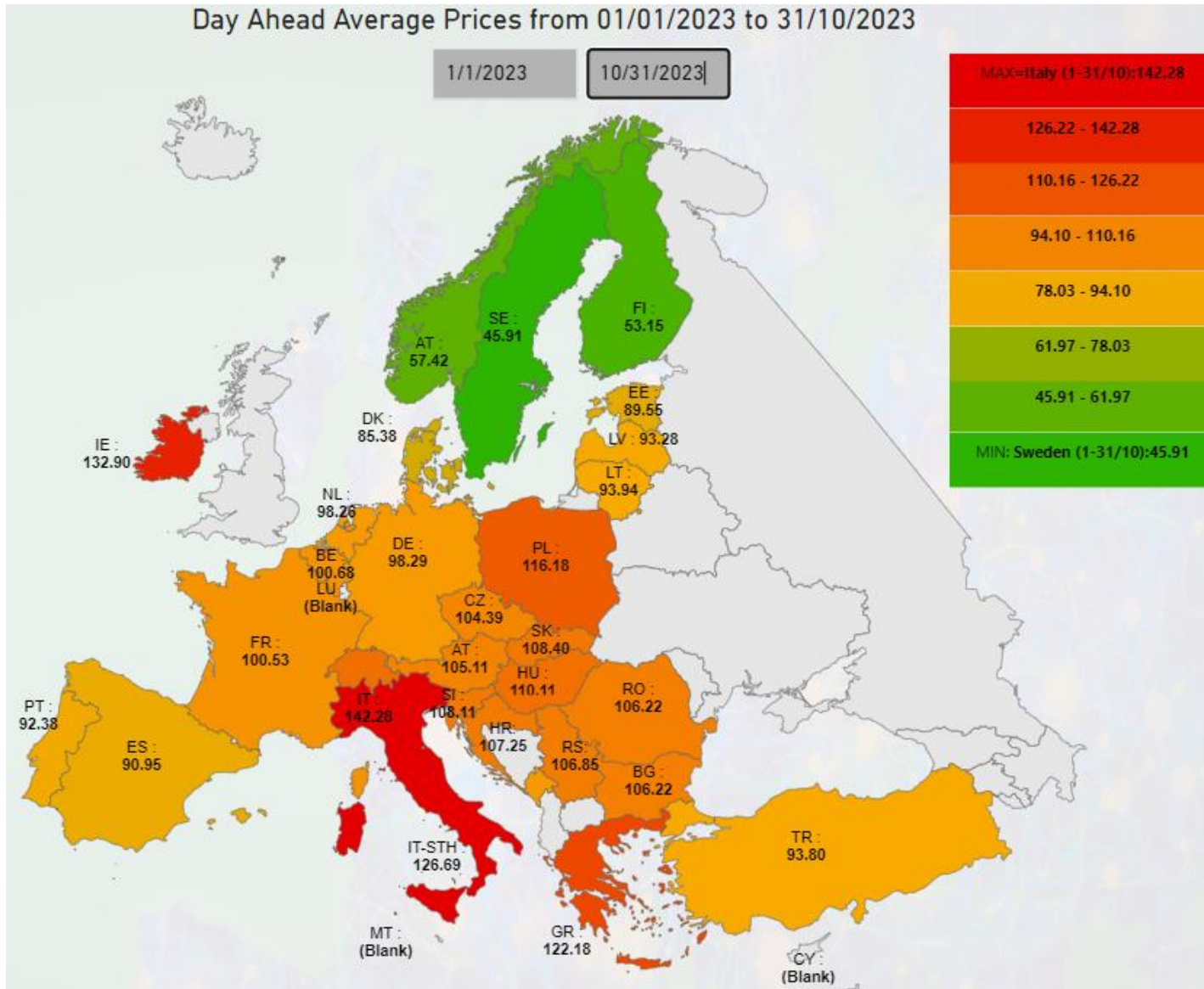

27ο Εθνικό Συνέδριο «Ενέργεια & Ανάπτυξη 2023»



IENE 14-15 NOVEMBER 2023



Market-Related Factors:

- Market Integration and Cross-border Trade
- Supply and Demand Balance
- Generation Mix
- Fuel Prices
- Operational Efficiency
- Dominant Player Dynamics
- Market Liquidity
- Interconnections
- Renewable Penetration
- Technology and Innovation
- Flexibility



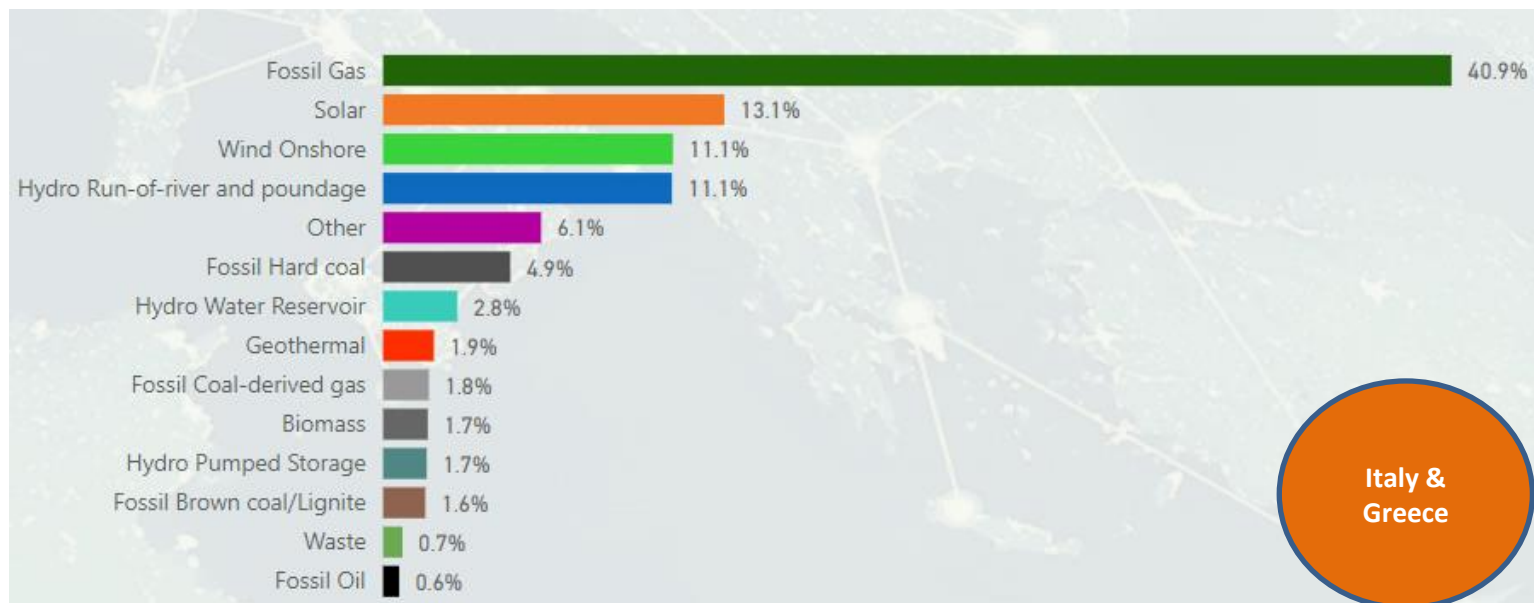
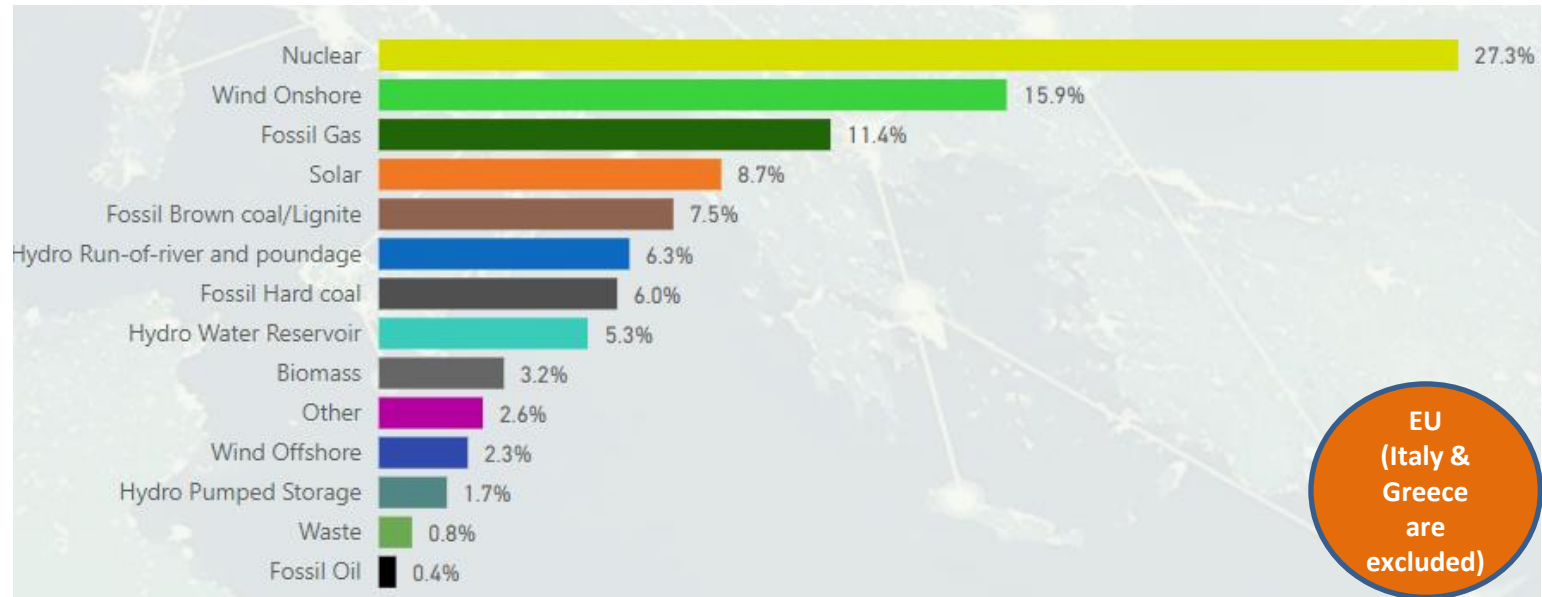
Regulatory Factors:

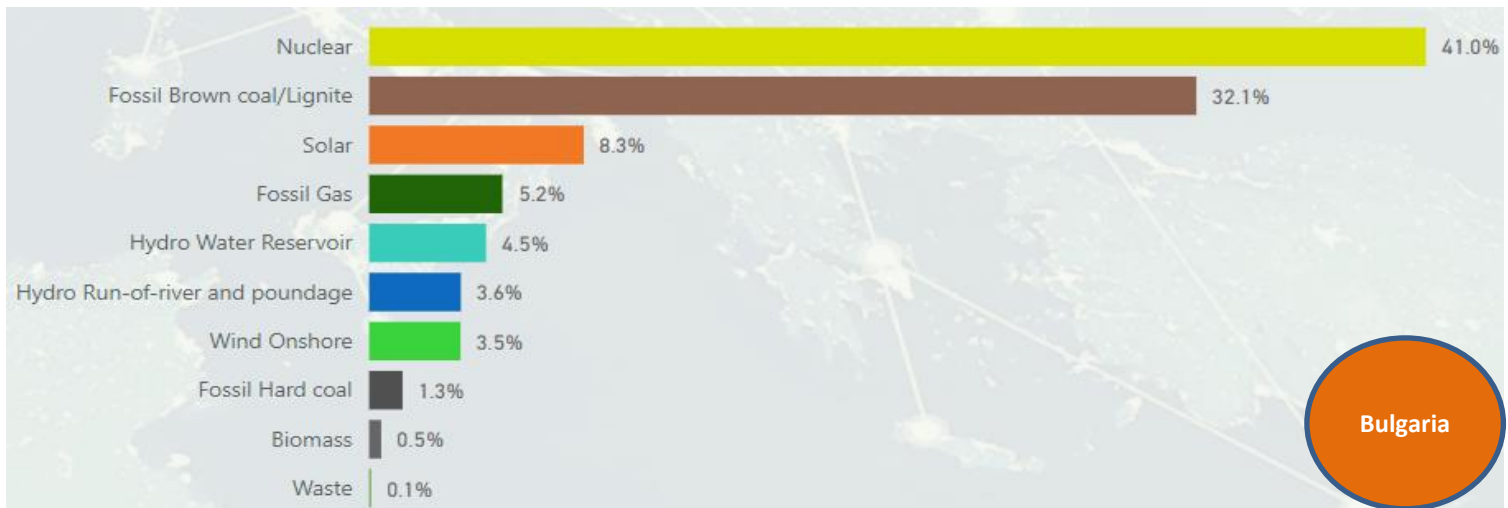
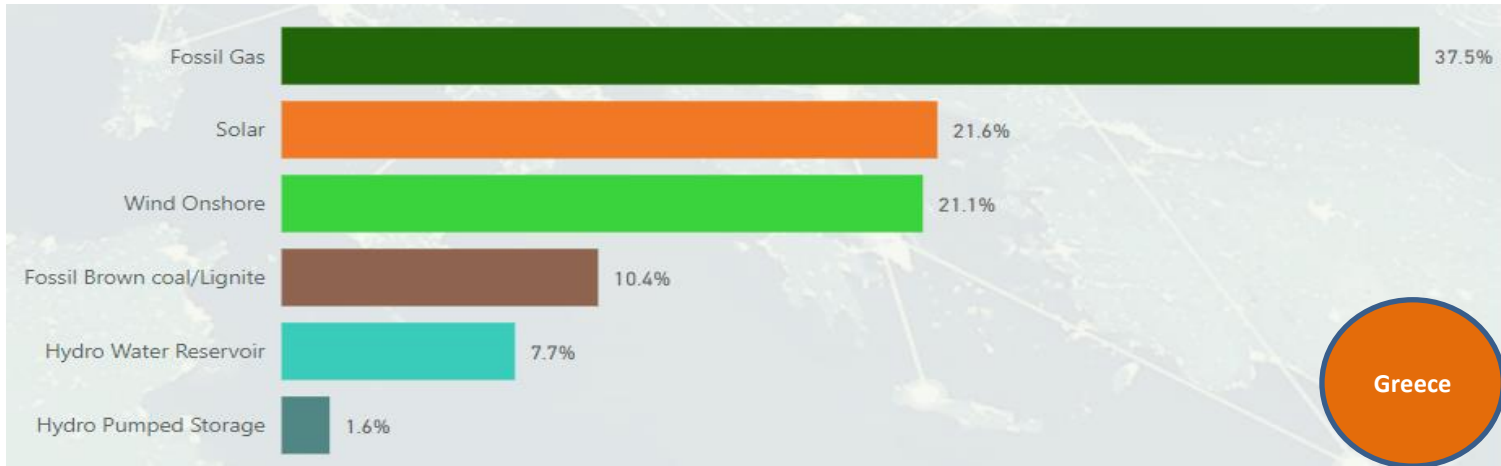
- Government Policies and Subsidies
- Network Access and Tariffs
- Carbon Pricing and Emissions Trading
- Environmental Regulations
- Capacity Mechanisms
- Renewable Energy Policies
- Cross-Border Trading Rules

External Factors:

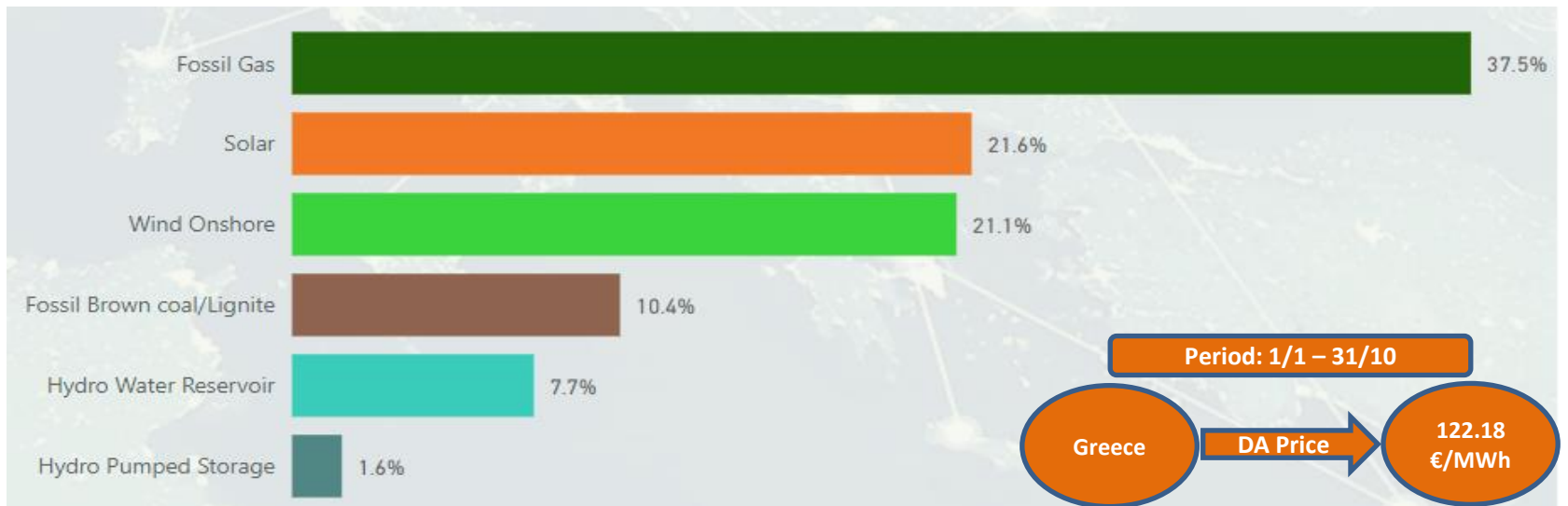
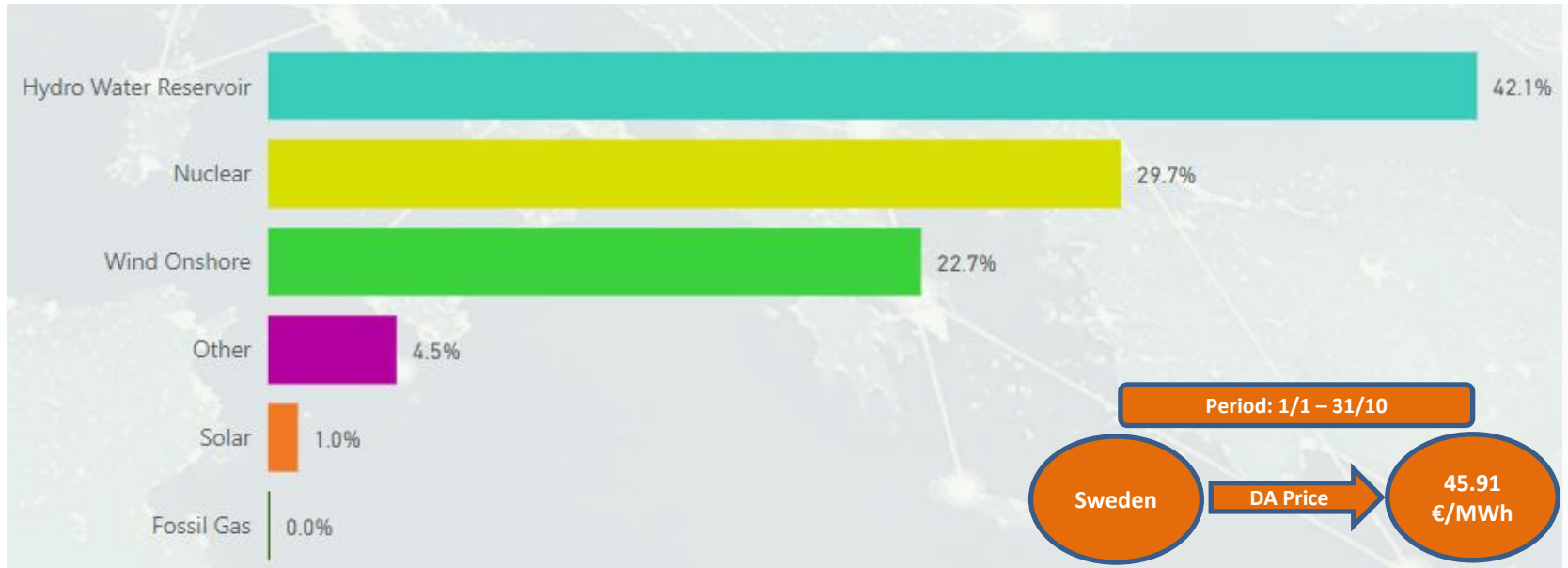
- Global Fuel Markets
- Economic Conditions
- Weather Conditions
- Geopolitical Events
- Technological Disruptions

Let's concentrate on the energy generation mix - EU vs Italy & Greece (1/1/23-31/10/2023)





Is it possible for Greece to be more competitive than Sweden?



- **July 2022:** Elimination of the adjustment clause in low voltage (LV) bills. Energy companies are required to publish their price lists for month M by the 20th calendar day of the preceding month (M-1).
- **8 July 2022:** Introduction of a new wholesale mechanism with caps on producers' revenues in the Day-Ahead Market.
- **7 October 2022:** The aforementioned mechanism has been extended to include the intraday market (Continuous Intraday Markets - CRIDAs).
- **1 November 2022:** Implementation of a **€10/MWhg** levy on the quantities of natural gas used exclusively by Greek electricity producers.
- **1 January 2023:** A **€2.49/MWhg** levy is imposed on natural gas power plants, following the publication of RAE's updated Emergency Plan, as a measure to ensure the security of the gas supply.
- **2 January 2023:** The cap on wholesale prices is also extended to the XBID (Cross-Border Intraday) market.
- **1 March 2023:** Modification of the natural gas (NG) levy from €10/MWhg to 5% based on the TTF Month-Ahead (MA) index, and a proposal to tax a portion of the profits in the retail sector.
- **18 May 2023:** Extension of the "Temporary Mechanism for Day-Ahead and Intraday Market Partial Revenue Return" until 30 September 2023.
- **29 June 2023:** Revision of the levy for Security of Supply. The costs of RAE's Emergency Plan for 2022-2023 will be recovered gradually until 2027, as the costs are too substantial to be fully recuperated within a single year.
- **28 July 2023:** Further extension of the validity period of the "Temporary Mechanism for Day-Ahead and Intraday Market Partial Revenue Return" until 31 December 2023.
- **November 2023:** Introduction of a formula for taxing the 'extra' revenues of suppliers between August 2022 and June 2023.
- **November 2023:** A ministerial decision is pending on the implementation of a single variable tariff formula.

The Greek market and its participants have become less competitive than their neighbors due to levies

Due to NG levies/charges, the Greek market became more expensive than neighboring markets, resulting in a **80%** increase in imports.

Period:
1 November 2021 - 31 October 2022

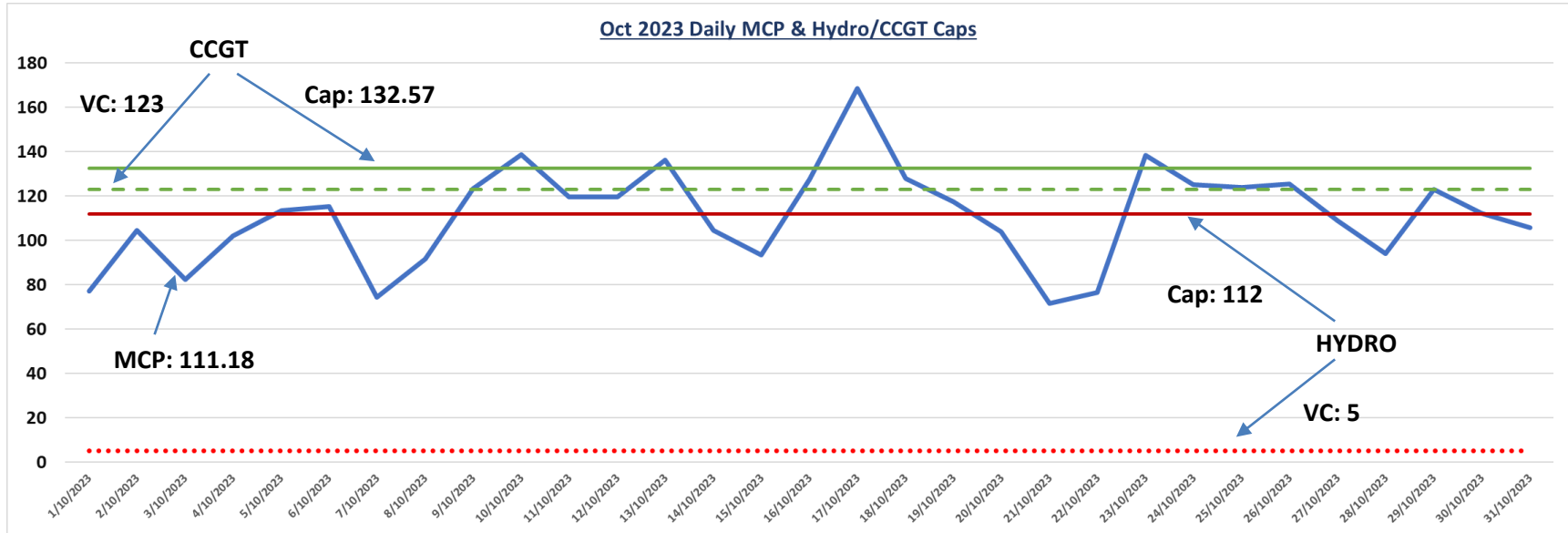
Year	Latest MS Import	Latest MS Export	Net Border Latest MS
2021	1,276,416	-1,105,986	170,431
Nov	759,048	-413,630	345,418
Dec	517,369	-692,356	-174,988
2022	7,312,689	-4,401,768	2,910,920
Jan	990,695	-401,147	589,548
Feb	947,911	-270,712	677,199
Mar	543,361	-612,353	-68,992
Apr	1,011,350	-190,595	820,755
May	888,385	-214,321	674,064
Jun	555,397	-391,946	163,451
Jul	373,644	-878,822	-505,178
Aug	299,254	-687,974	-388,720
Sep	816,728	-364,938	451,789
Oct	885,965	-388,962	497,003
Overall	8,589,105	-5,507,754	3,081,351

Period:
1 November 2022 - 31 October 2023

Year	Latest MS Import	Latest MS Export	Net Border Latest MS
2022	1,691,067	-964,154	726,913
Nov	838,151	-466,110	372,041
Dec	852,915	-498,043	354,872
2023	8,416,606	-3,597,359	4,819,246
Jan	1,263,468	-186,603	1,076,865
Feb	905,153	-299,875	605,279
Mar	955,046	-324,723	630,324
Apr	817,688	-362,184	455,505
May	858,603	-169,923	688,679
Jun	580,291	-209,818	370,473
Jul	1,042,277	-246,913	795,364
Aug	837,526	-495,189	342,336
Sep	557,980	-643,893	-85,912
Oct	598,573	-658,239	-59,666
Overall	10,107,673	-4,561,513	5,546,160

Δ (%): +80%

How can Greece's Electricity market stay competitive with hydroelectric resources controlled by one company?



October 2023 Data

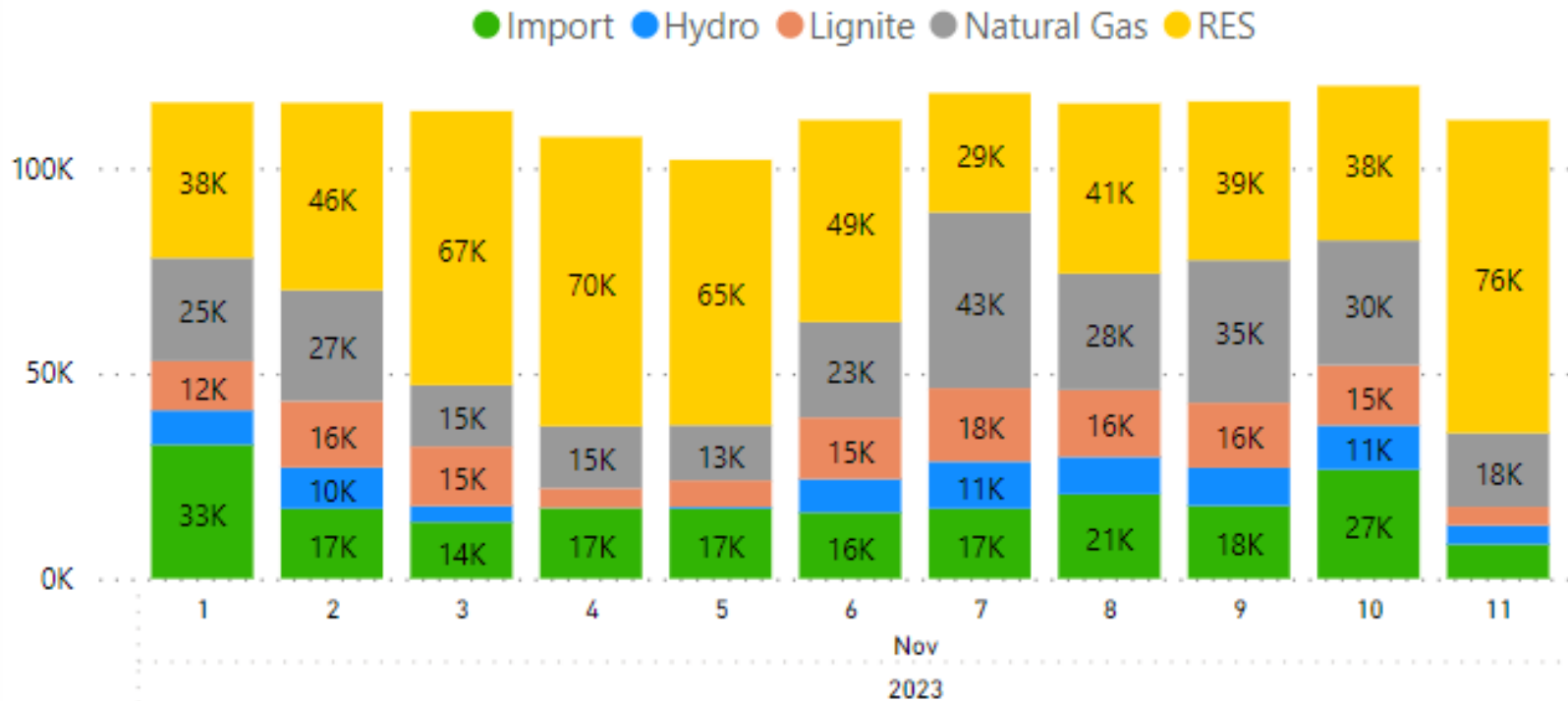
Production Technology	Total Load MWh	%
RES	1,513,113	36.7 %
Natural Gas	1,380,259	33.5 %
Lignite	358,022	8.7 %
Big Hydro	447,463	10.9 %
Import	418,904	10.2 %

CCGTs Variable cost: ~ 123 €/MWh
 Hydro Variable cost: ~ 5 €/MWh

vs MCP October: 111,18 €/MWh

CCGT → -11,82
 Hydro → +106,18

Capacity Mechanism more than necessary



- To address the need for **flexibility** and ensure the availability of system capacity, a **capacity remuneration mechanism** is necessary. Furthermore, a capacity mechanism helps to mitigate the effects of high prices

THANK YOU
ANDREAS PETROPOULEAS