient historical assessment data to estimate all parameters. When this occurs, Intratec indicates the data gap with a "not available" (NA) label.

D.1 Evaluation Metrics Across Timeframes

To ensure a robust evaluation of model performance, Intratec calculates average MAPA and DA values over three distinct timeframes: the last 3 months, the last 6 months, and the last 12 months where consolidated prices are available. This approach allows for a direct comparison between preliminary price estimates and actual consolidated prices over different periods.

Table D.1 presents the average values for MAPA and DA across all assessments for each timeframe. These metrics provide insights into how well Intratec's models perform in predicting energy prices.

Table D.1 Model Accuracy - MAPA and DA (Last 3, 6, and 12 Months)

Assessment	Last 3 Months		Last 6 Months		Last 12 Months	
	MAPA	DA	MAPA	DA	MAPA	DA
Diesel (ultra-low-sulfur), export, fob	XX%	XX%	XX%	XX%	XX%	XX%
Coal (thermal), domestic, ddp	XX%	XX%	XX%	XX%	XX%	XX%

D.2 Model Performance Score (MPS)

Building on these metrics, Intratec developed the Accuracy Index (AI) to provide a single, user-friendly indicator of a model's reliability for each timeframe analyzed. The AI is calculated as a weighted combination of MAPA and DA using the following formula:

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

In this formula:

* 24 represents the maximum total number of months used for evaluation.
* num_obs refers to the actual number of data points available (e.g., last 3 months or last 12 months).

The AI ranges between 0 and 100%, with higher values indicating better model accuracy for the analyzed timeframe.

To provide an overall evaluation of model performance across all timeframes, Intratec combines the Accuracy Indexes from the three timeframes into a proprietary metric called the Model Performance Score (MPS). The MPS assigns greater weight to more recent preliminary prices

using a ratio of 5:3:2 for the last 3 months, last 6 months, and last 12 months respectively. The formula for MPS is:

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

The MPS ranges from zero to five circles, where:

* Five full circles (●●●●●) indicate an excellent model.
* Three or fewer circles (e.g., ●●●○○) suggest areas for improvement in model performance.

Table D.2 presents the AI values for each timeframe (last 3 months, last 6 months, and last 12 months) along with the Global MPS for each assessment.

Table D.2 Model Accuracy AI and MPS

Assessment	12 Months AI	6 Months AI	3 Months AI	Global MPS
Diesel (ultra-low-sulfur), export, fob	XX%	XX%	XX%	XXX
Coal (thermal), domestic, ddp	XX%	XX%	XX%	XXX

Appendix E

Price Forecasts Accuracy

Price forecasts are indispensable tools for stakeholders in the energy sector, enabling informed decision-making in trading, risk management, and policy development. Accurate forecasts provide critical insights into future market trends, supporting long-term strategies and mitigating risks associated with price volatility.

In this chapter, the accuracy of the price forecasts presented in "*Chapter 4. Price Forecasts*" is evaluated. This evaluation aims to provide transparency and convey the reliability of Intratec's data.

This chapter emphasizes the importance of M1 (forward-month) forecasts, as they are the most relevant for short-term planning and decision-making. The forward-month forecast is the most critical horizon, providing immediate insights for navigating near-term market dynamics. To evaluate M1 accuracy, Intratec employs robust statistical metrics, including Mean Absolute Percentage Accuracy (MAPA) and Directional Accuracy (DA). These metrics assess both the magnitude of forecast errors and the consistency of directional predictions. For M1 forecasts, these metrics are consolidated into a single indicator – the Model Performance Score (MPS) – to provide an intuitive and reliable measure of forecast accuracy.

Additionally, a high-level evaluation of M6 (six-month ahead) forecast performance is presented through a comparison of Intratec's model MAPA values against those of a baseline Constant Price Model (Naïve MAPA). This comparison highlights the added value of Intratec's forecasting methodology.

In some cases, there may be insufficient historical assessment data to estimate all parameters. When this occurs, Intratec indicates the data gap with a "not available" (NA) label.

E.1 Forward-Month Forecast Accuracy

As mentioned earlier, the forward-month (M1) forecast is the most critical forecast horizon, offering actionable insights for short-term decision-making. To evaluate M1 accuracy, Intratec calculates average MAPA and DA values over three distinct timeframes: the last 3 months, last 6

months, and last 12 months where consolidated prices are available. This approach ensures a robust evaluation by comparing forecasted prices to actual consolidated prices across different periods.

Table E.1 presents MAPA and DA values for M1 forecasts across all assessments, offering insights into how well Intratec's models perform in predicting forward-month prices.

Table E.1 Forward-Month Model Accuracy - MAPA and DA (Last 3, 6, and 12 Months)

Assessment	Last 3 Months		Last 6 Months		Last 12 Months	
	MAPA	DA	MAPA	DA	MAPA	DA
Electricity, industrial sector	XX%	XX%	XX%	XX%	XX%	XX%
Diesel (ultra-low-sulfur), export, fob	XX%	XX%	XX%	XX%	XX%	XX%
Ethanol (anhydrous), export, fob	XX%	XX%	XX%	XX%	XX%	XX%
Fuel Oil (heavy), export, fob	XX%	XX%	XX%	XX%	XX%	XX%
Gasoline (premium 95), retail	XX%	XX%	XX%	XX%	XX%	XX%
Natural Gas, industrial sector, dpu	XX%	XX%	XX%	XX%	XX%	XX%
Butane (field grade), import, cif	XX%	XX%	XX%	XX%	XX%	XX%
Naphtha (heavy), import, cif	XX%	XX%	XX%	XX%	XX%	XX%

NA = not available

These metrics are consolidated into a single score for easier interpretation using the Accuracy Index (AI) formula:

$$Accuracy\ Index\,(AI) = \frac{(MAPA \times (24 - num_{obs}) + (DA \times num_{obs}))}{24}$$

The AI values for each timeframe are then combined into a weighted score called the Model Performance Score (MPS), which assigns greater weight to more recent forecasts using a ratio of 5:3:2 for the last 3 months, last 6 months, and last 12 months respectively:

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

Table E.2 summarizes AI values for each timeframe along with the Global MPS.

Table E.2 Forward-Month Model Accuracy AI and MPS

Assessment	12 Months AI	6 Months AI	3 Months AI	Global MPS
Electricity, industrial sector	XX%	XX%	XX%	XXX
Diesel (ultra-low-sulfur), export, fob	XX%	XX%	XX%	XXX
Ethanol (anhydrous), export, fob	XX%	XX%	XX%	XXX
Fuel Oil (heavy), export, fob	XX%	XX%	XX%	XXX
Gasoline (premium 95), retail	XX%	XX%	XX%	XXX
Natural Gas, industrial sector, dpu	XX%	XX%	XX%	XXX
Butane (field grade), import, cif	XX%	XX%	XX%	XXX
Naphtha (heavy), import, cif	XX%	XX%	XX%	XXX

NA = not available

E.2 Six-Month Ahead Forecast Evaluation

Although less critical than M1 forecasts for short-term decision-making purposes, six-month ahead (M6) forecasts provide valuable insights into medium-term trends. To assess their added value over simple assumptions, Intratec compares MAPA values for its forecasting models against a baseline Constant Price Model (Naïve MAPA). The ratio between these MAPAs is the relative performance:

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

Values above 100% indicate superior performance by Intratec's models compared to the Naïve model.

Table E.3 summarizes relative performance ratios for M6 forecasts across all assessments.

Table E.3 Relative Performance of Six-Month Ahead Forecast vs. Constant Price Model

Assessment	Last 3 Months	Last 6 Months	Last 12 Months
Fuel Oil (HFO), export, fob	XX%	XX%	XX%
Gasoline (Eurosuper 95), retail	XX%	XX%	XX%
Butane (fg), import, cif	XX%	XX%	XX%
Electricity, household	XX%	XX%	XX%

NA = not available

Appendix F

Global Prices Comparison

This appendix provides a comparative analysis of energy prices across the 33 countries covered in Intratec Energy Prices & Markets. By examining both individual energy commodity price rankings and an average energy price comparison, this chapter positions Hungary within the global energy landscape. The analysis highlights how energy costs in Hungary compare to those in other countries, offering insights into its relative affordability and competitiveness.

The appendix is divided into two sections:

* **Ranking of Energy Commodity Prices by Country:** This section ranks Hungary against other countries for key energy commodities, including Natural Gas, Electricity, Gasoline, Diesel, Naphtha, and Fuel Oil.
* **Energy Average Price Comparison:** This section presents an average energy price comparison across all countries. It highlights the relative position of Hungary in terms of overall energy costs.

F.1 Ranking of Energy Commodity Prices by Country

This section ranks Hungary in relation to the other 32 countries covered by the program for six key energy commodities: Natural Gas, Electricity, Gasoline, Diesel, Naphtha, and Fuel Oil. These rankings help identify whether Hungary is among the most affordable or expensive markets for each commodity.

The following figures present the rankings of energy commodity prices across the 33 countries covered by the program. Each chart positions Hungary relative to other countries for a specific commodity, highlighting its rank within the global context.

Natural Gas

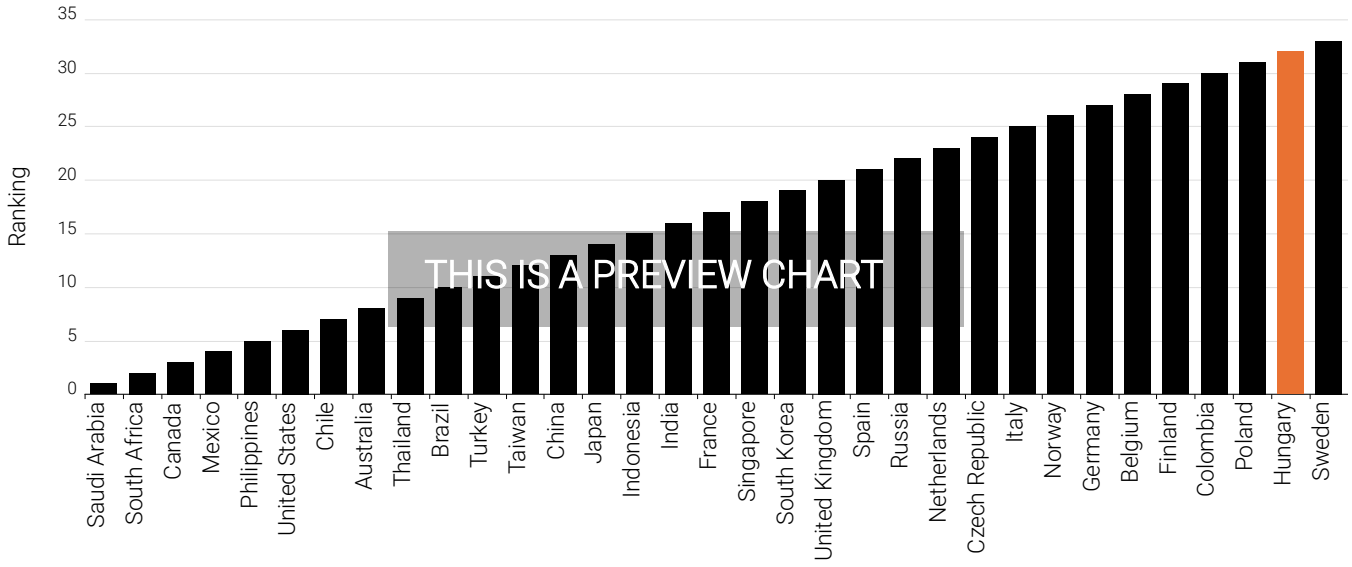


Figure F.1 Natural Gas Price Rankings by Country (Mar 25)

Electricity

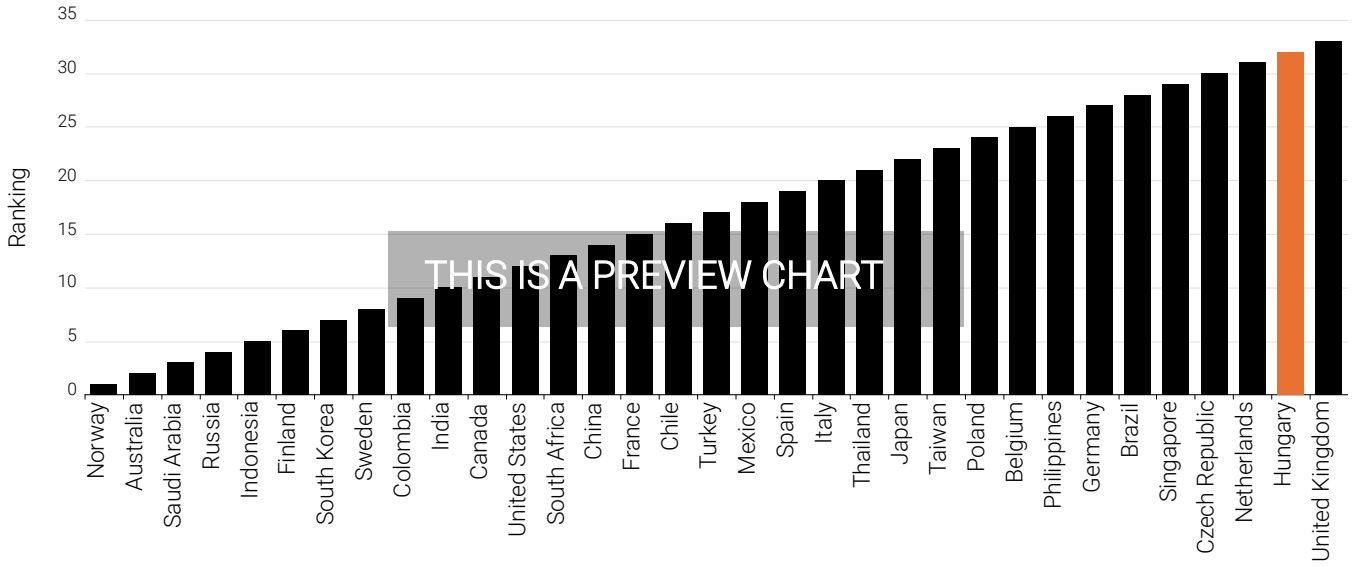


Figure F.2 Electricity Price Rankings by Country (Mar 25)

Gasoline

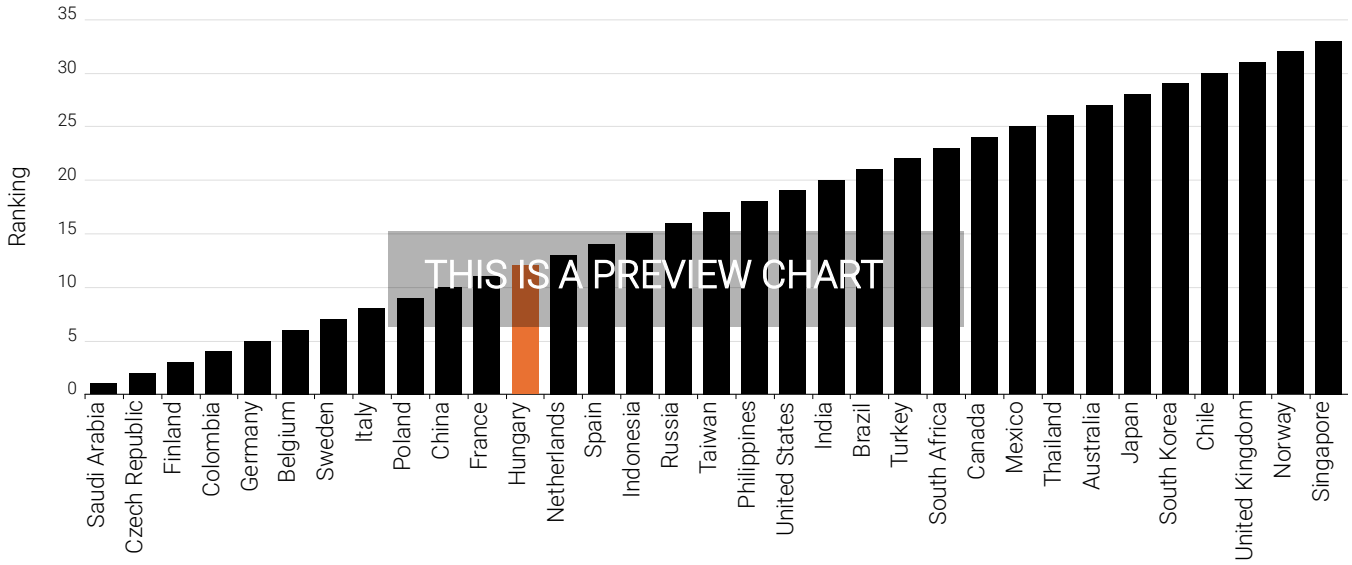


Figure F.3 Gasoline Price Rankings by Country (Mar 25)

Diesel

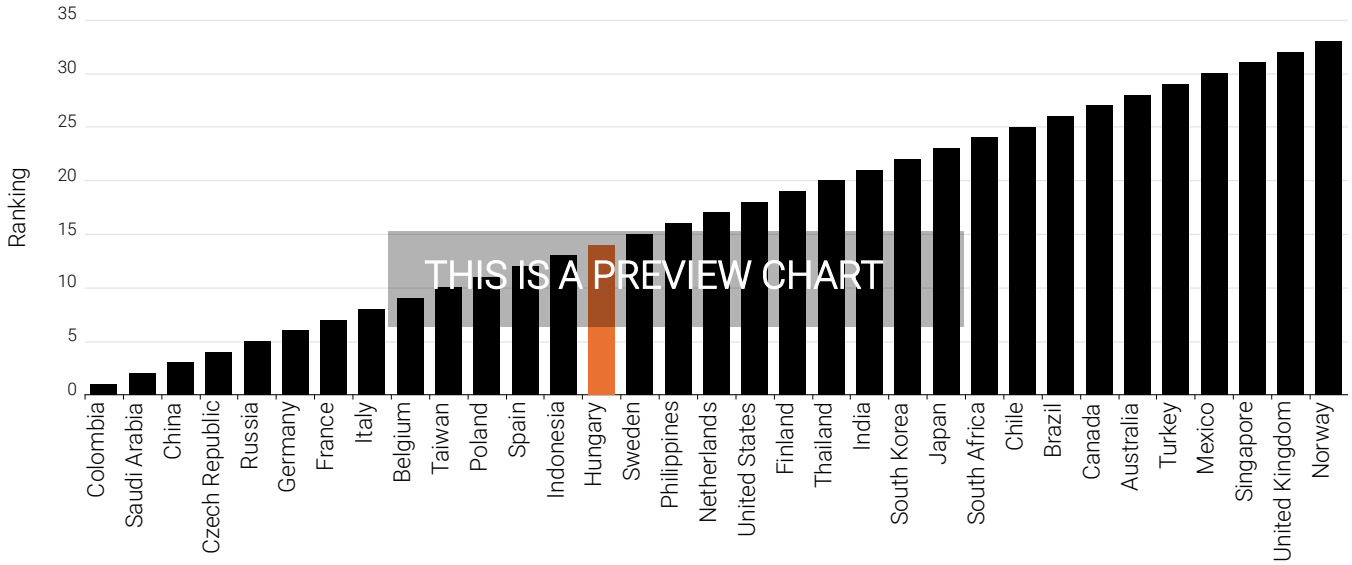


Figure F.4 Diesel Price Rankings by Country (Mar 25)

Fuel Oil

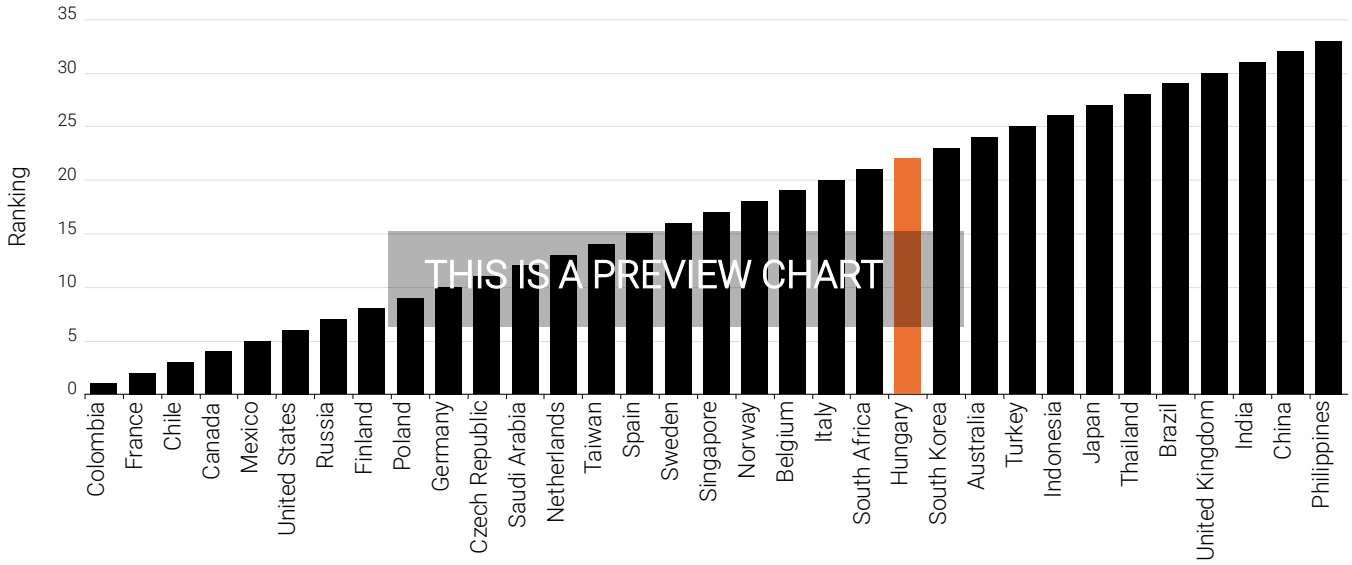


Figure F.5 Fuel Oil Price Rankings by Country (Mar 25)

Naphtha

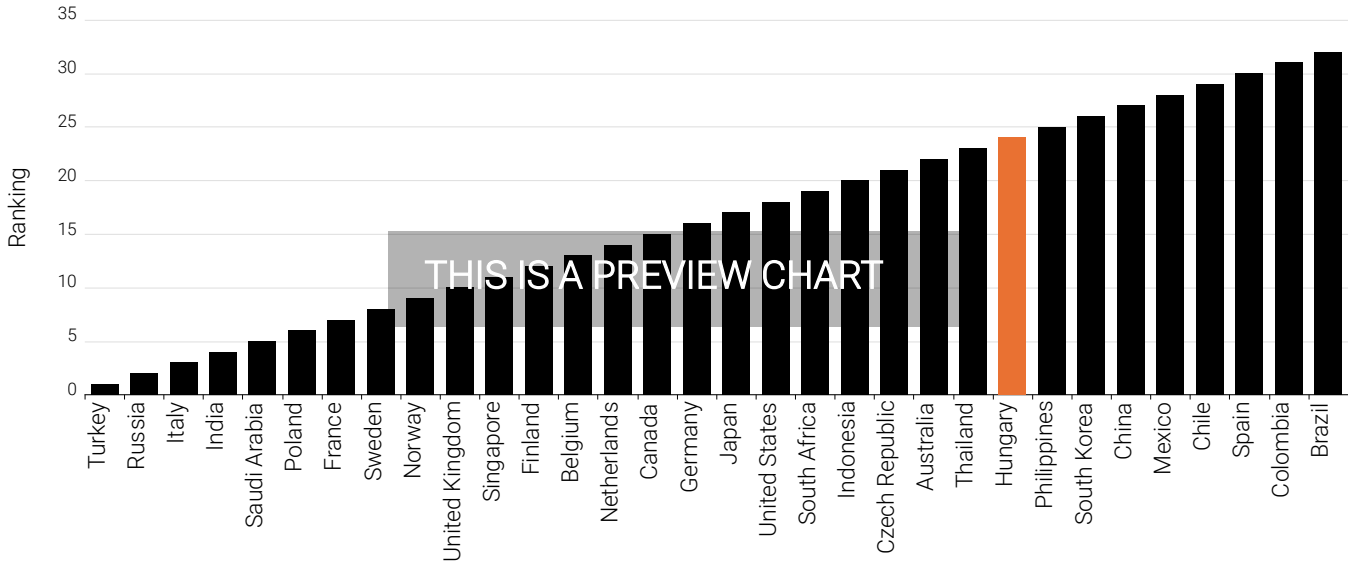


Figure F.6 Naphtha Price Rankings by Country (Mar 25)

F.2 Energy Average Price Comparison

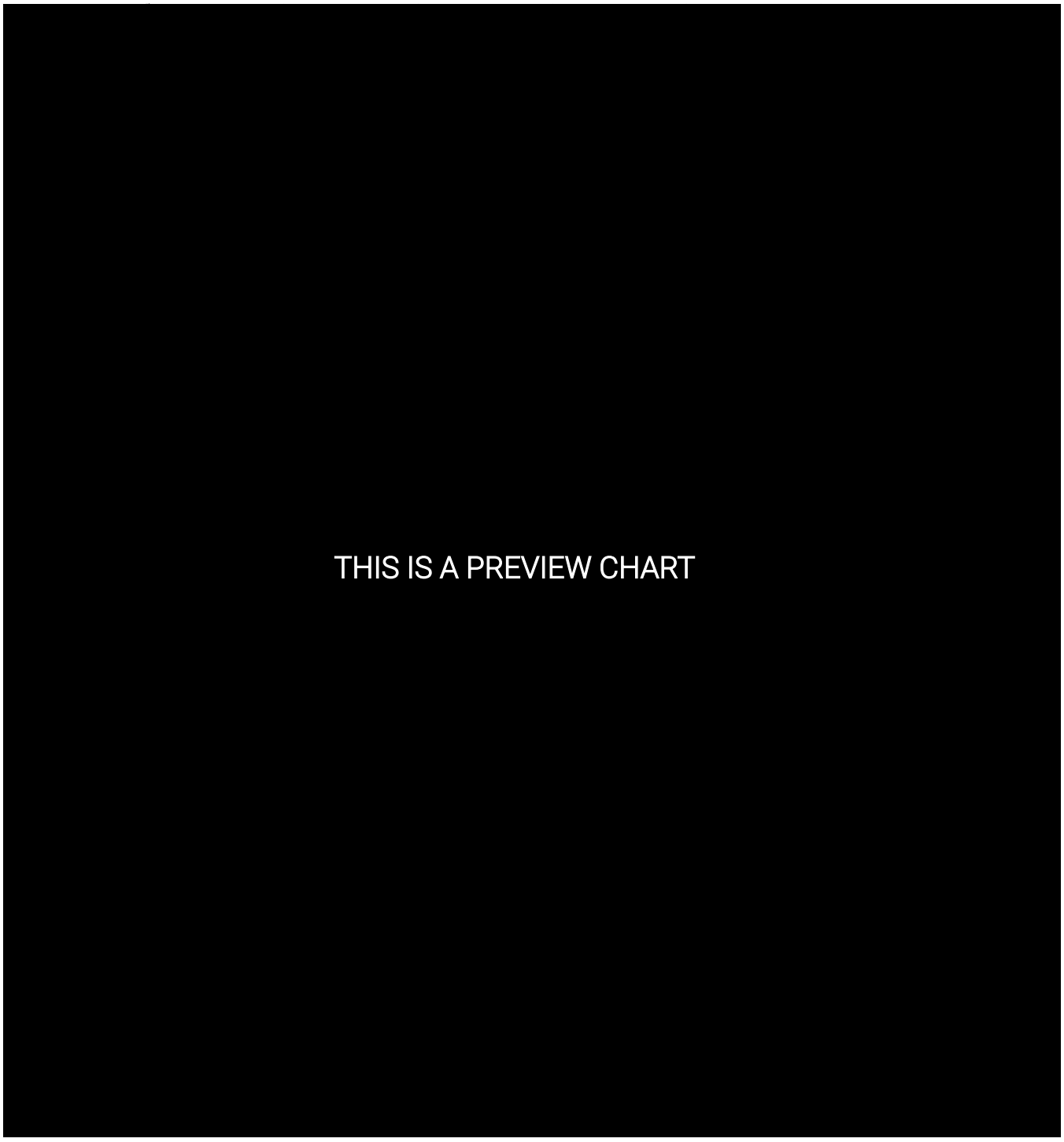


Figure F.7 Average Energy Price Comparison Worldwide

Figure F.7 compares overall average energy prices across 33 countries covered in the Intratec Energy Prices & Markets reports. The average price for each country is calculated by weighting individual energy source prices (e.g., Natural Gas, Electricity, Gasoline) based on their consumption levels within that country. The chart highlights the position of Hungary relative to other nations, indicating whether its overall energy costs are comparatively high or low.

Appendix G

Frequently Asked Questions

This appendix addresses common questions related to the methodologies, data, and features presented in the Intratec Energy Prices & Markets report. It is designed to provide clarity on key concepts, enhance transparency, and support users in understanding the report's structure and the reliability of the information provided.

The topics covered include explanations of pricing methodologies and other relevant aspects of energy price analysis. By addressing these frequently asked questions, this appendix aims to reinforce confidence in the data and methodologies used while offering practical insights for users navigating the report.

Q: What are the limitations of using unit values for price analysis?

Unit values are calculated by dividing the total amount of money by the total quantity of a given commodity traded by a specific country each month, as reported by customs authorities. This calculation is performed without any statistical treatment. Compared to the prices presented in the Intratec Energy Prices & Market report, unit values have several core limitations in energy market price analyses:

Inherent Weaknesses Compared to Intratec's Trade-Based Prices

Trade-based prices in the Intratec Energy Prices & Market report are derived from international trade information reported by countries. These prices are selected based on a criterion of data homogeneity, ensuring that all data refer to the same assessment (i.e., the same commodity with similar specifications and trade conditions). Once data homogeneity is confirmed, trade-based prices are calculated. For instance, transaction prices are treated to remove inconsistent values by filtering out data that fall outside a minimum traded quantity and applying a univariate outlier detection algorithm to remove inaccurate data.

In contrast, unit values lack the robustness of trade-based methodologies that filter inconsistent data and adjust for quality variations. Specifically, unit values present critical flaws:

* **Aggregation Bias**: Unit values group heterogeneous products under broad classifications, blending distinct commodities into distorted averages.
* **Failure to Detect Outliers:** Unlike Intratec's trade-based indices, unit values do not systematically exclude implausible transactions. Intratec's methodology employs outlier detection algorithms to remove abnormal prices.

Lack of Market Specificity

On the other hand, Intratec's compiled prices provide granular market segmentation that unit values cannot replicate. Compiled prices are derived from price data from public sources, offering detailed insights into specific market conditions. These prices typically provide:

* **Market Destination:** Unit values do not specify market destinations, whereas Intratec's Compiled Prices differentiate between, for instance, wholesale, retail, and industrial prices.
* **Price Type Differentiation:** Unit values aggregate long-term contracts and spot prices, whereas Intratec's Compiled Prices distinguish between these price types.
* **Commodity Specifications:** Unit values average across quality grades, whereas Intratec's Compiled Prices isolate specific commodity specifications.

Q: Why Are There Missing Chapters in My Report?

To meet a diverse range of customer needs, the Intratec Energy Prices & Markets report is available through three subscription plans: Starter, Pro, and Advanced. Each plan offers a different level of depth and coverage, with the Advanced plan being the most comprehensive. Depending on the subscription plan selected, certain chapters may not be included in the report.

The content and features available in each plan can be viewed at the following link:

► https://www.intratec.us/solutions/energy-prices-markets/features

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► https://help.intratec.us/en-us/article/can-i-upgrade-my-plan-1me6ut8/

Q: Are Intratec Prices Sufficient for Structuring Contracts?

While some customers use Intratec pricing data as an index for structuring contracts between suppliers, processors, and end-customers, Intratec discourages using its prices as the sole reference unless combined with other price indexes (e.g., those compiled by third-party sources).

This recommendation is not due to concerns about the accuracy of Intratec's data, but rather to ensure contracts benefit from a broader industry perspective. Combining multiple indexes leverages diverse datasets and polling bases, enhancing robustness through a broader range of market insights. Intratec believes its data should be used alongside other benchmarks, fostering balanced and informed decision-making in contractual agreements.

Q: What Do Preliminary Prices Mean?

Throughout this report, some prices are marked with (P) to indicate they are preliminary. These preliminary prices are best-estimate values derived from Intratec's proprietary price models. Intratec's price assessments primarily rely on official data gathered from public sources, including national governments' statistics bureaus, foreign trade agencies, and international organizations.

However, these sources often delay data release by 1 to 3 months. To address these delays and ensure timely and reliable information for decision-making, Intratec developed these models to fill the gaps until official figures become available.

To maintain a high level of transparency and reliability, Intratec also presents the accuracy of its models for calculating preliminary prices in the "*Appendix D. Price Models Accuracy*" section of the Intratec Energy Prices & Markets report.

Q: What Are the "Right" Prices Considered to Measure Accuracy of Preliminary Price Models?

Initially, it is important to recognize that there is no single "right" price, as the actual price paid by an individual customer depends on factors such as order size, trade terms, geographical location, contract types, and more. In this context, all prices presented by Intratec are constructed using a robust methodology designed to deliver reliable estimates.

Consequently, our preliminary price model accuracies are evaluated by comparing them against consolidated historical data generated using this rigorous methodology for the specific price

assessment under evaluation. This approach ensures that our preliminary prices, while not definitive, offer a dependable basis for decision-making until official data becomes available.

For more detailed information on the methodology used by Intratec to derive its published prices, the reader may visit:

- https://cdn.intratec.us/docs/methodologies/iep-methodology-general.pdf

Appendix H

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Appendix I

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