

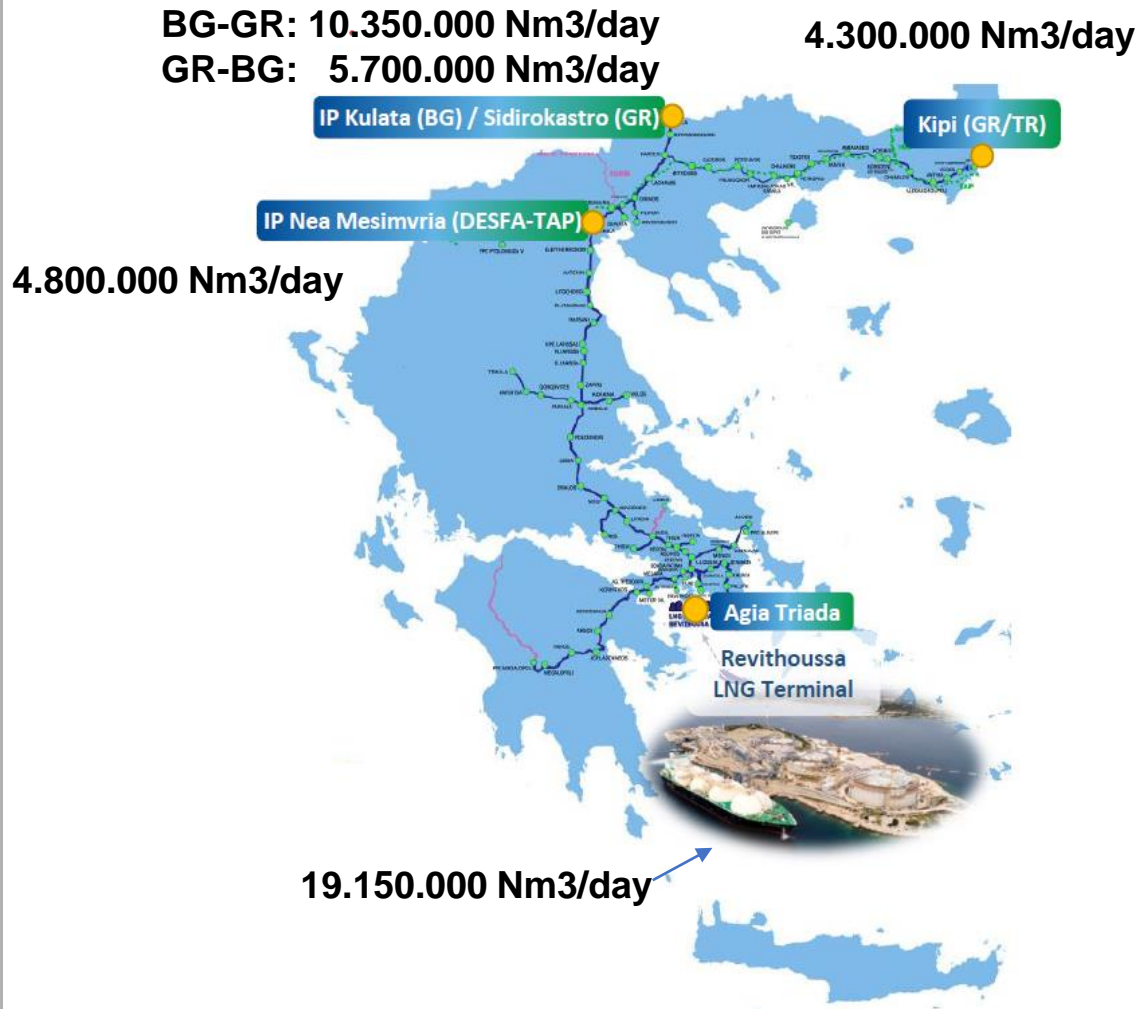
LNG Contracts & LNG Benchmarking

Case Study by Greece

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National Natural Gas System (NNGS)



Transmission System

- 1466 km of high-pressure pipelines
- 53 Metering and Regulating Stations
- 2 Dispatch Centers
- 6 Operation and Maintenance Centers
- 1 Compressor Station in Nea Mesimvria

LNG Terminal

2000 : Start of commercial operation

2007 : First upgrade expansion (increase of regasification and unloading capacity)

2018 : Second upgrade expansion

Unloading rate: 7.250 m³ LNG/hr

Storage capacity: 225.000 m³ LNG

Gasification capacity: 1400 m³ LNG/h

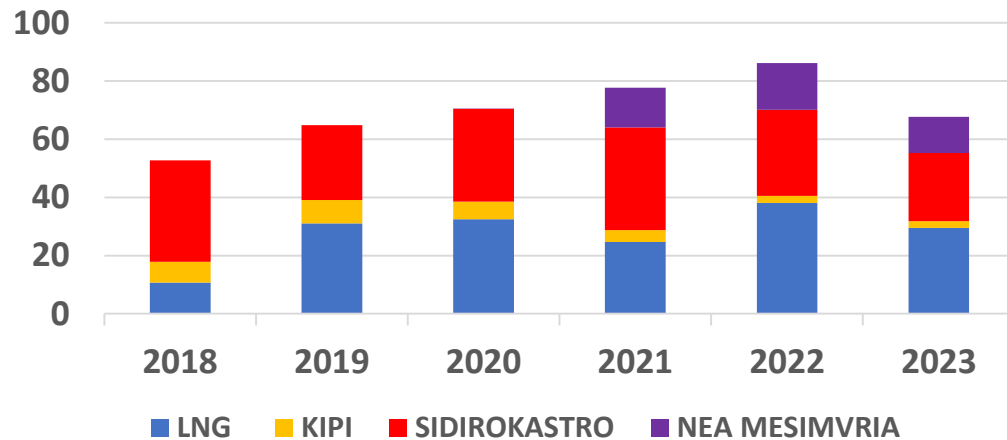
LNG Carriers: From 25.000 m³ Up to 267.000 m³ (Q_{max})

Operator of NNGS

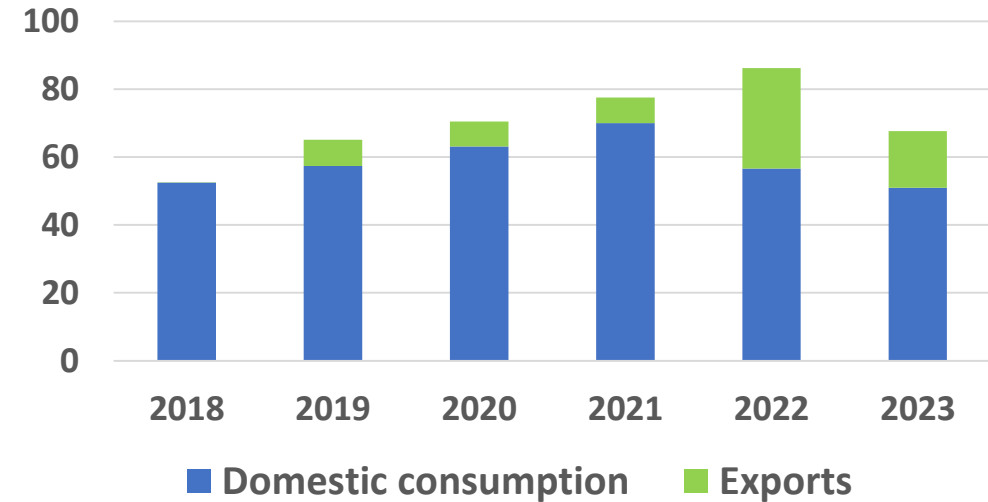
- DESFA S.A. – Established in 2007
- Certified as an OU Operator in 2018

Natural Gas Market at a glance

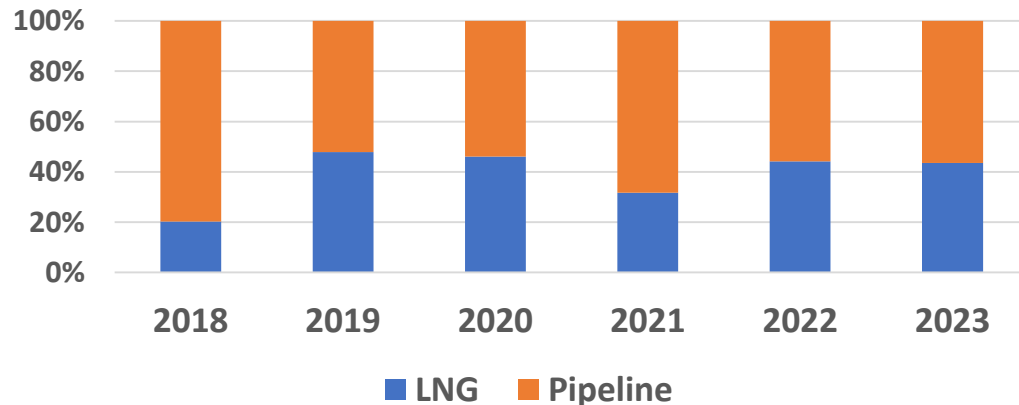
Natural Gas Imports (TWh)



Total Consumption (TWh)



Supply routes



The total consumption (domestic consumption + exports) amounted to 67,6 TWh in 2023

In the last two years, LNG derived supply accounted for 44% of the total consumption

LNG Imports in Greece (TWh, no of cargoes)

	2018	2019	2020	2021	2022	2023
Algeria	9.59	6.17	2.90	5.40	5.43	3.47
Norway	-	6.09	0.92	-	2.13	0.97
Egypt	-	2.79	0.83	1.13	4.93	3.50
Nigeria	-	4.93	3.11	-	2.93	0.94
Trinidad	-	0.27	-	-	-	-
Spain	-	-	-	-	0.43	0.51
Qatar	0.93	5.59	7.47	4.75	-	-
Cameroon	-	-	-	-	0.07	-
USA	1.08	2.50	16.12	12.29	20.10	10.75
Indonesia	-	-	-	-	0.11	-
France	-	1.00	1.05	-	-	-
Oman	-	-	-	-	1.03	-
Russia	-	-	-	-	2.03	8.38
Netherlands	-	0.93	1.00	-	-	-
Angola	-	1.01	-	0.94	-	-
Total	11.60	31.29	33.41	24.51	39.19	28.52

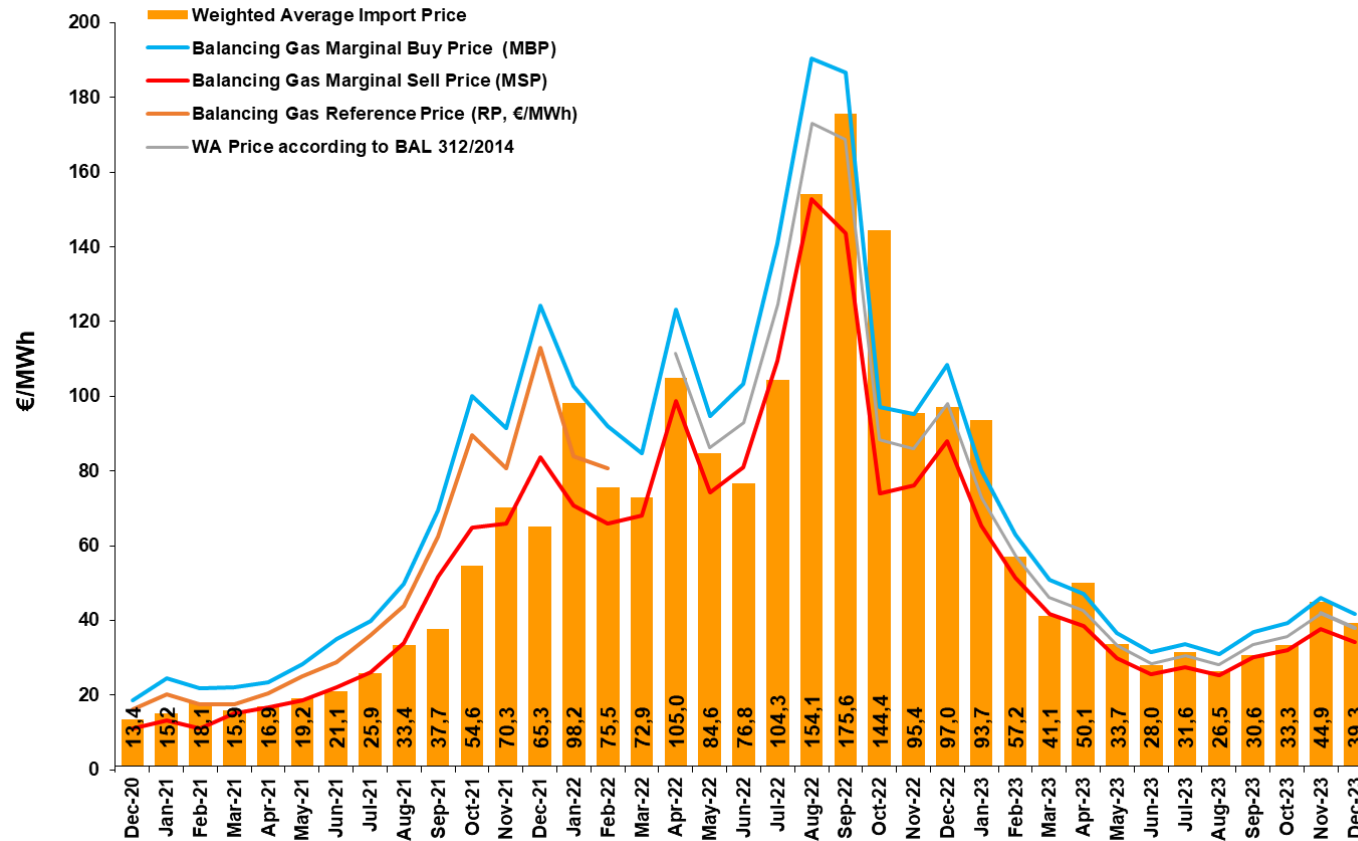


24	50	49	35	78	41
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Price setting process – WAIP (pipeline+LNG)

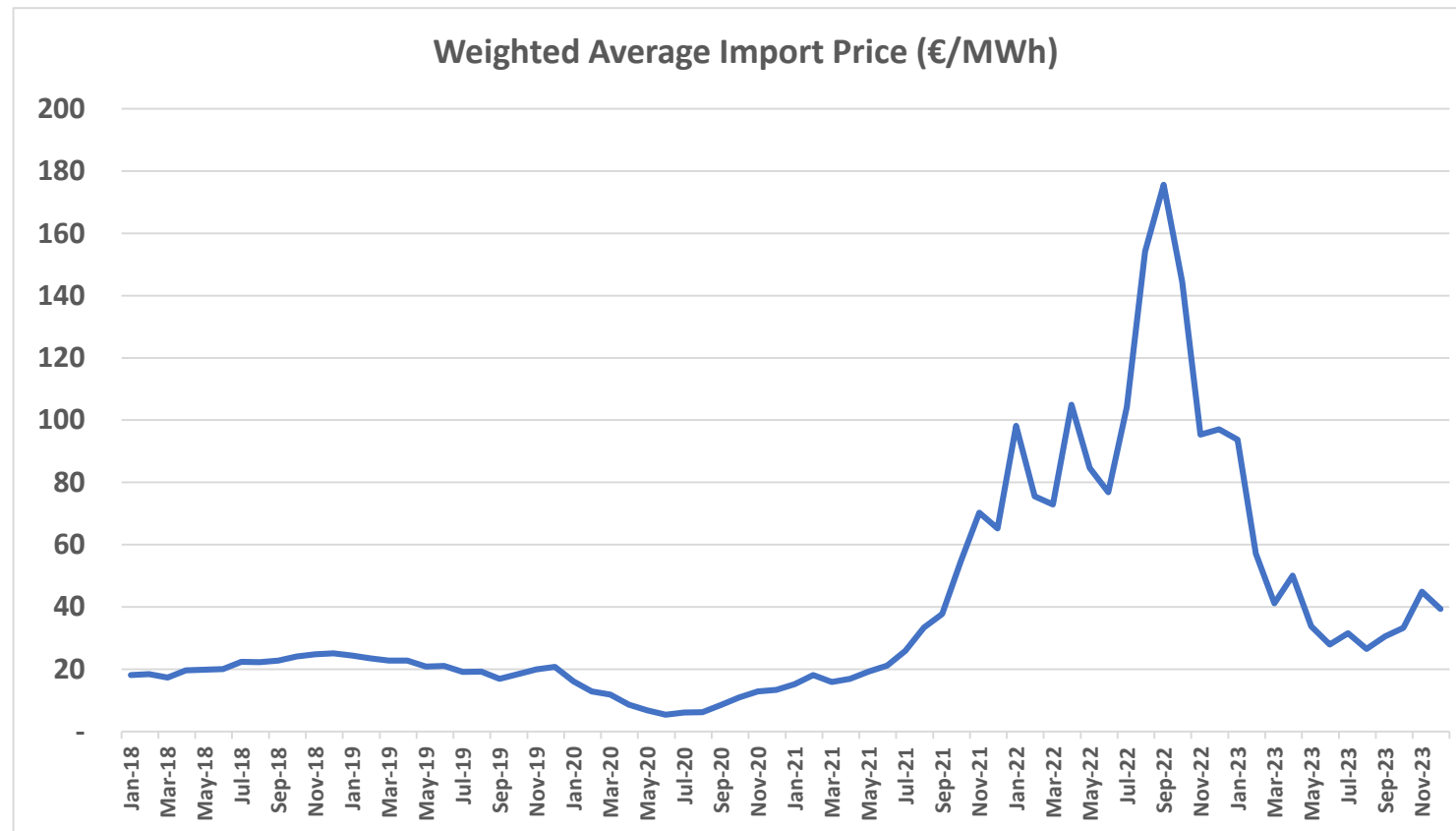
- Companies importing natural gas in the National Natural Gas System (NNGS) are required to submit to RAEWW, data about the quantities and prices of imported natural gas on a monthly basis.
- RAE, within the framework of its competence regarding monitoring of the energy market, following the provisions of par. 1 of article 5 in Law 2773/1999, publicized for the first time on 2.8.2011 the data on the calculated weighted average import price (WAIP) of Natural Gas in the NNGS of Greece, on a monthly basis.
- The publication of data on WAIP, in combination with the publication of data on daily prices of balancing gas on the TSO's (DESFA) internet site, allowed market participants to gain a better understanding of the price conditions prevailing in the Greek market, and, therefore, to exploit business opportunities and enhance competition, to the final benefit of consumers.
- The publication of wholesale prices constituted a necessary prerequisite for the organisation, at a subsequent stage, of a wholesale gas market.

WAIP Announcement



<https://www.rae.gr/genika-nea/76548/>

Price trends (WAIP, 2018-2023)

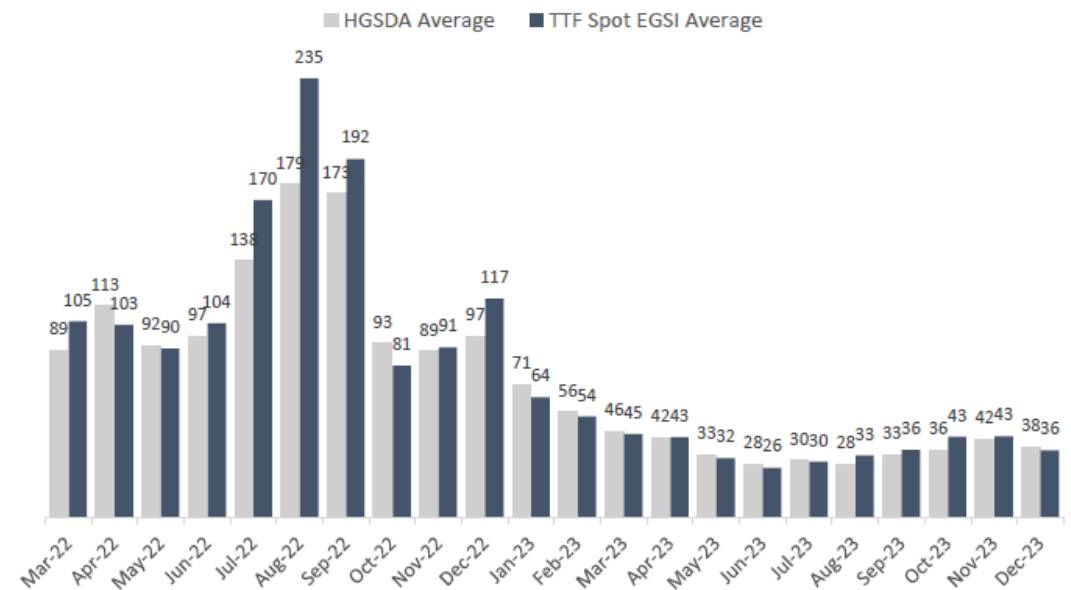


<https://www.rae.gr/psysiko-aerio/agora/mesostathmiki-timi-eisagogis/>

Gas Prices Document (Data available from 2011 onwards)

Organized wholesale market (Trading platform)

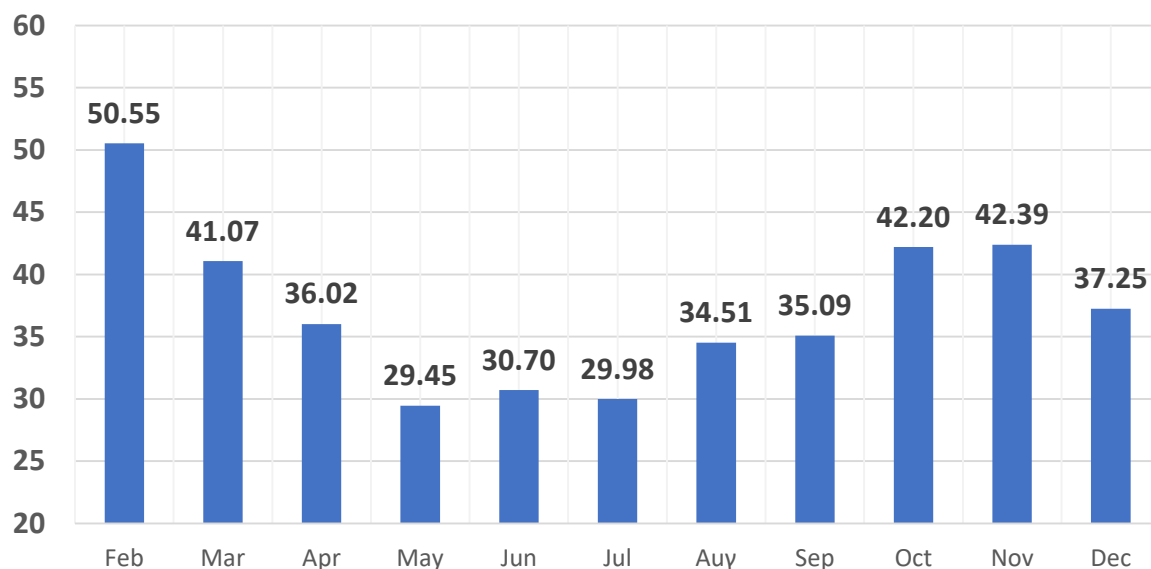
- In operation since March 2022 by the Hellenic Energy Exchange S.A.
- HEnEx publishes a set of Reference Prices that serve as indicators for monitoring the current gas prices in the Greek HTP.
- Publishes several indices (closing prices, HEnEx Gas Spot Index – Day Ahead (HGSIDA), HEnEx Gas Spot Index – Within Day (HGSIDW)) as well as the evolution of the Buy and Sell Prices for the Gas Balancing Market, in accordance with Regulation (EU) 312/2014.
- The correlation between HGSIDA and TTF EGSI is strong (95%) up to now.



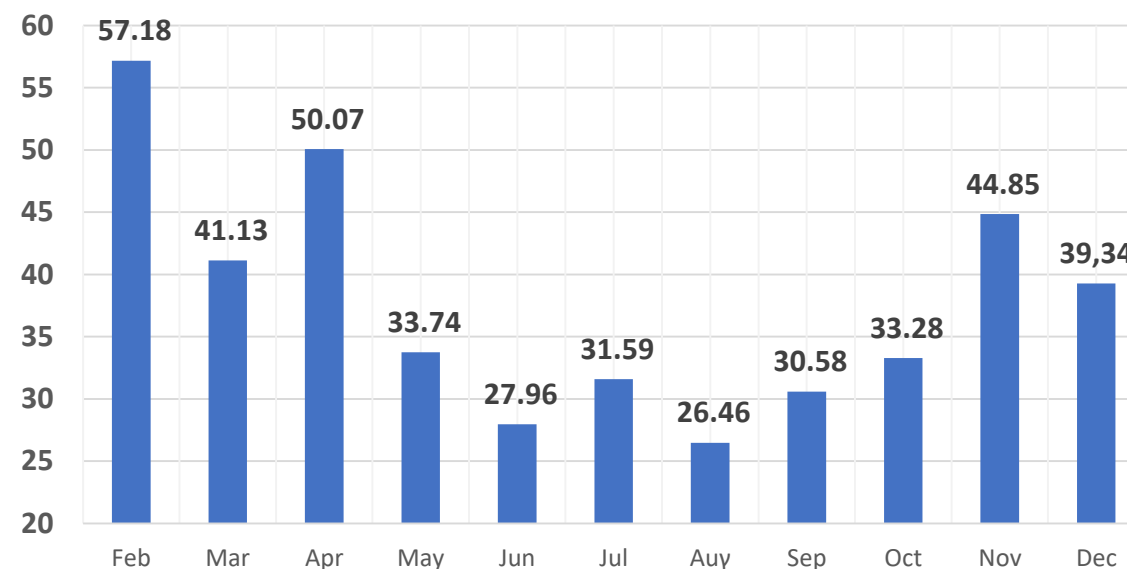
Source: Hellenic Energy Exchange S.A.

Price trends in the region (2023)

DES LNG SPOT SOUTH EUROPE PRICE (EUR/MWh)



WEIGHTED AVERAGE IMPORT PRICE IN NNGS (EUR/MWh)



Source: Data processing by RAEWW (data published daily on TERMINAL/ACER LNG price assessment, monthly arithmetic average of daily prices of spot DES transactions)

Source: RAAEW, Announcements of monthly Weighted Average Import Price (both pipeline and LNG gas volumes and values)

ACER's LNG price assessment consists of a time and volume weighted average price of spot DES transaction prices reported for the purchase or sale of LNG with delivery in the European Union. A rolling window of up to ten working days is used to identify, aggregate and analyze the LNG market data used in each daily LNG price assessment.

For the terminals considered in South Europe (SE): Comprises the regasification terminals in Croatia, France (Fos Cavaou and Fos Tonkin), Greece, Italy, Portugal and Spain (except Mugardos and Bilbao).

Long term vs short term in the LNG Terminal

- A total revamp of the Annual Scheduling Procedure (ASP) in the LNG terminal took place in 2020 following the Regulator's approval due to the increased interest for LNG imports.
- Both capacity at the terminal and the entry point to the transmission system are allocated via a market-base procedure (auctions).
- Annual Scheduling procedure of 2023: Runs from 10/10/2023 until 2/2/2024

Year	Slots (TWh) booked in the ASPs of previous years	Slots auctioned in ASP 2023 (TWh)
2024	32,5	3,5
2025	25,5	9,5
2026	16,5	19
2027	17,0	19,5
2028-2038		36,5 (per year)



THANK YOU FOR YOUR ATTENTION!

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