Symposium
50yr IEA ES TCP

European policy perspective on energy storage

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Recent European policy initiatives on flexibility and storage

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- **Increasing need for demand for non-fossil flexibility in the electricity system**
  - Increasing share of variable renewables
  - To preserve high level of system stability and reliability
  - Sources of flexibility in the single EU electricity market
    - Traditionally assets with short ramp up/down time (e.g. gas fired generation)
    - Interconnection capacities
    - Reform of the electricity market design (EMD): non-fossil flexibility (particularly demand side response and storage solutions)
- **Need for actions both at EU and Member State level**
- **Study results on the current situation of storage**
- **For future policies, what needs to be done?**

National and EU wide flexibility assessments

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- **EMD reform foresees:**
  - Adoption of a report on the estimated flexibility needs
    - need to cost effectively achieve security and reliability of supply, decarbonisation and RES integration
    - for a period of 5 to 10 years, with biennial frequency
  - Indicative national objective for non-fossil flexibility
    - respective specific contributions of both demand response and energy storage
- **Assessments to address flexibility needs**
  - RES integration needs – reducing curtailments
  - Flexibility to cope with ramping needs
  - Short term needs (RES/demand forecast errors)
- **Timeline foreseen**
  - July 2025: ACER adopted the flexibility needs assessment methodology
  - July 2026: MSs conduct national flexibility assessments – reports to submit to ACER, Commission
  - January 2027: MSs to define national flexibility targets
  - July 2027: ACER analysis of the national reports + EU wide assessment report
  - Coherence and complementarity with: resource adequacy, network development plans, NECPs, etc.

Commission Recommendation on energy storage

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- **On the top of the EMD reform, Commission recommendation (2023)**
  - Addressing the MSs on several issues
    - Regulatory (dual role of storage, permitting, storage as network alternative, barriers for active consumers)
    - Financial (remuneration of services, financing gaps, capacity markets)
    - Other (storage in low interconnection areas, data transparency, R&D)
  - Comprehensive study done in 2025 on the implementation, looking at:
    - Storage policy framework, its participation in energy markets, financial support mechanisms, network charges, taxes and levies, storage as network alternative, behind the meter storage and storage deployment in low interconnection areas
  - Main findings:
    - Need to integrate storage (generic reference in NECPs, comprehensive policies, clear targets)
    - Missing markets – organised market-based procurement (congestion mgmt., non-frequency ancillary services)
    - Need for harmonised methodologies for incorporating flexibility solutions, incl. storage into network dev.
    - Level playing field – comprehensive network tariff designs, business models and taxation issues
    - Financial support measures, but as well as long term financial sustainability
  - General findings in the EU and country files for the 27 member states

Some findings for storage in the Netherlands

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- **Study found the following issues:**
  - Policy framework
    - Definition of storage in the national legislation (NL Energy act)
    - Existence of an *Energy storage roadmap*, looking at gaps and barriers, regulatory and policy actions with specific milestones, but no specific storage target
    - Flexibility, demand response and energy communities are of key importance, but no quantified targets
  - Storage participation in organised markets
    - No barriers for storage in balancing capacity/energy markets, and for other ancillary services either
    - Congestion management could be a significant business case (electrification and RES integration)
  - Network charges and taxes
    - Time of use network tariffs /flexible connection agreements have been introduced. No double taxation since 2022
  - Storage as network development alternative
    - Significant bottlenecks ➔ National Network Congestion Action Program – measures aim at maximising/uncapping flexibility besides network development
  - Financial support measures
    - "Flex-E" scheme, direct support available for flexibility and storage (>100 kW), tax deduction schemes + thermal and LDES storage support (investment/innovation support subsidies)
  - Behind the meter storage
    - Active consumers in various wholesale energy and ancillary services markets

Energy storage in the 2025 Commission initiatives

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- **Competitiveness Compass**
  - Modernising and expanding network, including storage to reach net zero, reduce renewables curtailments
  - Bridging the financing gap to support and scale up investments into innovative technologies (incl. energy storage)
- **Clean Industrial Deal**
  - Accelerating of clean technology rollout: cutting time for permitting of energy, grid, storage and renewables
- **Action Plan for Affordable Energy**
  - Increasing system flexibility by deploying storage and demand response
  - Need for quick implementation of rules on market access (storage &demand response)
  - State aid requirements for non-fossil flexibility - easier to design support schemes + incentives to provide flexibility to the system
  - New market rules on demand response – financial advantage for consumers from flexibility - addressing remaining barriers for demand response and flexibility
  - Design that limits competition distortions and subsidy races

➢ Impact: Market integration and flexible capacities ➔ lower wholesale electricity prices and consumer savings on energy bills

Energy storage in the 2025 Commission initiatives

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- **Electrification Action Plan**
  - To promote further electrification (based on clean energy), with increasing flexibility, reinforcing affordability and strengthening energy efficiency, with sectorial outlook + investment promotion.
  - Storage: key role (both on gen. and demand side), the Plan specifically mentions LDES, thermal storage, power to X in various sectors
- **Tripartite on energy storage**
  - Commission initiative with MSs: focused on rapid, large-scale deployment of storage, removing barriers to its deployment
  - Tripartite: (i) public sector, (ii) supply industry, (iii) electricity suppliers, operators and service providers
  - Combine short-term action (providing flexibility to the power sector) with commitments bringing more structural change
  - First set of commitments – immediate action, additional commitments on policy and reg. framework, planning certainty, facilitating investments, de-risking tools
- **Revision of electricity SoS framework**
  - Commission proposal for a new electricity standard ensuring sufficient level of flexibility in the system, especially during crisis situations (availability, cross border/bidding zone dimension of solidarity)

Energy storage in international dimension

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- **Clean Energy Ministerial (Supercharging Battery Storage initiative)**
  - International cooperation (EC, AU, CAN, US and NL)
    - Stationary battery storage development and deployment and reduce technology cost,
    - to build a diversified, responsible, secure and transparent supply chain
    - to promote grid stability and reliability and to support the integration of battery storage globally
    - Three pillars: (i) policy and regulatory, (ii) supply chain and manufacturing, (iii) financing
  - Since its launch (COP28, Dec 2023), two deliverables:
    - 2024: Policy paper “Battery storage unlocked” on best regulatory practices in emerging/developing markets
    - 2025: “Value of energy storage” on international comparison of storage value drivers (coord by NL)
  - Future plans (2026)
    - Financing roadmap report, highlighting best practices in project design and development, showcasing lessons learned in securing public and private investment.

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The Energy Storage TCP
Thank you for listening!

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