

# Innovation in Energy: The digital transformation of RAAEY

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## **Digital Transformation of RAAEY**

- 1. Energy Markets developments (monitoring/reforms/regional integration)**
- 2. Consumer's Place (digitalization of services to energy Consumers)**

## **Conclusions**

# DIGITAL SERVICES OF RAAEY

## DIGITAL SERVICES OF RAAEY FOR ENERGY CONSUMERS

Price Comparison Tools	Complaints Tools	Energy Savings Tools
<p>1. <b>Energycost:</b> Price comparison tool, which enables Energy Consumers to compare the price provided by their energy supplier to all available electricity and natural gas prices, based on their consumption patterns</p> <p>i. Under development module for <b>Online Switching</b></p> <p>2. <b>ChargingCost:</b> Price Comparison Tool for Electric Vehicles (EV), which enables Energy Consumers to compare all available prices for publicly available EV chargers, as well as routing to them</p>	<p>3. <b>MyRAE:</b> Complaints Tool, which enables Energy Consumers to submit Complaints to Energy Suppliers and Distribution Network Operators for electric and natural gas</p> <p>4. <b>ENOMOS:</b> Energy Ombudsman, which enables Energy Consumers that is not satisfied from responses from Energy Providers and Network Operators to their complaints submitted to the Complaints Tool (MyRAE) to proceed with energy arbitration under the auspices of RAAEY.</p> <p>5. <b>Whistleblowing:</b> Anonymous Complaints tool, which enables Energy Consumers to submit anonymous complaints</p>	<p>6. <b>Electricity Cost Calculator</b> which enables Energy Consumers to estimate energy consumption and electricity cost of household appliances, based on their use</p> <p>7. <b>Building Energy Savings</b> which enables Energy Consumers to calculate energy efficiency options for residences and buildings</p> <p>8. <b>Building Energy Efficiency Marketplace (BEEM)</b> which is creating a marketplace among Energy Consumers and Energy Services' Providers</p>

## DIGITAL SERVICES OF RAAEY FOR ENERGY MARKET

RES & Storage Tools	Electricity Market Monitoring	Natural Gas Market Monitoring
<p>9. <b>Geospatial Map for RES and Storage</b> Installations, providing spatial information of all RES and Storage projects licensed, by license status</p> <p>10. <b>Online Registry for RES and Storage installations</b>, enabling investors to apply for RES and storage assets production license</p> <p>i. <b>Auctions tool</b> for operating aid on RES and Storage assets</p>	<p><b>European Wholesale Electricity Market</b></p> <p>11. <a href="#">Map with Day Ahead Market prices</a></p> <p>12. <a href="#">Map with electroproduction from RES</a></p> <p>13. <a href="#">Map with Cross-Border Electricity Trade Balance</a></p> <p><b>Hellenic Wholesale Electricity Market</b></p> <p>14. <a href="#">Aggregate Supply-Demand Curves</a></p> <p>15. <a href="#">Energy Balance for the Day Ahead Market, Intraday Market and Integrated Scheduling Process</a></p> <p>16. <a href="#">The Duck Curve</a></p> <p>17. <a href="#">Estimated Energy Surplus</a></p> <p>18. <a href="#">Resources availability for meeting electricity demand</a></p> <p>19. <a href="#">Detailed Market Monitoring Reports on wholesale electricity market</a></p> <p>20. <a href="#">Temporary Mechanism applied during the energy crisis</a></p> <p><b>Hellenic Retail Electricity Market</b></p> <p>21. <a href="#">Detailed Market Monitoring Reports on retail electricity market</a></p>	<p><b>European Wholesale Natural Gas Market</b></p> <p>22. <a href="#">Map with natural gas flows</a></p> <p>23. <a href="#">Map with filling information of the Liquefied Natural Gas terminals</a></p> <p><b>Hellenic Wholesale Natural Gas Market</b></p> <p>24. <a href="#">Graph with the evolution of weighted average import price of natural gas in Greece</a></p> <p><b>Hellenic Retail Natural Gas Market</b></p> <p>25. <a href="#">Detailed Market Monitoring Reports on retail natural gas market</a></p>



## DIGITAL SERVICES OF RAAEY FOR WASTE AND WATER

### Infrastructure Monitoring Tools

26. **Geospatial Map FoDSA** depicting infrastructure of **Waste Management entities (FoDSA)**

### Complaints Tools

27. Under development **complaints tool (MyRAEwater)**, enabling Consumers to submit complaints – with geospatial information- to **Water Management entities**
28. Under development **complaints tool (MyRAEwaste)**, enabling Consumers to submit complaints – with geospatial information- to **Waste Management entities (FoDSA)**

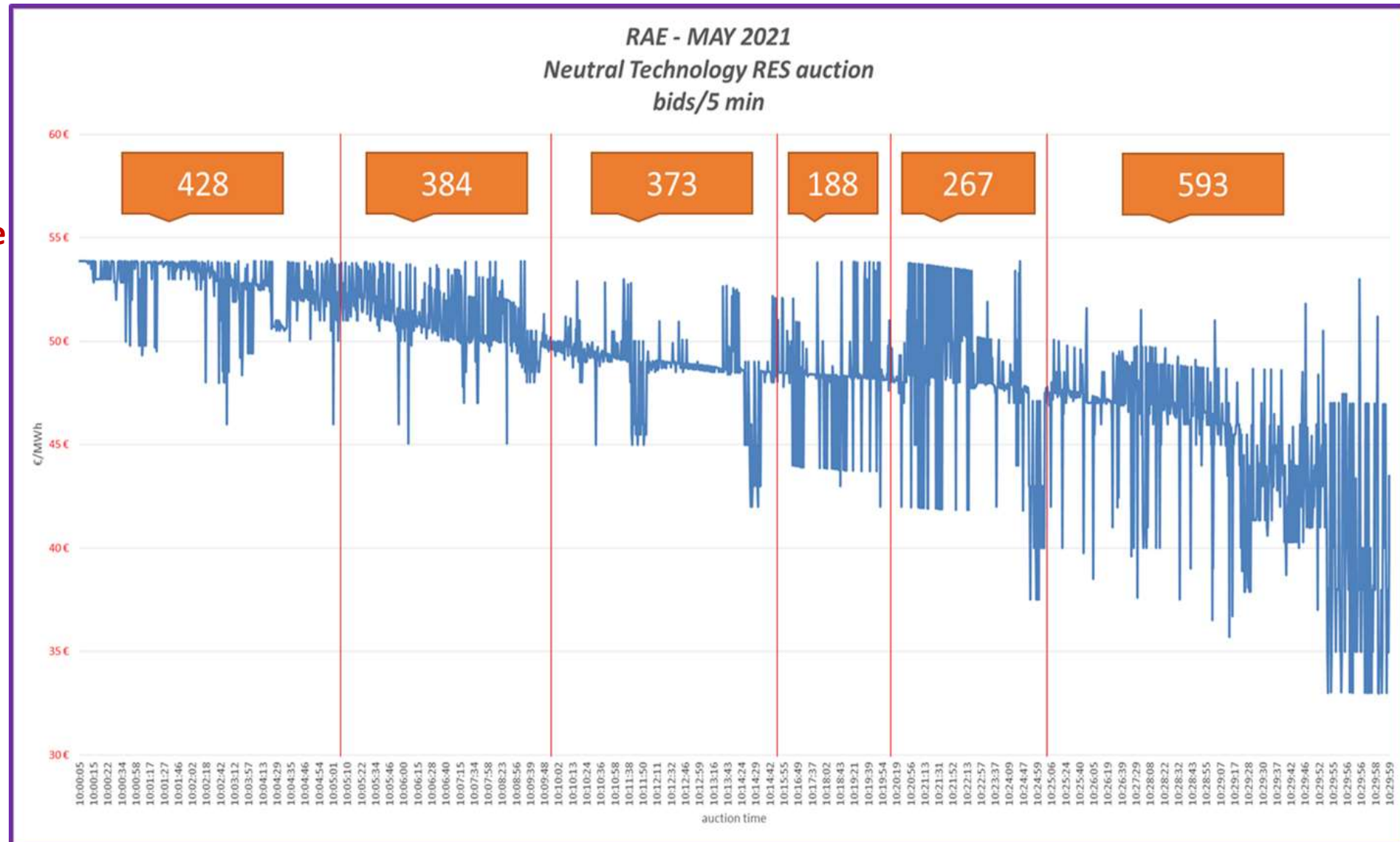
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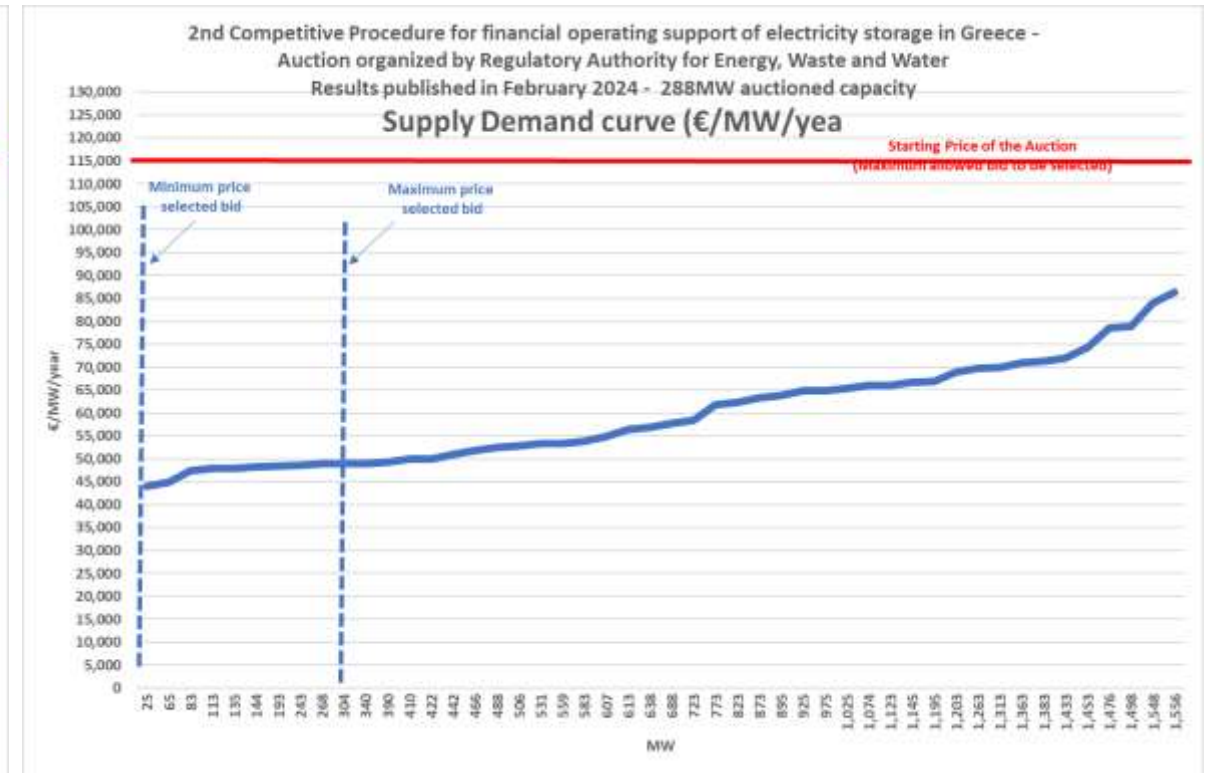
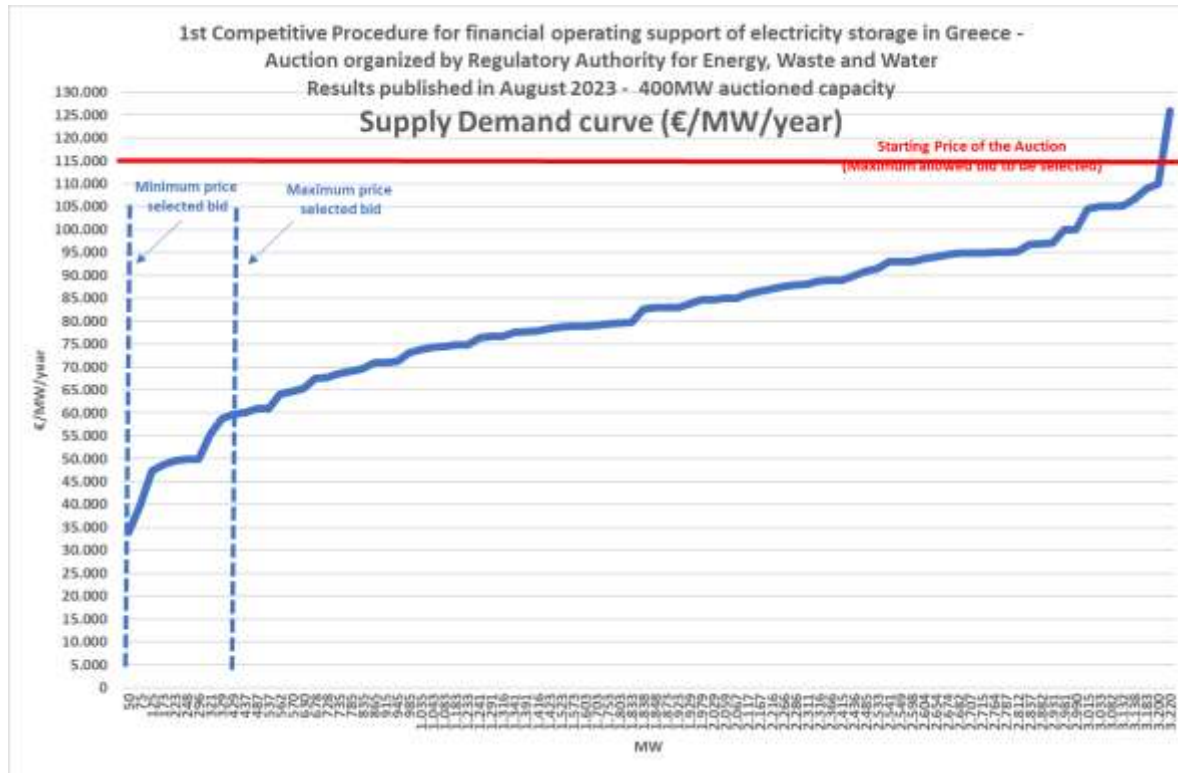
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## **Conclusions**

# Auctions for financial operating aid of RES



# Auctions for financial operating aid of electricity storage



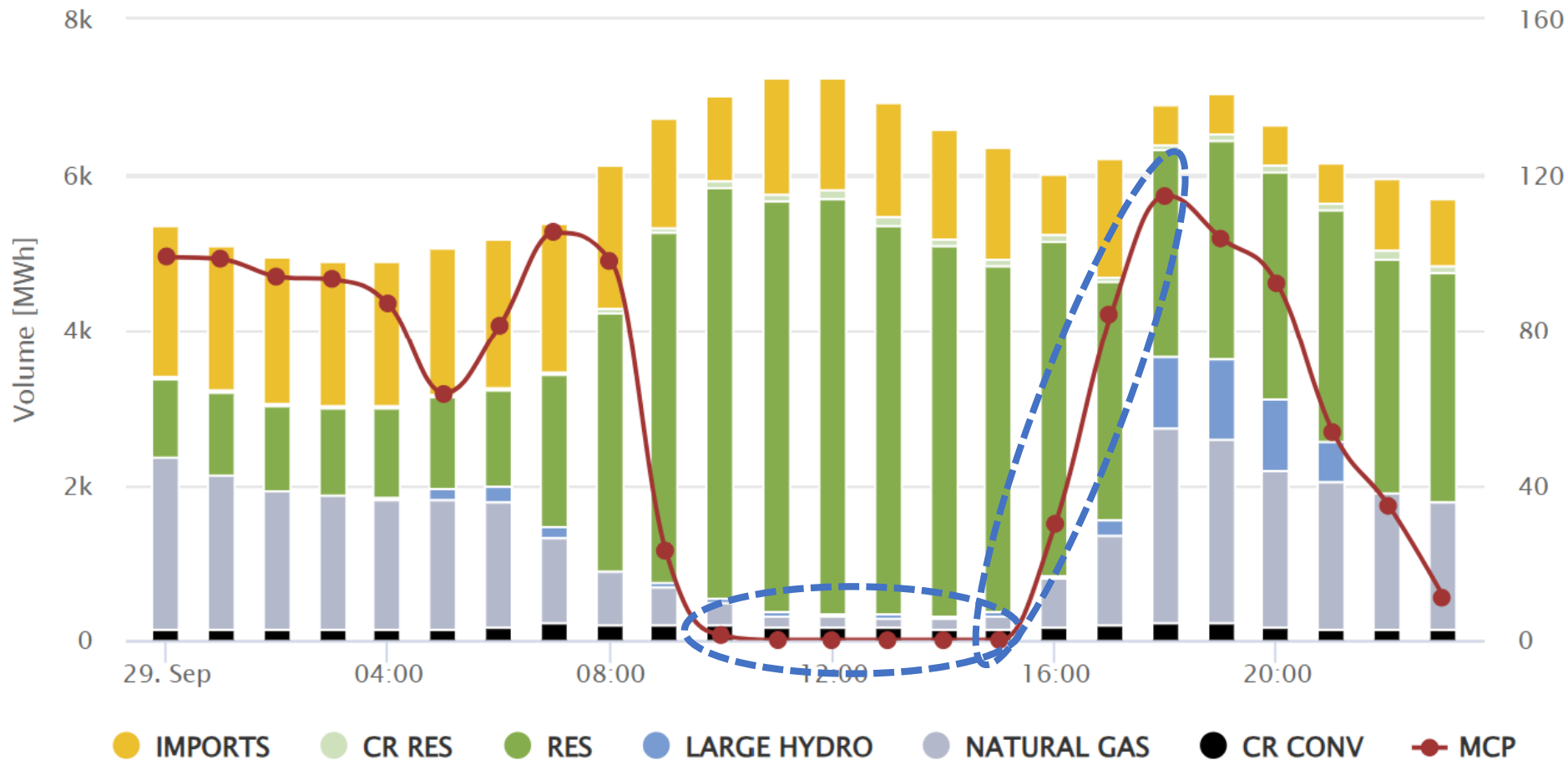


# Greek Wholesale Electricity Markets Monitoring

## Hourly Energy Mix – Day-Ahead Market

<https://www.rae.gr/energeiako-meigma/>

GR DAM Hourly Energy Mix – SELL – 29-09-2024



- **zero prices eliminate energy cost** for retailers and consumers,
  - however, they create **uncertainty in RES** projects
  - (that could be offset through long-term contracts – CfD and PPAs)
- **price differentials create clear signal for storage/demand response investments**

# European Wholesale Electricity Markets Monitoring

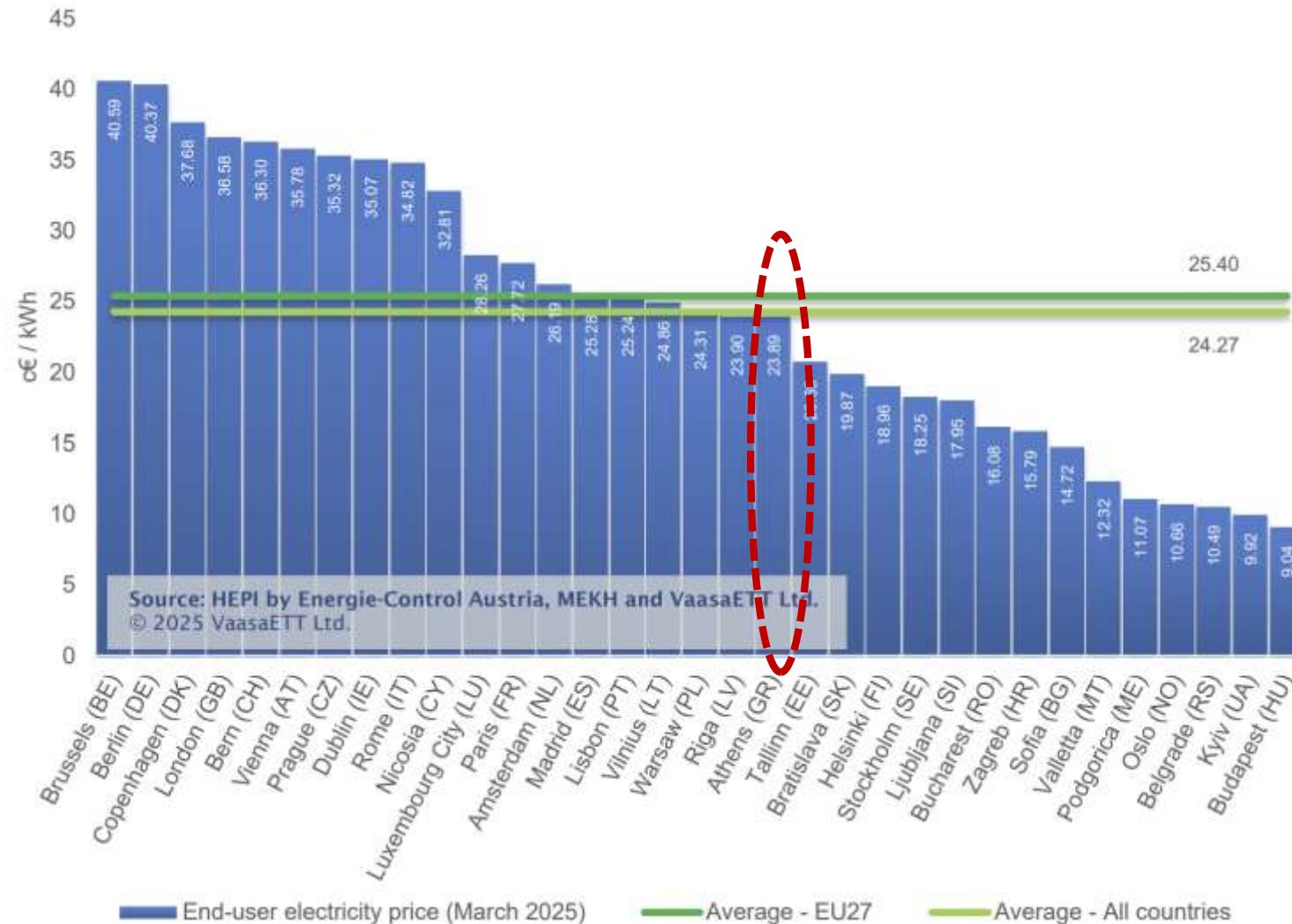
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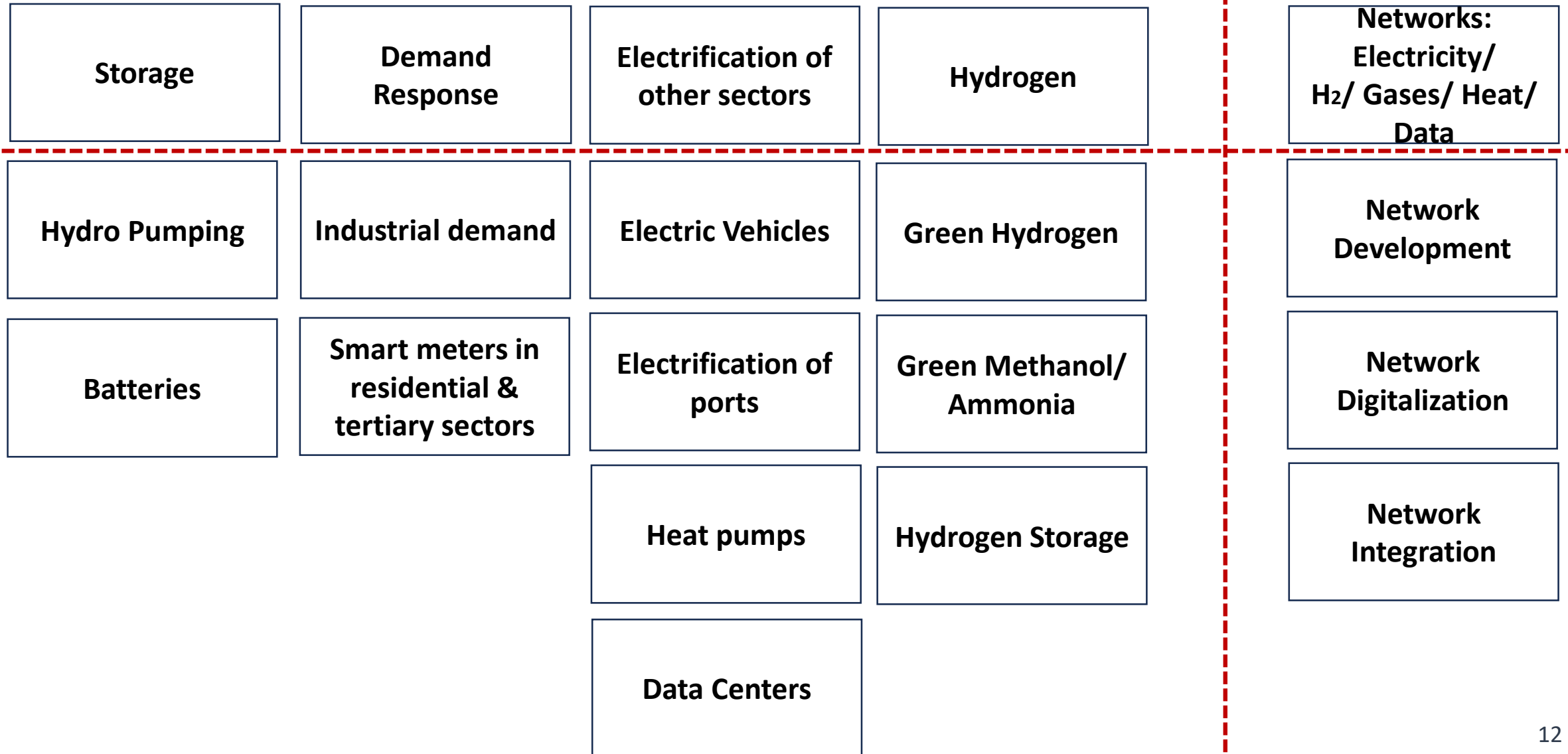
# Household Energy Price Index (March 2025)

<https://www.energypriceindex.com/price-data>

Figure 3: Residential electricity prices including taxes



# RES rapid penetration facilitates investments in other technologies



# Important challenges for the Hellenic wholesale market

- Completion of **remaining tasks of Market Reform Plan** (vast majority of MRP tasks completed – as noted in NCEP assessment by EU)
  - Balancing markets' platforms (IPTO to join MARI)
  - **TSO-DSO coordination** (facilitated by the completion of dispatch centers by DSO)
  - Participation of Storage assets in wholesale markets
  - Market coupling with Western Balkans (adoption of common CCR rules and enhanced role of Selene)
  - RES PPAs platform (recently completed by Henex)
  - Big bang 15-minute MTU implementation
  - Potential implementation of CM and Potential adoption of co-optimization
- **Curtailement and remuneration of RES generation**
  - zero prices eliminate energy cost for retailers and consumers,
  - however, they create uncertainty in RES projects
    - (that could be offset through long-term contracts – CfD and PPAs)
  - price differentials create **clear price signal for storage/demand response investments**





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Transforming Regulator nature (R2C),  
creating Consumer's Place

to Protect Consumers and Enhance Transparency

# Digital services for Energy Consumers



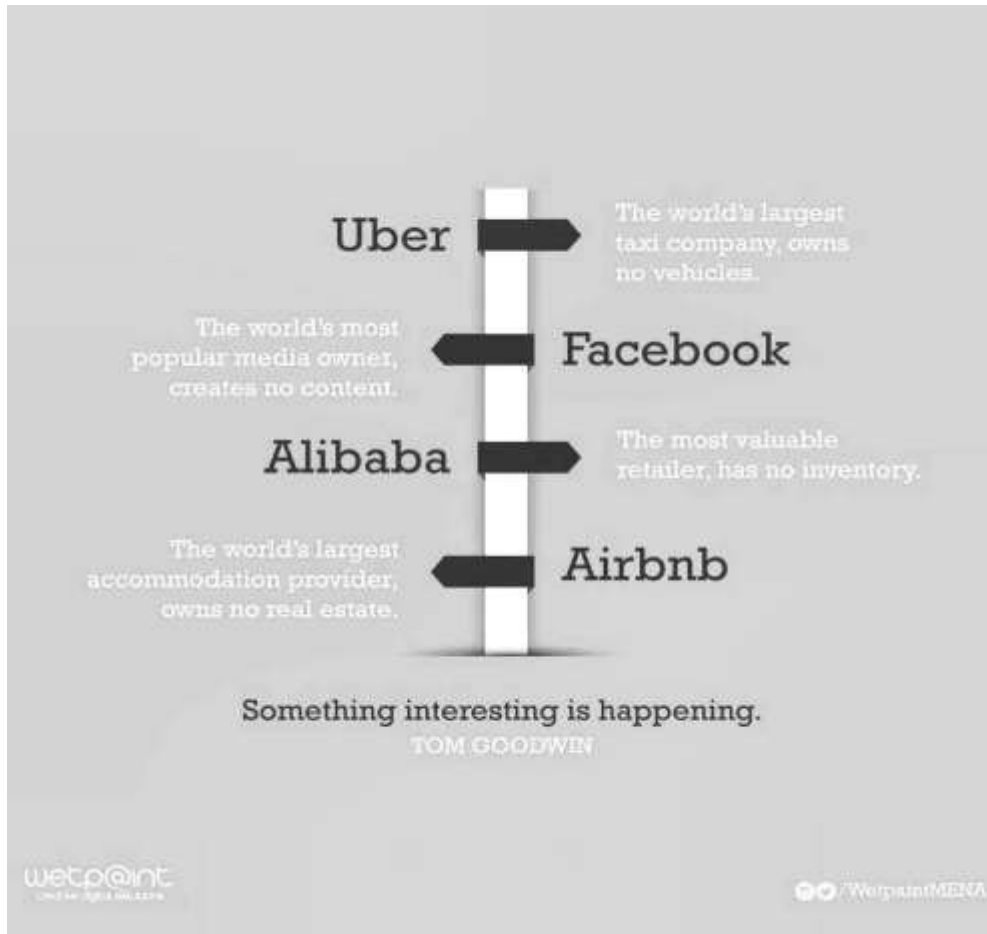
# We Create a Consumers' Place

## We transform Regulator's nature from B2B (R2B) to R2C

in a similar way that innovative companies

**Engage Assets' owners to create  
Market Place**

**We Engage Citizens to create  
Consumers Place**



Through a number of innovative tools:

**MyRAE**

**Energy Ombudsman**

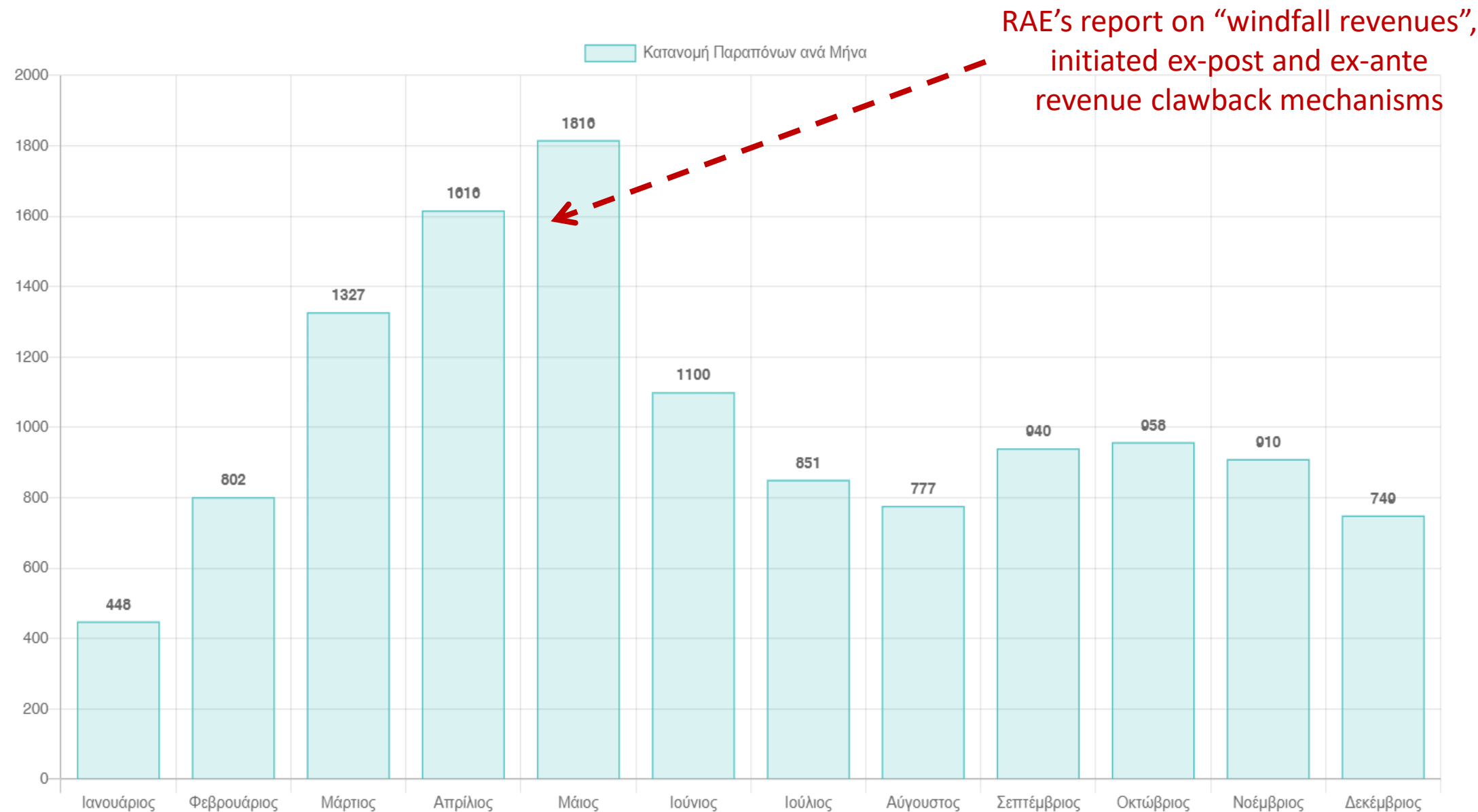
**Energy-Whistleblowing**

**Energy Cost and Charging Cost comparison tools**

**Tools enhancing Transparency and Understanding  
Retail Billing database**

**Energy Cost calculator and Building Energy Savings tools**

# Monthly Complaints in MyRAE over 2022





# Summary

- **RAAEY has implemented a rapid digital transformation to improve its services. The innovative applications have enhanced its role.**
- **Energy Markets development in Greece**
- **Robust monitoring and transparency, Competition in Wholesale and Retail markets**
- **Completion of few remaining tasks of Market Reform Plan**
  - **(MARI, TSO-DSO coordination, Market integration/coupling with Western Balkans )**
- **Digitalizing licensing enhances competition and rapid penetration of RES**
- **Wholesale price signals for Storage/Demand Response**
- **Digitalizing** procedures for Energy Consumers and Markets
- **Improve decision making if RAAEY and faster responses**
- **Transform the nature of Regulator (from R2B to R2C)**
- **Protect Consumers and Enhance Transparency**

Thank you for your attention!

