



25° ΣΥΝΕΔΡΙΟ: ΕΝΕΡΓΕΙΑ+ΑΝΑΠΤΥΞΗ



December 1-2, 2021

Professor George Ioannou
CEO, Energy Exchange Group, Greece

Energy Exchange Group | Overview



Public sector
42%

Private sector
58%



Hellenic Energy Exchange S.A.

- Operates Spot & Derivatives energy markets
- Nominated Electricity Market Operator for Power Spot
- In progress for licensing as Trading Platform Operator for Gas



EnEx Clearing House S.A.

- Risk management, clearing and settlement of Spot energy markets (Day-Ahead & Intra-Day Markets)
- Clearing and settlement of positions in the Balancing Market for Power (operated by IPTO)



Clearing House for Derivatives

ATHEXClear (company of ATHEX Group)

3 Years of EnEx Group | Major accomplishments

HEnEx as PCR Member

June 2018

- › A project of European Power Exchanges to harmonise the European electricity markets
- › HEnEx became the 8th Member of the initiative together with EPEX SPOT, GME, Nord Pool, OMIE, OPCOM, OTE and TGE
- › The Euphemia Algorithm guarantees robust operation and level-playing field for all Participants

Intra-Day Regional Market Coupling

September 2021

- › 21st September 2021 (delivery 22nd September 2021) - Complementary Regional Intraday Auctions (CRIDAs) between Greece-Italy-Slovenia

Integration in the EU Target Model

November 2020

- › Integration of the Greek power market with the EU Target Model
- › Day-Ahead Market
- › Intra-Day Market with local auctions (LIDAs)

HEnEx as RRM

May 2020

HEnEx is an approved RRM by ACER, providing REMIT Reporting Services

Crete in the Power Spot Market

November 2021

Implementation of the hybrid model for the operation of the Spot market in Crete during Phase I

Day-Ahead Market Coupling

December 2020 & May 2021

- › 15th December 2020 - market coupling of the Greek Day-Ahead market to the EU markets - over the interconnection between Greece and Italy
- › 11th May 2021 - Extension of market coupling through the interconnection with Bulgaria

Derivatives Market

March 2020

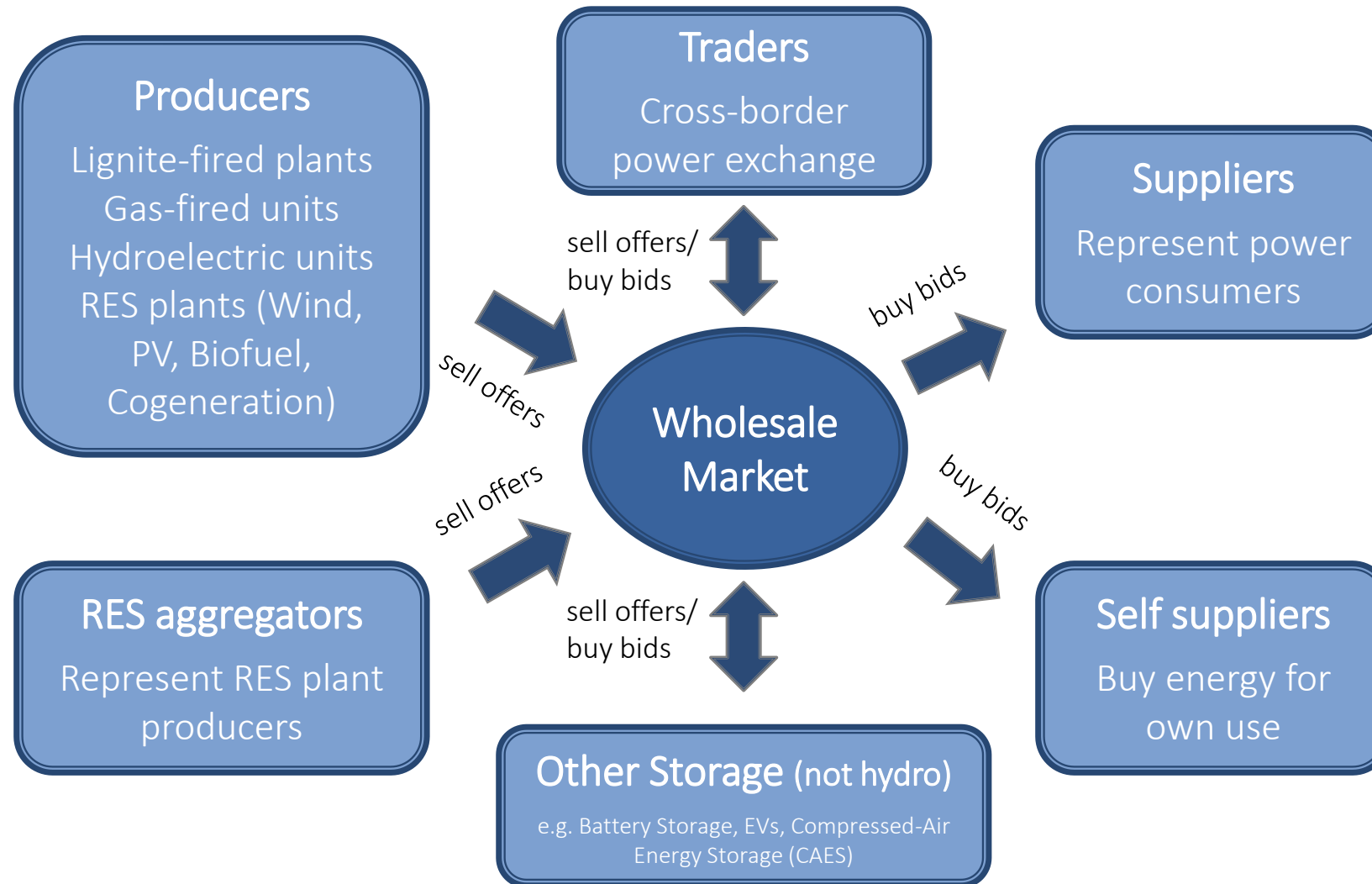
- › MiFID II Market with EMIR compliant CCP
- › Greek Power Futures
- › Price hedging against future electricity spot prices

How would a modern energy sector look like?



- › Energy **efficiency**
- › **Smart** distribution grids
- › Large share of **RES** (wind, photovoltaic, green and blue hydrogen)
- › **Flexible loads**
- › Energy **storage**
 - Centralized: pumped-hydro, CAES
 - Distributed: EVs, batteries etc
 - Carbon Capture Storage
- › **Flexible gas-fired generation** as the transitional fuel
- › **Multiple gas corridors and storage facilities** (FSRU or underground) increasing flexibility
- › Strong **interconnections** with neighboring countries
- › Efficient, liquid, fast and flexible energy **markets**
- › **Integration** of EU markets

Wholesale Electricity Market Stakeholders



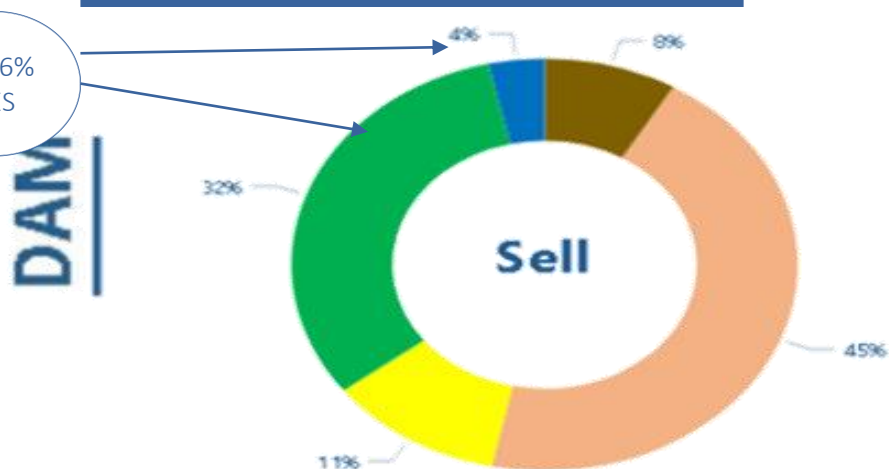
Power Market Data | October & November 2021

DAM & IDM Sell Volume mix

October 2021

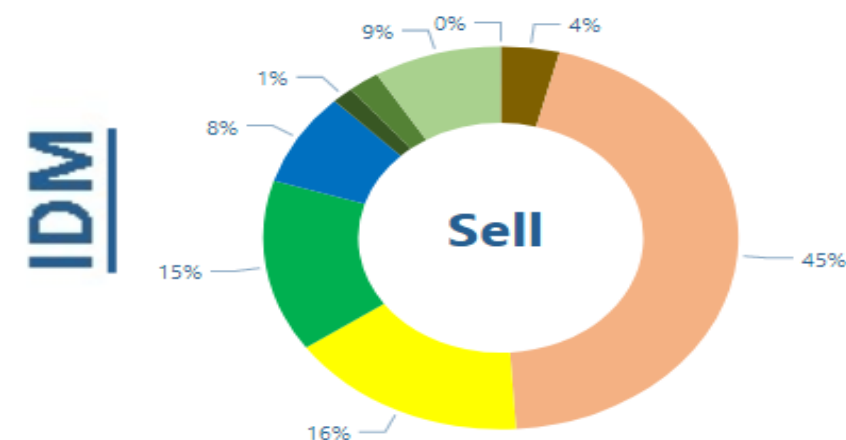
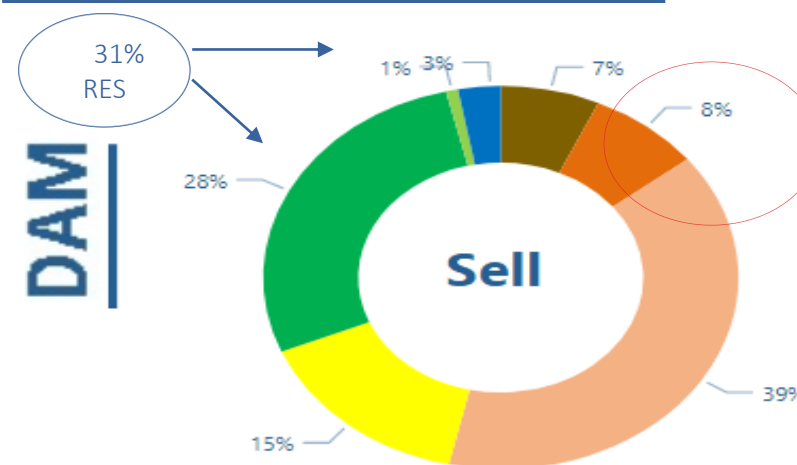
- Lignite
- Crete Conventional
- Gas
- Imports
- RES
- Crete RES
- Hydro

- Lignite
- Crete Conventional
- Gas
- Imports
- RES
- Crete RES
- Hydro
- HV Load
- MV Load
- LV Load
- Crete Load
- Pumping
- Exports



DAM & IDM Sell Volume mix

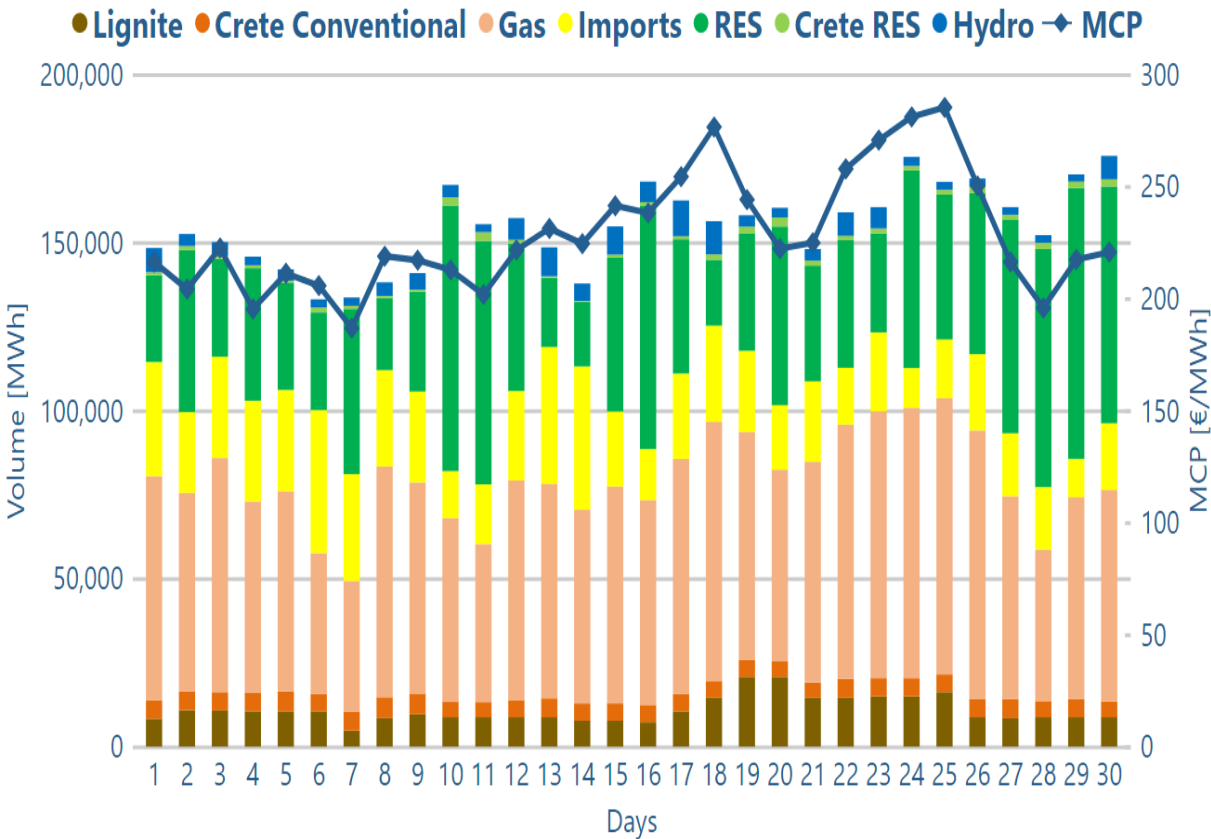
November 2021



Power Market Data | Sell volumes in DAM

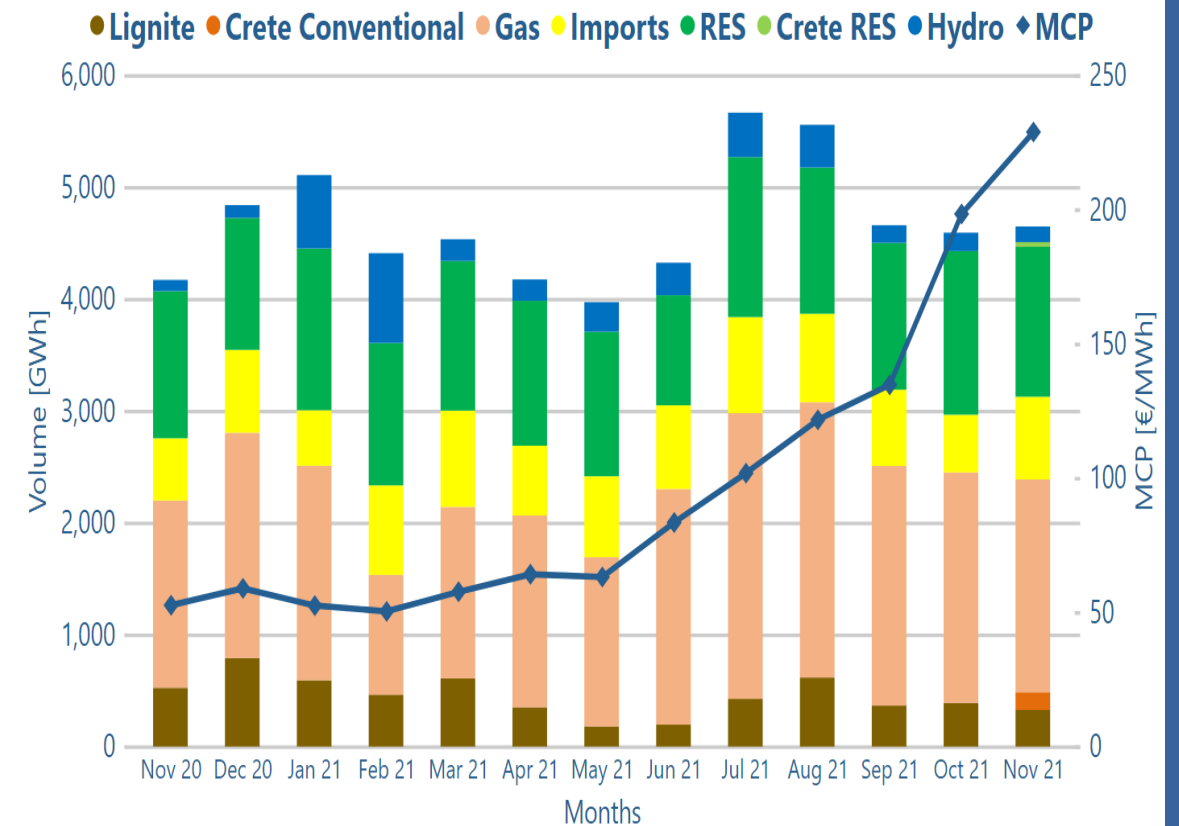
Volume mix of sell side per day

November 2021



Volume mix of sell side per month

November 2020 – November 2021



Power Market Data | CO2, Gas and TTF spot Prices

EU ETS Carbon Price

EU carbon price has risen five-fold since 2018

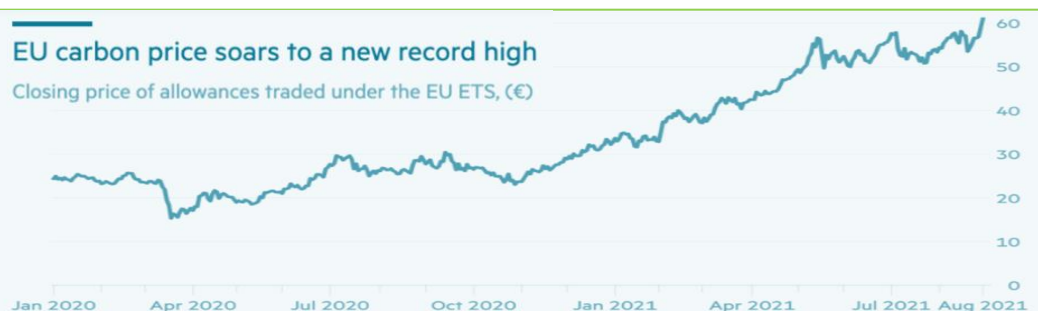
EU ETS (€ per tonne)



Source: Refinitiv
© FT

EU carbon price soars to a new record high

Closing price of allowances traded under the EU ETS, (€)



Source: Refinitiv
© FT

Natural Gas Price

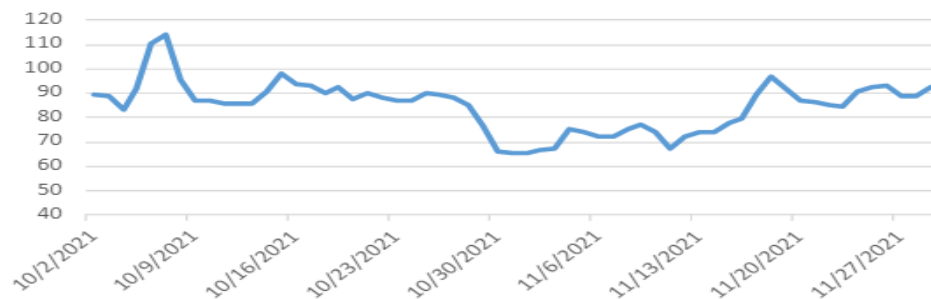
European natural gas prices rise

€ per megawatt hour



Source: Refinitiv
© FT

TTF spot gas prices(€/MWh)

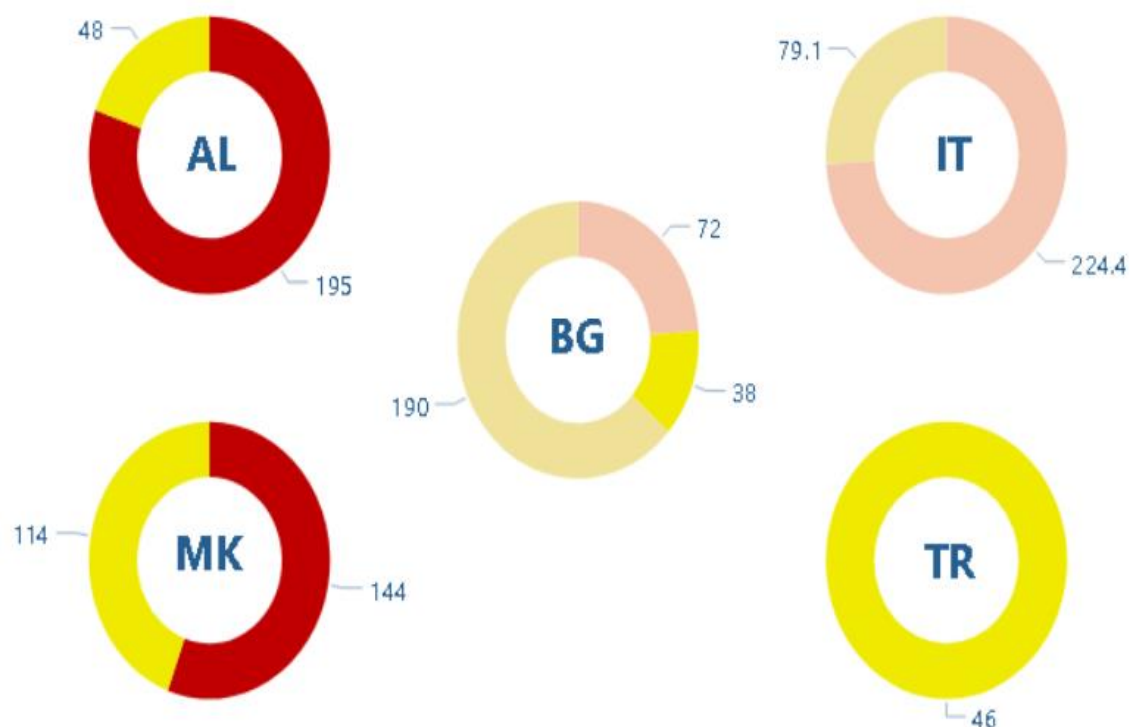


TTF Spot on
Nov 30, 2021
93.67 €/MWh

Power Market Data | October & November 2021

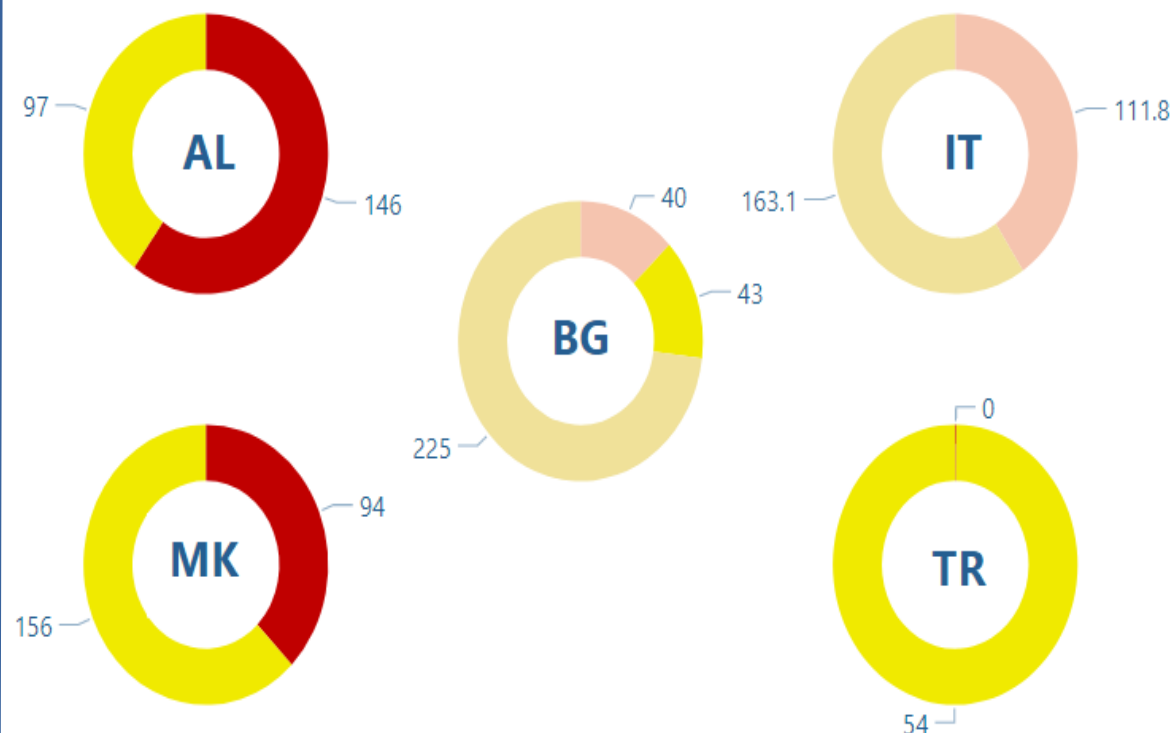
Cross Border Volumes (GWh)

October 2021



Cross Border Volumes (GWh)

November 2021

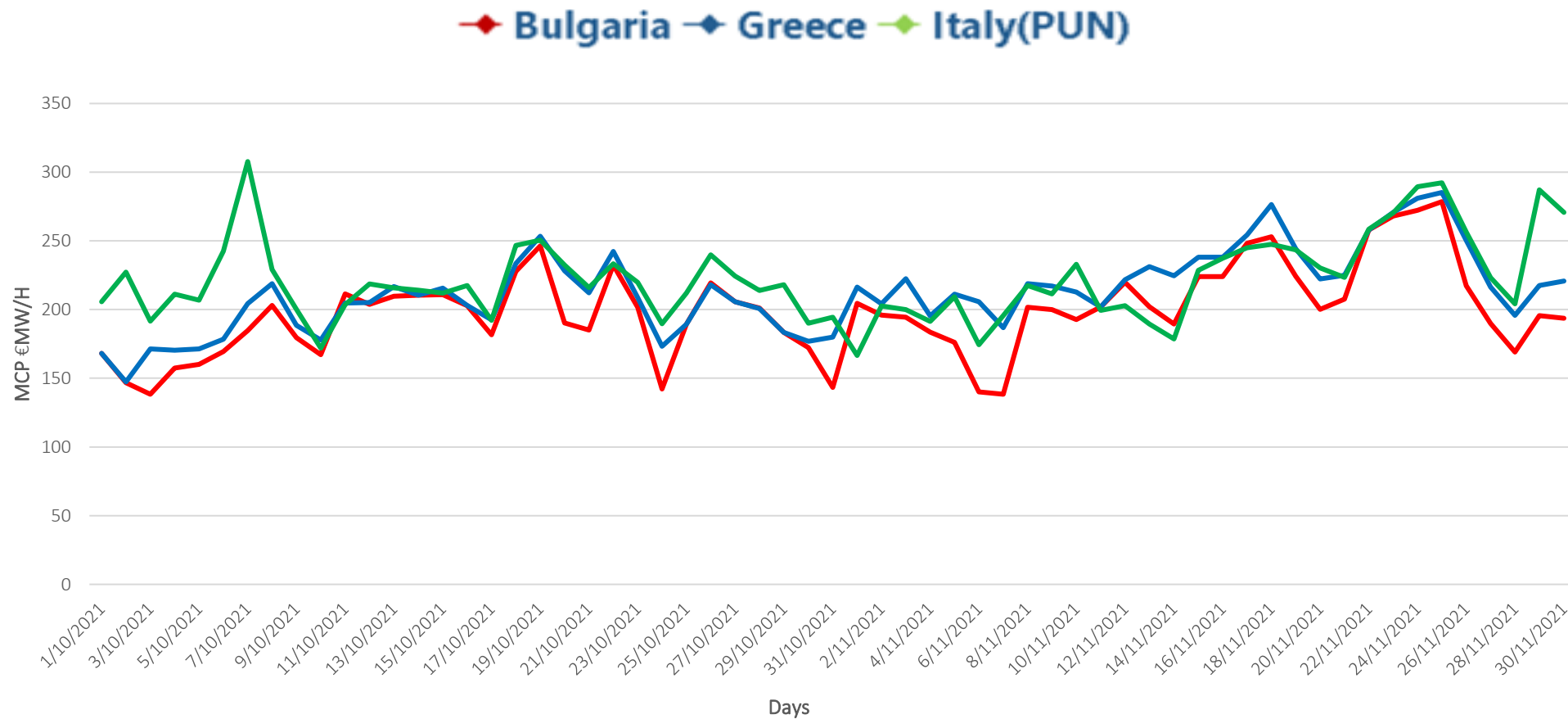


● Exports-Implicit Allocation ● Exports-Explicit Allocation
● Imports-Implicit Allocation ● Imports-Explicit Allocation

Power Market Data | The Coupling Effect

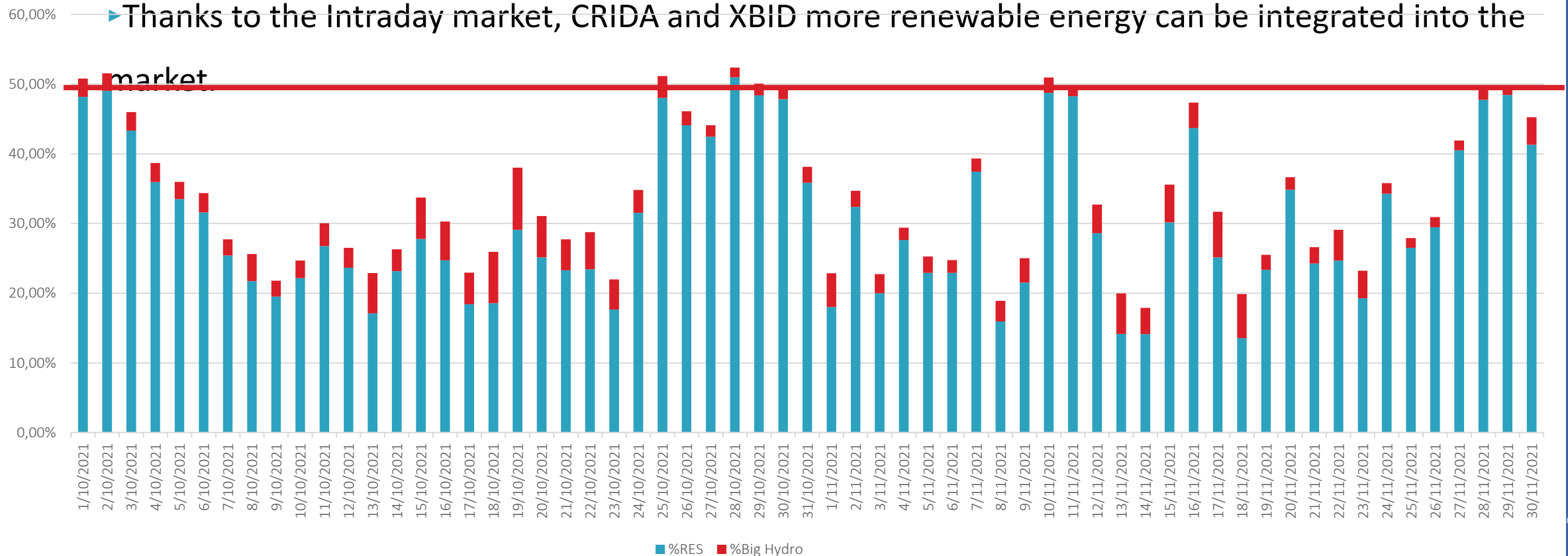
Daily average MCP

01 October – 30 November 2021



RES in the Daily Energy Supply Mix

- ▶ Greece has a very large share of Renewable Energy as part of its energy mix, averaging **35 %** in 2021
- ▶ In October and November 2021, RES reached 50% as part of the daily energy supply mix on some specific days.



Derivatives Market | Evolution in 2021

Delivery Duration

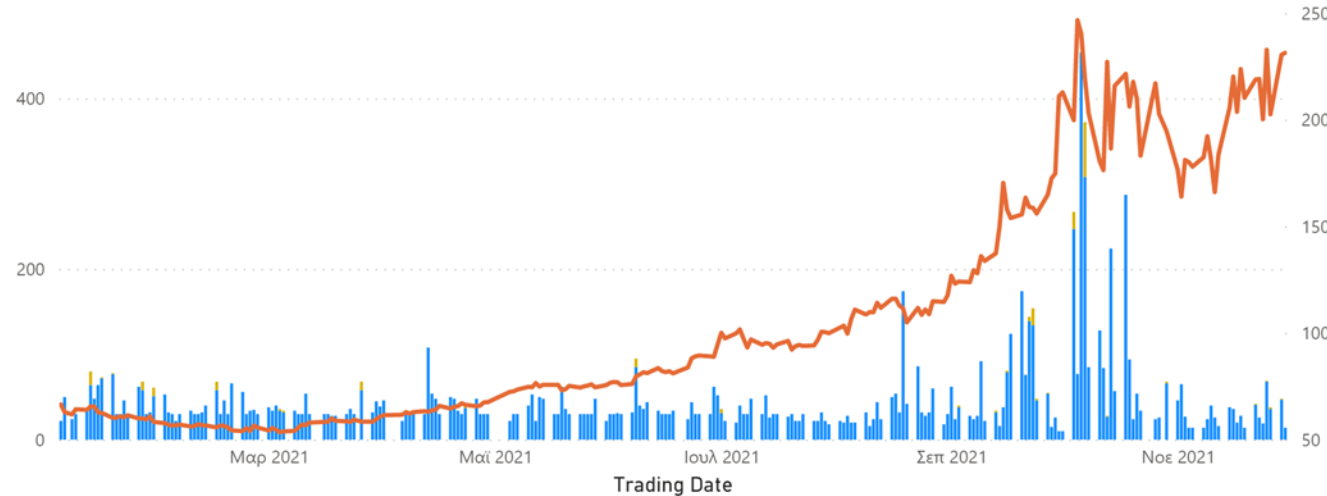
Base / Peak



Orders, Trades, Orders
Avg Price

Trade Value (€) and
Fees (€)

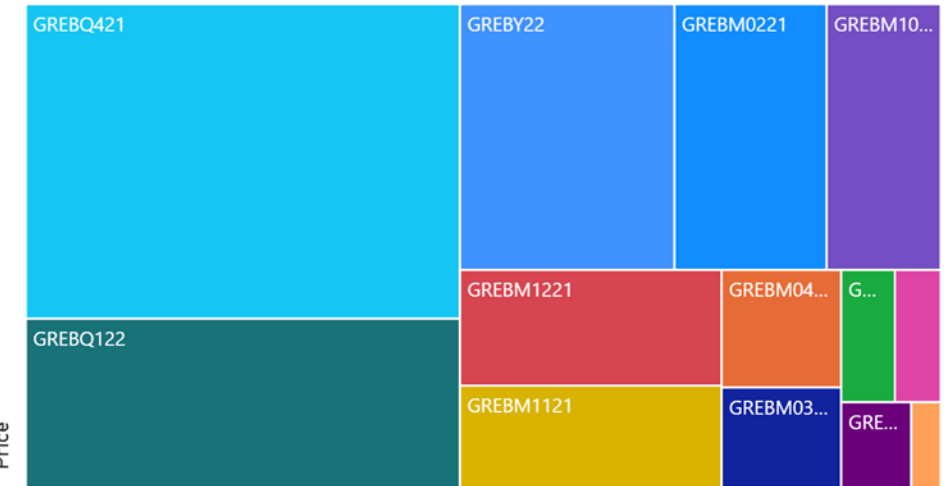
● Orders Contract No ● Volume (Trades*) ● Orders Average Price



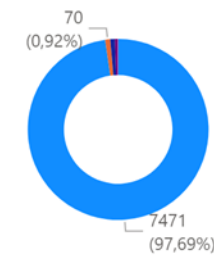
Trading Date

Instrument	Orders Value (€)	Orders (No)	Trade Value (€)	Trades (No)	Traded Volume (MWh)
GREBY22	449.118.630,00	557	4.382.190,00	4	70.080,00
GREPY22	281.253.960,00	966			
GREBQ122	278.468.899,50	257	9.717.659,00	5	90.678,00
GREBQ421	224.021.228,64	438	11.811.081,20	19	167.884,00
GREBM1221	76.739.508,00	363	4.522.404,00	8	37.200,00
GREBQ222	72.255.020,00	57			

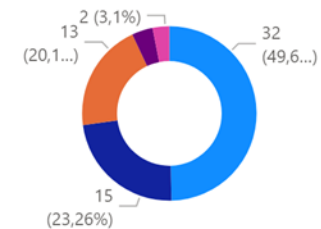
Traded Volume (MWh), Trade Value (€), Trades (No) και Fees (€) ΚΑΤΑ Instrument



Top5 Members by Orders No



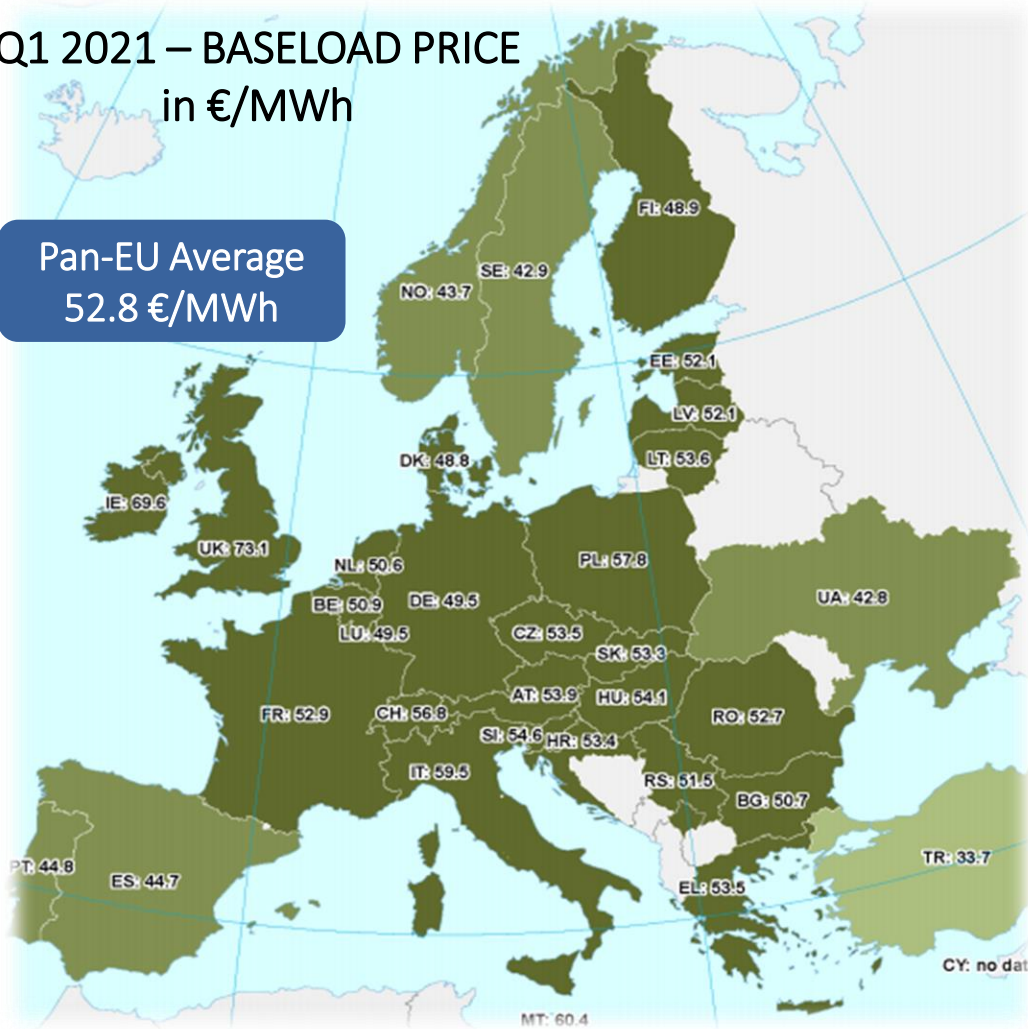
Top5 Members by Trades No



Power Market Data | European Wholesale Prices

Q1 2021 – BASELOAD PRICE
in €/MWh

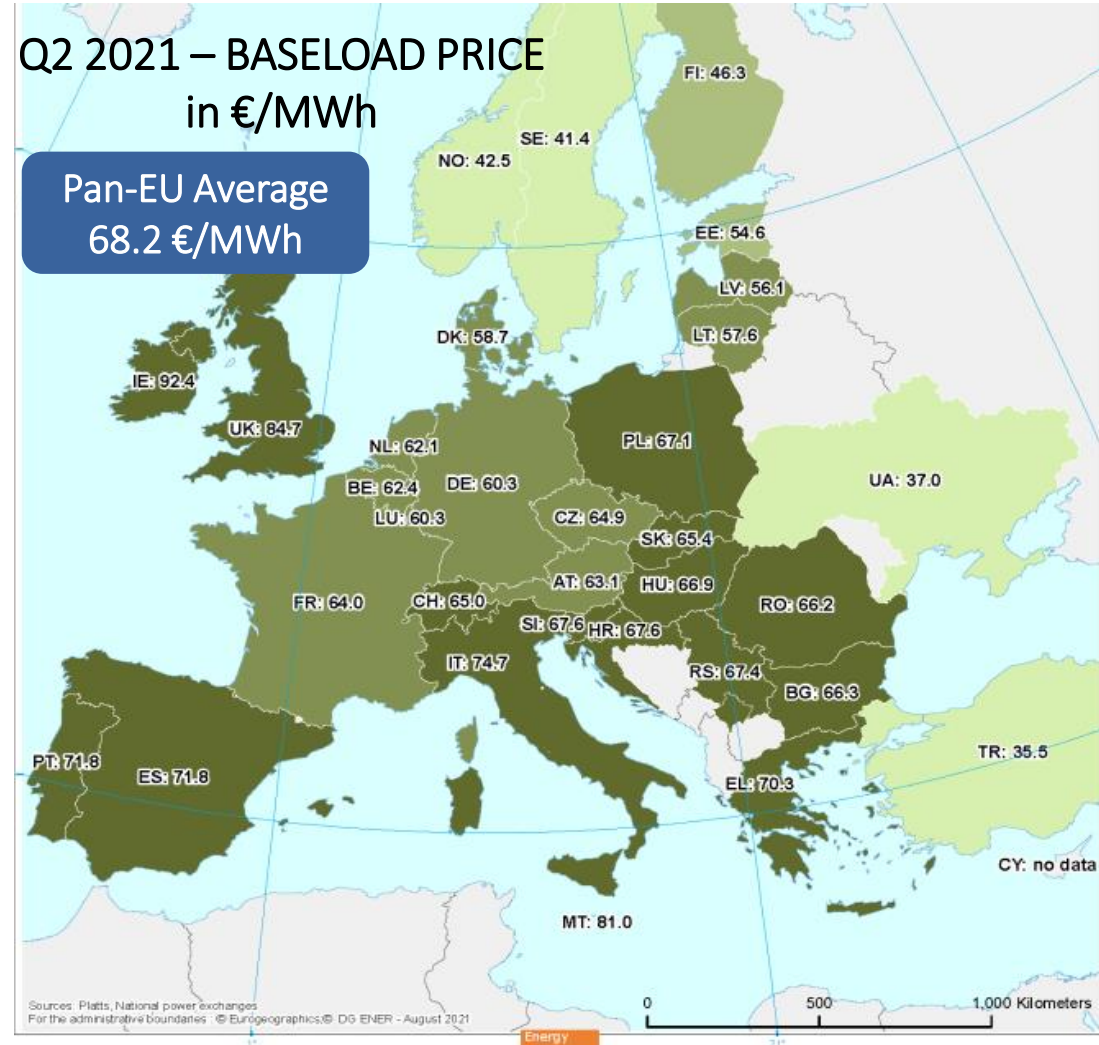
Pan-EU Average
52.8 €/MWh



Source: Quarterly Report on European Electricity Markets, DG Energy

Q2 2021 – BASELOAD PRICE
in €/MWh

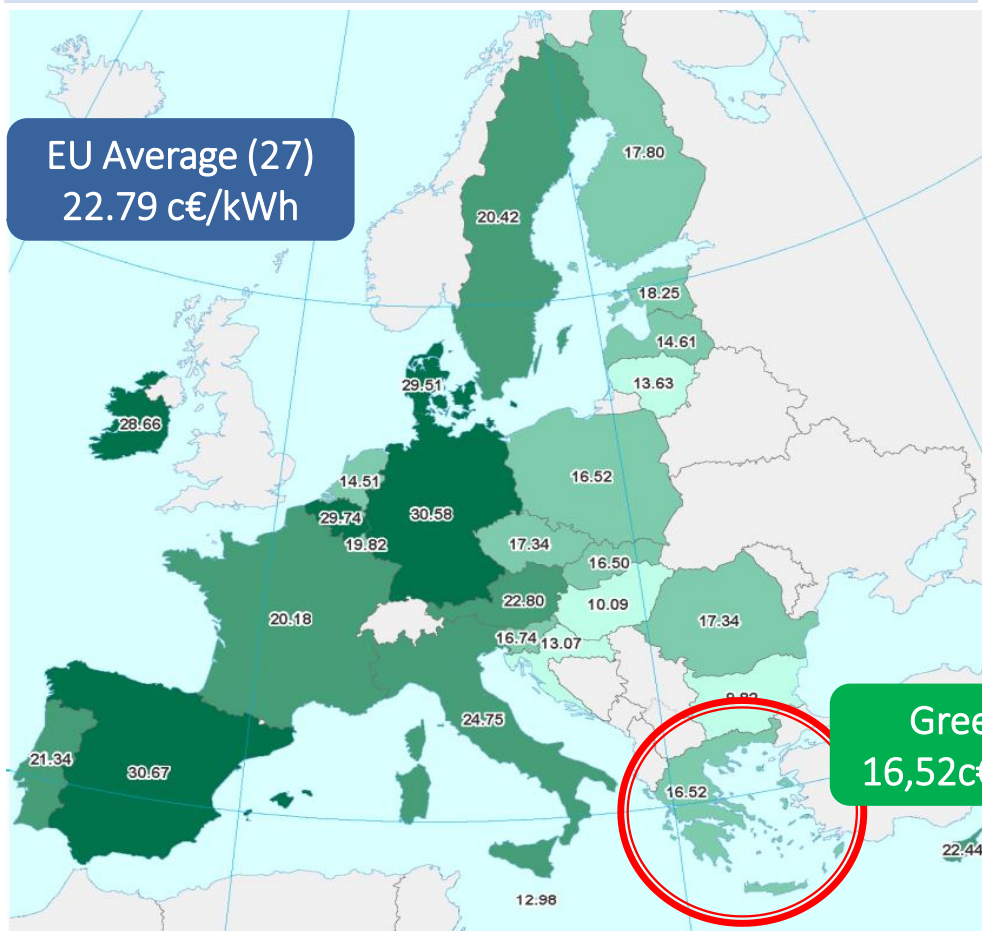
Pan-EU Average
68.2 €/MWh



Sources: Platts, National power exchanges
For the administrative boundaries: © Eurogeographics © DG ENER - August 2021

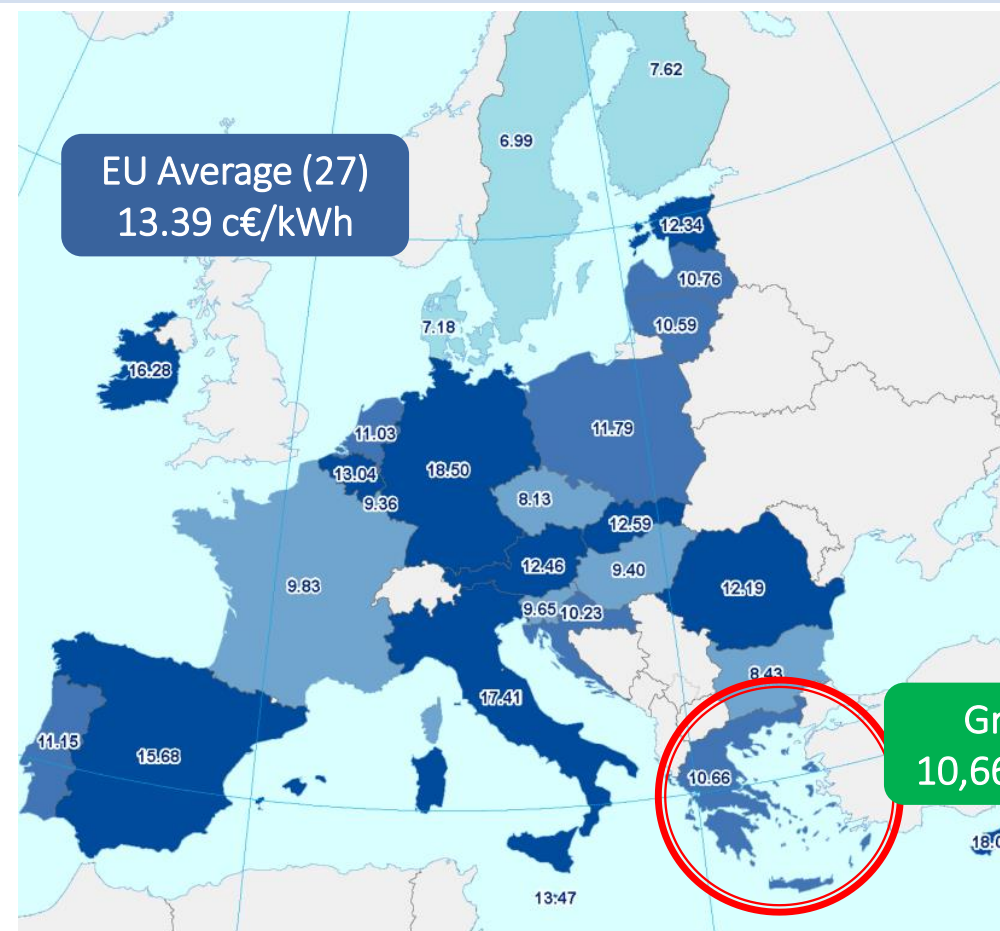
Power Market Data | Household & Industrial Prices

Q2 2021 Household prices in c€/kWh including all taxes & levies



Source: Quarterly Report on European Electricity Markets, DG Energy

Q2 2021 Industrial prices in c€/kWh in c€/kWh excluding VAT and other recovered taxes



Source: Quarterly Report on European Electricity Markets, DG Energy

3 Years of EnEx Group | Upcoming Developments



Gas Spot



Gas trading platform

Go-live date to be released soon

In collaboration with DESFA, RAE and the Ministry of Environment, HEnEx will provide new trading opportunities and efficient utilization of new gas projects, for the benefit of all participants in the region.

Image source: iene



Power Spot



XBID – Continuous trading on intra-day

Within 2022

HEnEx intra-day trading offering will be enhanced with the European Cross-Border Intraday (XBID) initiative in order to increase liquidity and overall efficiency.

Image source: eeueuropa

