



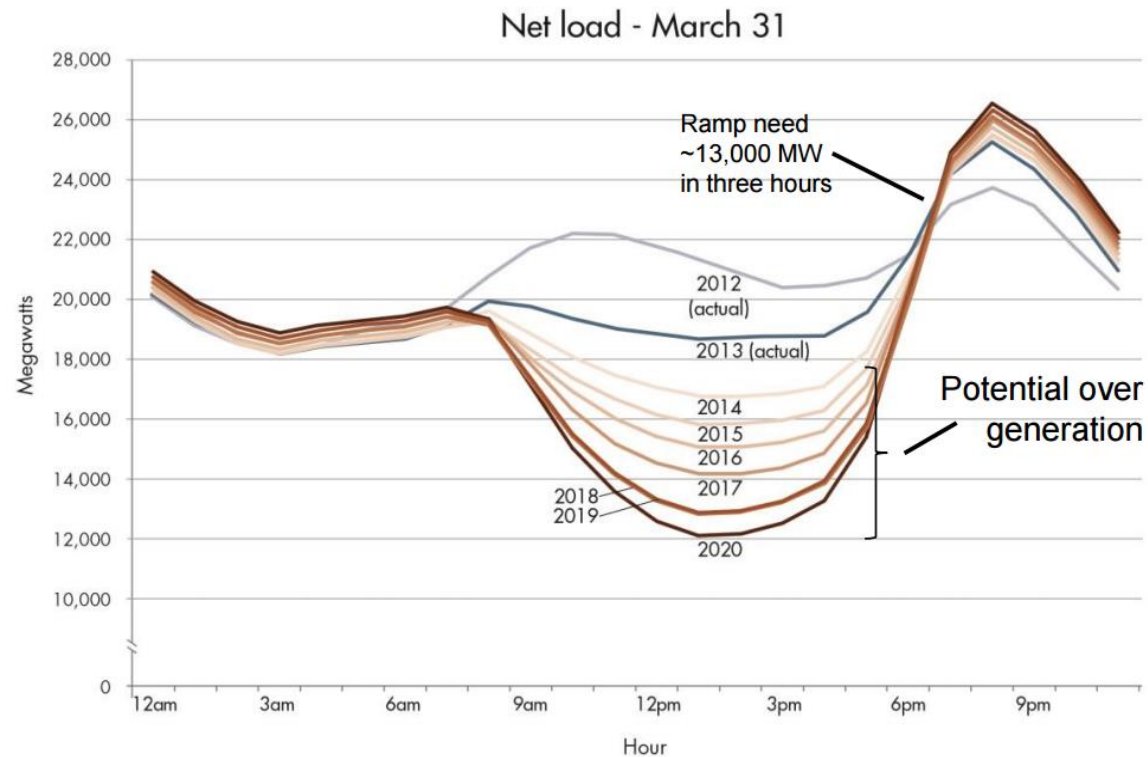
# REGULATORY DEVELOPMENTS IN SUPPORT OF THE ENERGY TRANSITION

**Assoc. Prof. Athanasios Dagoumas**  
**President of RAE**

# EU Policy Objectives

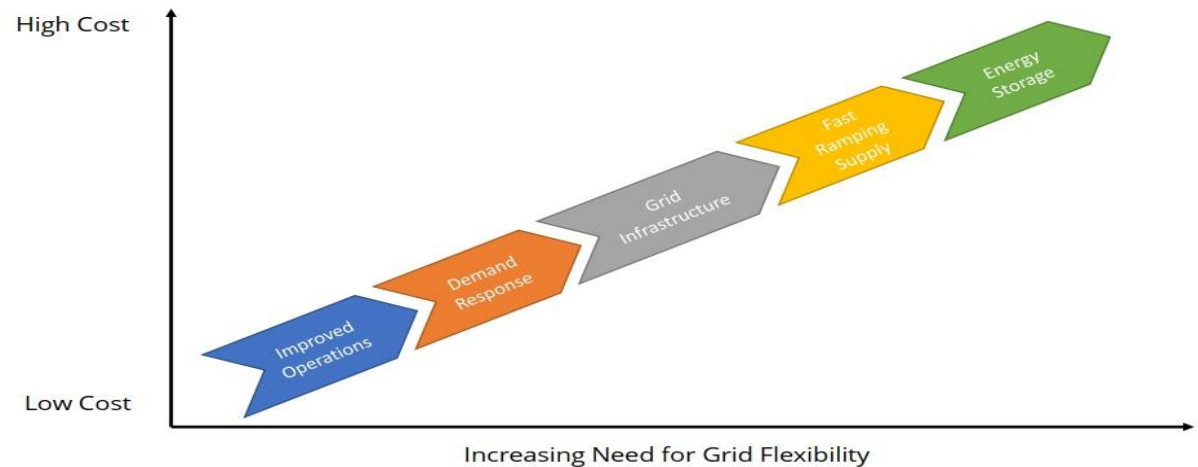
- **Energy security, solidarity and trust**
- **A fully-integrated internal energy market**
- **Energy efficiency** contributing to moderation of demand
- **Decarbonising the economy**
- **Research**, innovation and competitiveness

# RES & Flexibility Challenges



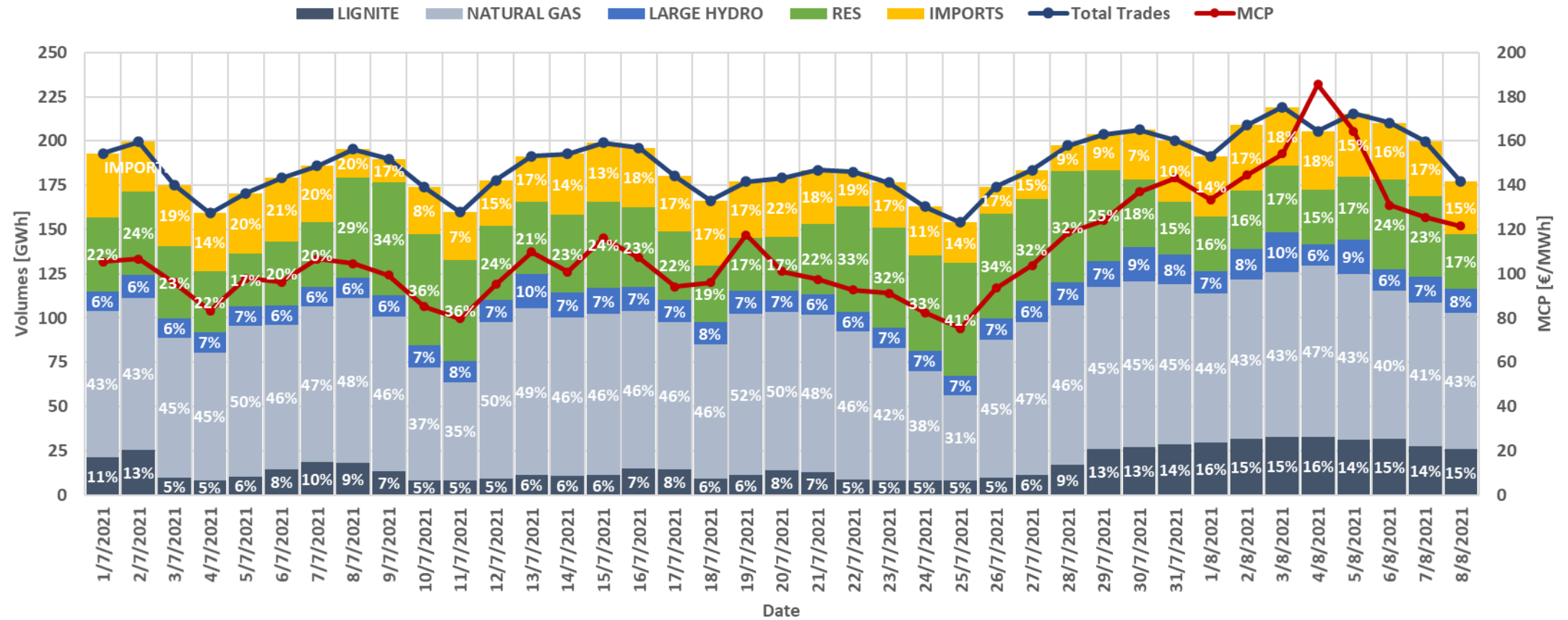
*Duck-Curve of California from 2012 to 2020*

- Inertia & Ramping Capabilities
- Energy Storage Systems (ESS)
- Demand Response
- Interconnections
- **Market Framework**

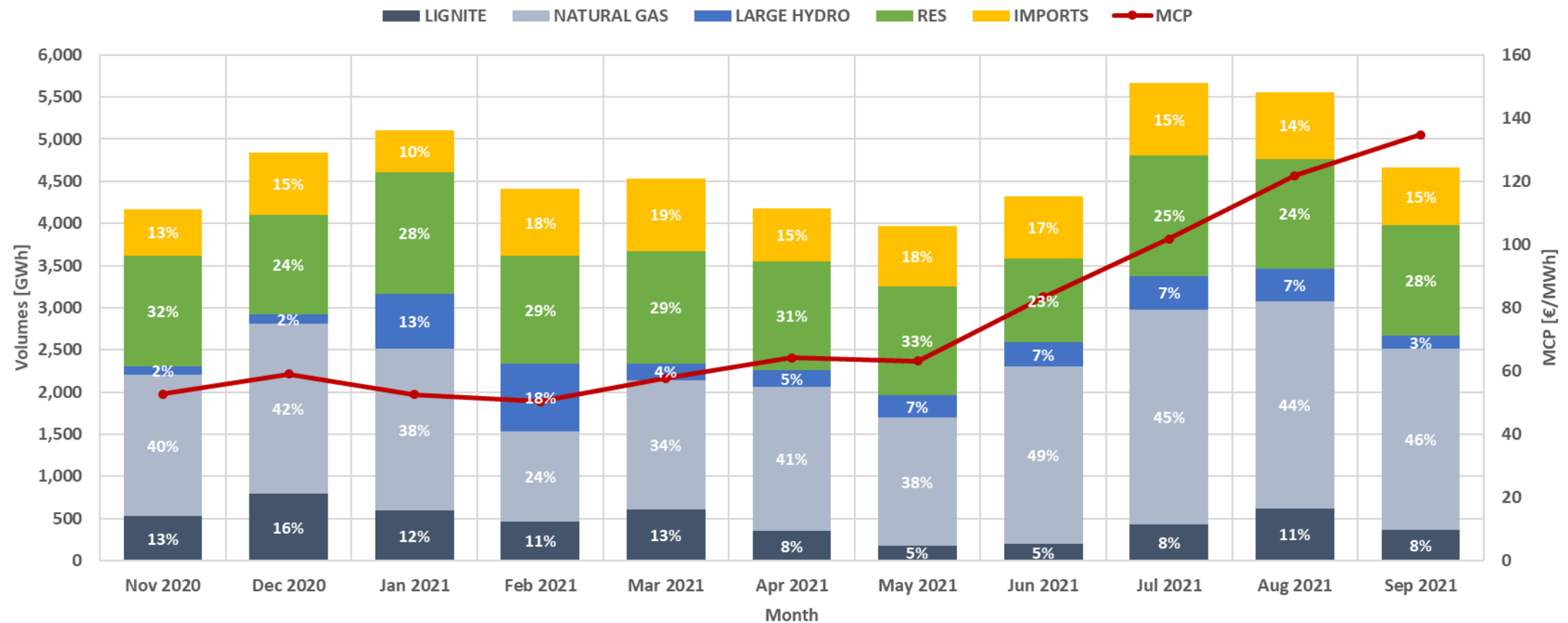


*Flexibility Source Supply Curve*

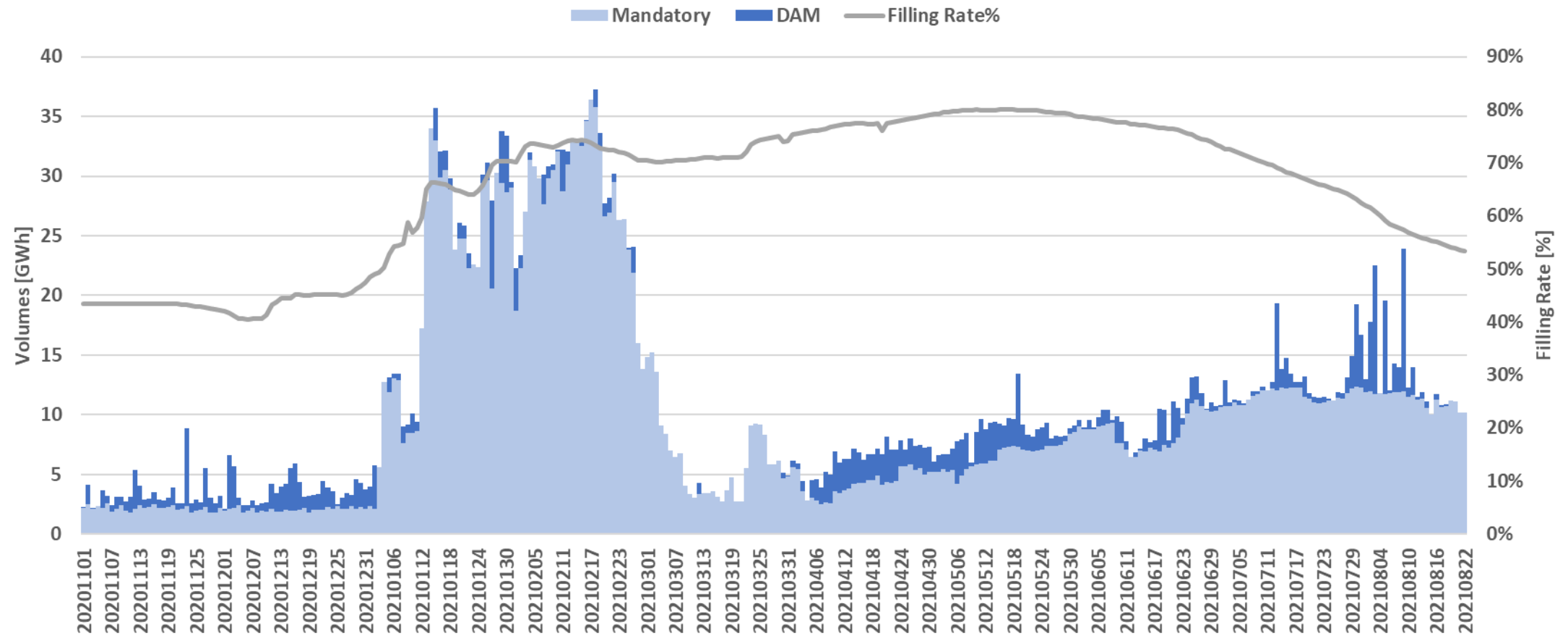
# DAM Supply Mix (daily)



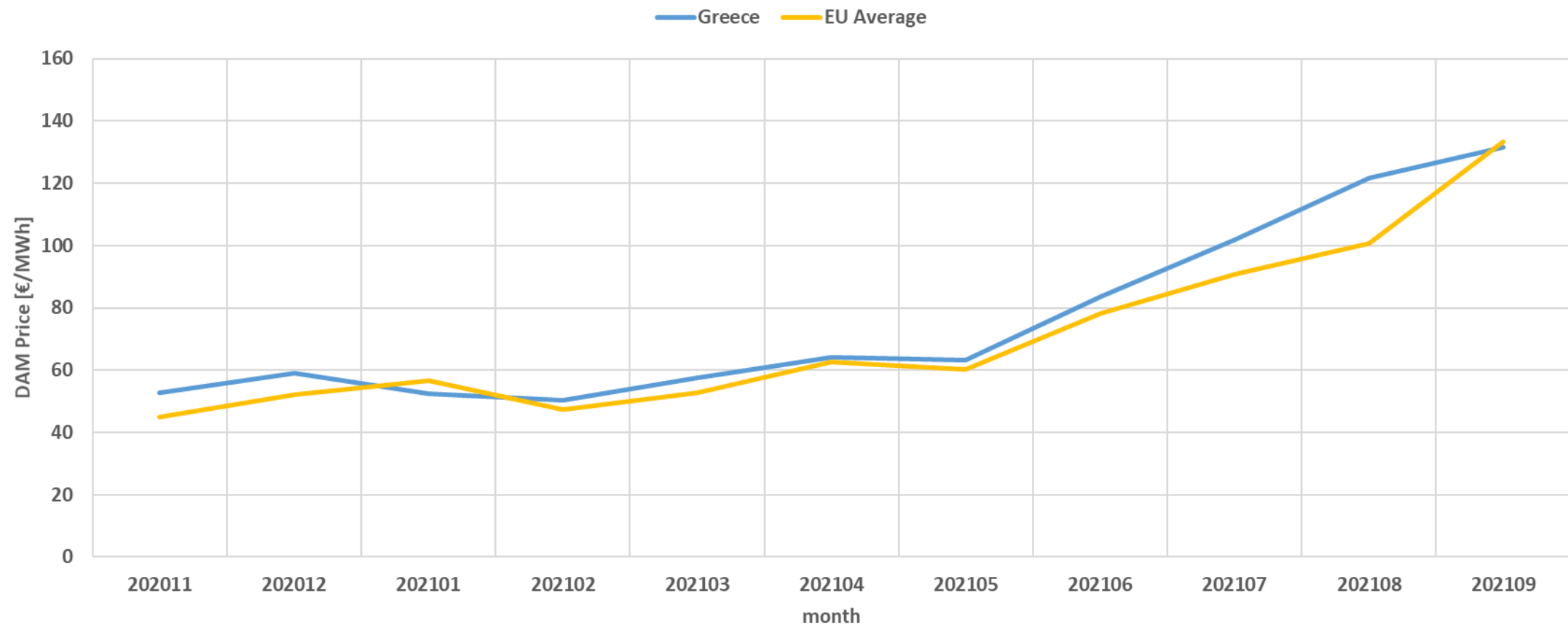
# DAM Supply Mix (monthly)



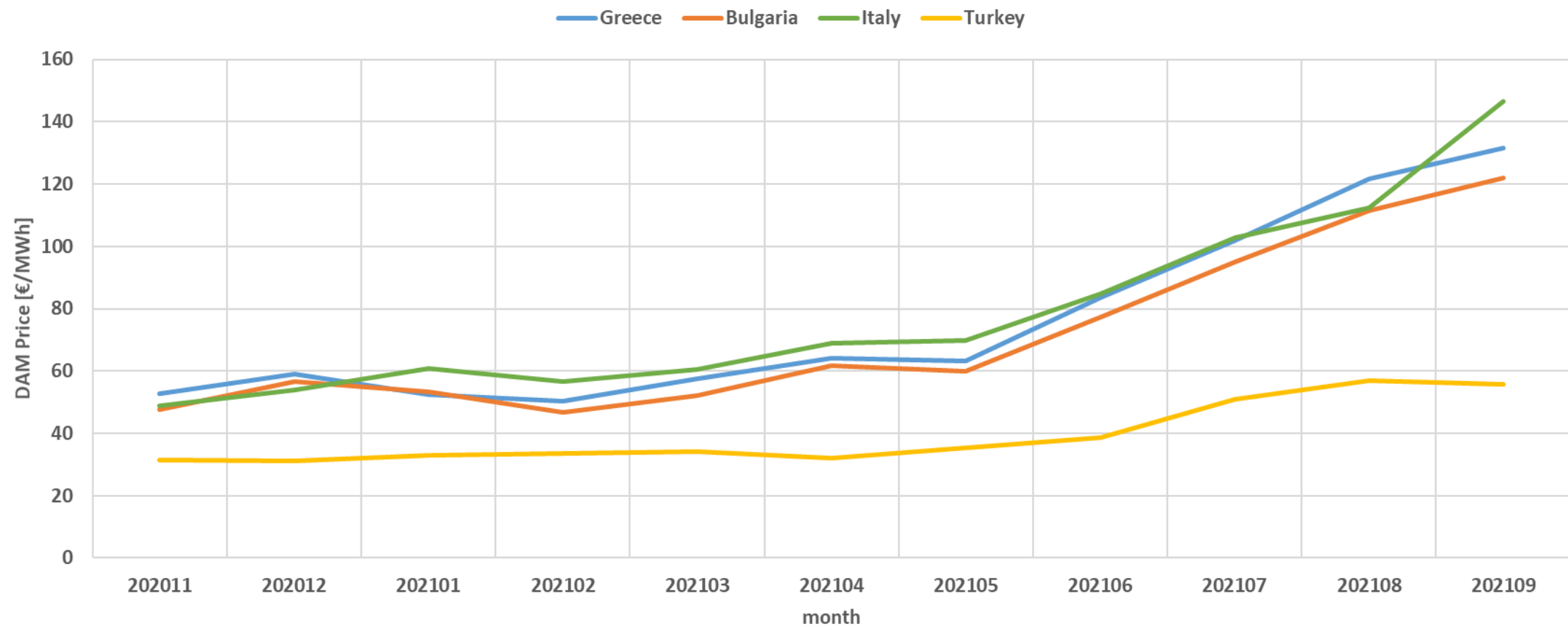
# Hydro to Lakes Filling Rate



# DAM MCP – GR to EU Average

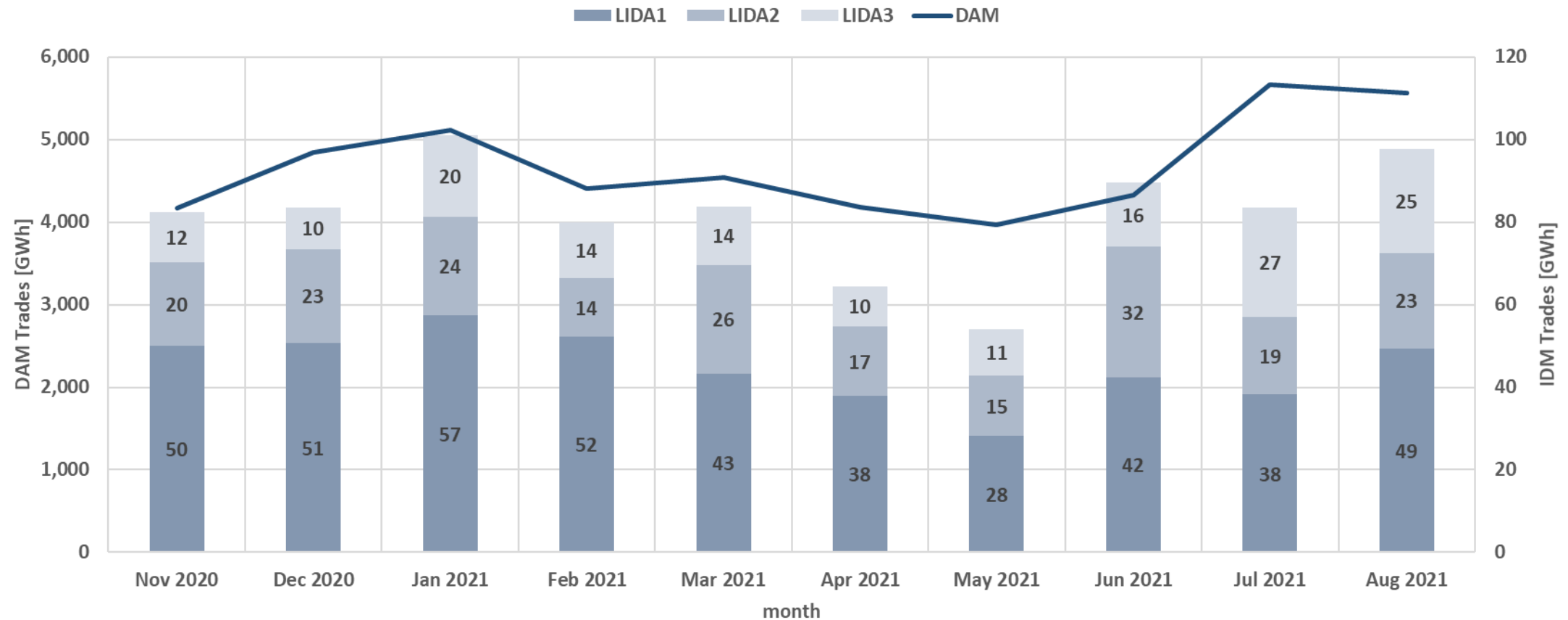


# DAM MCP – Regional

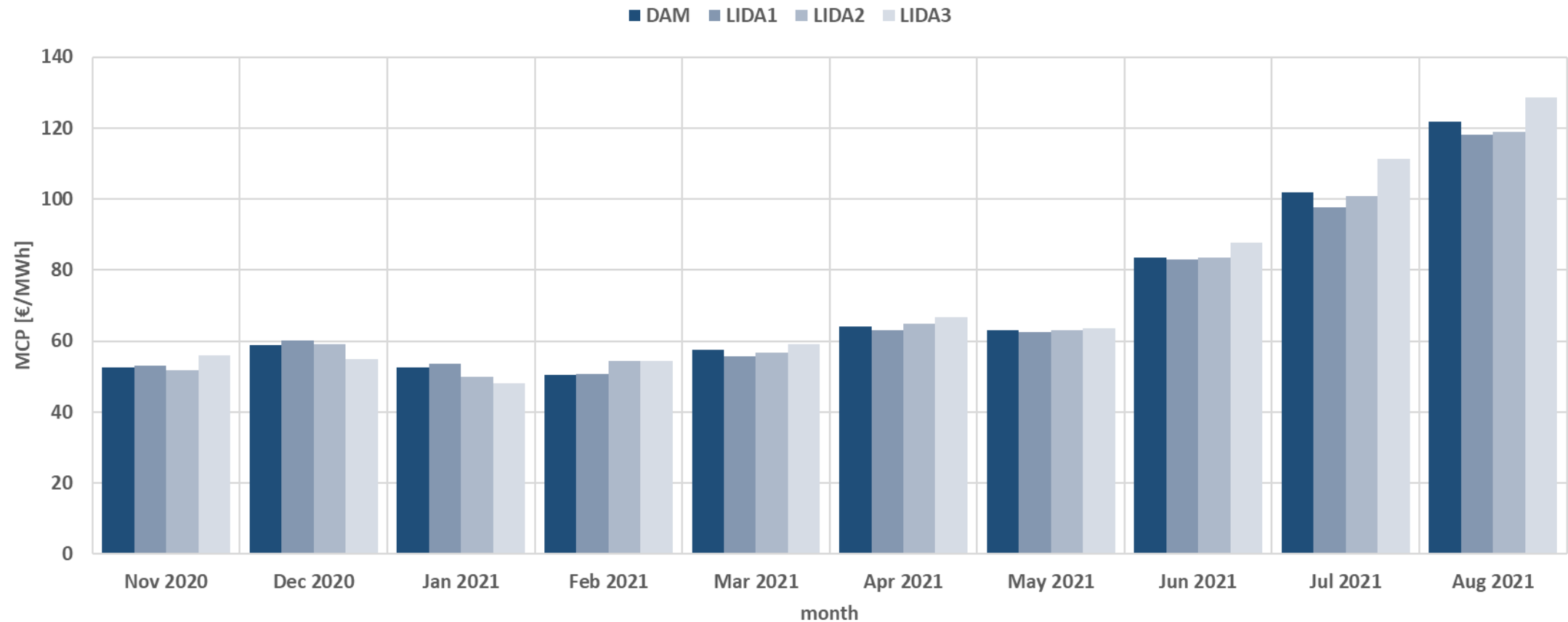




# DAM to IDM Traded Volumes (<2%)



# DAM & IDM Market Clearing Prices (MCP)



# Market Reform Plan

*Implementation plan in the scope of Art. 20 of 943/2019 EU Regulation*



# Market Reform Plan actions

- RAE, in close cooperation with IPTO, HEnEx, HEDNO, RES&GO Operator **identified priorities**
- **Reforms** are classified in 2 generic categories:
- **Short-term with specific deadlines**
- **Medium-term**
  - Under further elaboration (major reforms)
  - Specific deadlines
- **Short-term reforms** are of high priority, such as
- **Flagging of redispatch volumes in Balancing Market** (Regulation 2019/943)
- **Integration of Intra-day market** (CRIDAs, X-BID)
- **Further enhancement of competition** through increasing market participation
  - **Demand aggregators, RES aggregators, Traders, Storage**

# Market Reform Plan actions

- Medium-term reforms concerns measures, such as:
  - Scarcity pricing mechanism
  - Portfolio-based bidding
  - Self-scheduling and central dispatch
  - EU balancing platforms (MARI/PICASSO)
  - TSO-DSO Coordination Platform
- That either require further elaboration, and/or considerable changes in IT systems and market design.
- At the same time, YPEN is exploring further state-aid schemes, such as:
  - Support of RES
  - Support of Storage
  - RES-PPAs and support of energy intensive industry

# Market reform action list (Part B. Interconnections and grid reinforcement)

1. Distinction of Balancing Energy and Energy due to Re-dispatching → early 2022
2. Distinct portfolio-based reserves market establishment → to explore
3. Participation of Demand Response in the wholesale markets → early 2022
4. Participation of storage in the wholesale markets → end 2022
5. Participation of dispatchable RES units and RES portfolios as BSPs in the Balancing Market → early 2022
6. Launch of Complementary Regional Intraday Auctions (CRIDAs) → 2021
7. Participation of Traders in the Intraday market - Launch of Intraday PTR Auctions for non-EU bidding zone borders → 2022, conditional
8. Launch of Continuous Intraday Coupling → 2022
9. Resumption of the possibility of BSPs to submit Balancing Energy bids with negative prices → end 2021 linked to A1
10. Participation of RES units in the Electricity Markets having full balancing responsibilities → early 2022
11. Activation of scarcity pricing mechanism → to explore
12. Exploration (pros/cons) portfolio-based bidding in DAM and IDM and nomination platforms → to explore
13. Exploration of self-scheduling and central dispatch → to explore
14. Participation in the EU balancing platforms (MARI/PICASSO) → 2024
15. 70% target (margin available for cross-zonal trade) → mid or end 2022
16. TSO-DSO Coordination Platform → 2024

# Market reform action list (Part B. Interconnections and grid reinforcement)

1. Cross-border interconnection projects
  1. New interconnection Greece-Bulgaria → 2022
  2. Italy (pre-feasibility studies)
  3. North Macedonia (feasibility study)
  4. Turkey (pre-feasibility study)
  5. Albania (very preliminary)
2. Southeast Electricity Network Coordination Centre (SEleNe CC)
3. Islands interconnection projects
  1. Crete Phase 1 → operational
  2. Crete Phase 2 → mid 2023
  3. Skiathos → end 2022
  4. Cyclades Phase D → 2024
  5. Dodecanese → 2028
  6. North East Aegean islands → before 2030
4. Reinforcement of transmission system
  1. Completion of the 400 kV backbone Peloponnese → high priority
  2. Compensation and stability enhancement → Q1 2022
  3. Rouf EHV S/S
  4. Argyproupoli EHV S/S
  5. Filippi-Santa
  6. Nevrokopi etc.
  7. Kerkyra
  8. Halkidiki
  9. Katerini and others
  10. South Ionian loop
  11. Various others

# Market reform action list (Parts C, D, E and F)

## C. Retail Market Competition

1. Market Monitoring and Surveillance Mechanism → 2021
2. Antitrust case - energy release by PPC → end 2021
3. RES-PPA and support of energy intensive industry → 2021-2022

## D. Liquidity of Forward Market

1. Software extension and enhancement → 2021-2022
2. Customized products for hedging DAM and Balancing transactions → end 2021
3. Antitrust case - energy release by PPC → end 2021
4. RES-PPA and support of energy intensive industry → 2021-2022

## E. Investment support

1. Support of RES (separate action)
2. Support of Storage (Resilience and Recovery Plan)
3. Interruptibility scheme (phased out in Sept.)
4. Strategic Reserve → 2022 and 3Q 2023
5. Capacity Remuneration Mechanism with Reliability Options and flexibility enhancements → end 2023 onwards

## F. Price limits and other restrictions - lifting

1. Lifting of 20% cap on physical contracts of vertically integrated suppliers → explore
2. Complex bids in DAM → explore
3. After continuous ID trading -9,999 EUR/MWH to +9,999 EUR/MWH
4. Negative balancing energy offers allowed → end 2021
5. Balancing energy offers up to +9,999 EUR/MWH after CRIDAs
6. Balancing energy offers -99,999 EUR/MWH to +99,999 EUR/MWH after MARI/PICASSO



# Summary

Market Reform Plan is **comprehensive and holistic**, well **elaborated by the RAE staff**

- Although its need resulted from the support of a state-aid scheme, **RAE staff incorporated major reforms in the plan**, under elaboration over the last months.
- It is a result of **close cooperation** among RAE, IPTO, HEnEx, HEDNO, RES&GO Operator and YPEN
- It incorporated **concerns form Market Participants** following public consultation
- Aims to **tackle market deficiencies** (mainly expand market participants and further developments in the balancing market)
- It is important to follow the **tight time-schedule** but the implementation is challenging – essentially a **huge reform has to complete end 2022**.
- There is optimism about acceptance of the Plan by the EU institutions
- The European Commission will put the Market Reform Plan in **international consultation**

# Thank you for your attention

**Assoc. Prof. Athanasios Dagoumas**  
**President of RAE**

