

# Energy Storage in Europe

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# EASE Members



# Introduction

- ❖ The EU has clearly identified energy storage as a key element of the energy transition...
  - Not “the new kid on the block” anymore!
- ❖ The EU is tackling the topic of energy storage from several perspectives
  - Policy
  - Industry Initiatives
  - Research & Innovation
- ❖ *But let's take a step back...*

# Policies

## Clean Energy Package

- ❖ The [Electricity Directive \(recast\)](#) provides a definition of energy storage.
- ❖ It's quite a step forward – in the Third Energy Package no mention of energy storage!
- ❖ The definition covers all types of energy storage, including thermal storage and power-to-gas.

*‘energy storage’ means, in the electricity system, deferring the final use of electricity to a moment later than when it was generated, or the conversion of electrical energy into a form of energy which can be stored, the storing of such energy, and the subsequent reconversion of such energy into electrical energy or use as another energy carrier;*



Mentions of Energy Storage:

# Policies

## Clean Energy Package

- ❖ CEP identifies energy storage as a resource that should be subject to **non-discrimination** in network charging policy.
- ❖ Addresses the question of regulated entities owning & operating storage.
- ❖ Establishes the principle of market-based procurement for **non frequency ancillary services**, including the participation of energy storage.
- ❖ Entitlement to a **dynamic electricity price contract**.



*With the CEP, many changes were positives – but much still needed to be addressed...*





# Policies

## European Green Deal – Upcoming Initiatives (1 / 3)

- ❖ EU policymakers are continuing to emphasise the importance of the European Green Deal, despite the COVID-19 pandemic. The European Commission is working to implement key provisions of the European Green Deal in 2020 & 2021:
- ❖ **Climate Law and 2030 Climate Target:** Council has endorsed net-zero target for GHG emissions by 2050, but postponed decision on 55% 2030 target to December 2020. Parliament voted in October for a 60% GHG emissions reduction target by 2030 compared to 1990 levels. More RES will have to be deployed and, consequently, more storage will be needed.
- ❖ **Strategy for sustainable and smart mobility:** to be published on 9 December 2020. Among its objectives it includes increasing the uptake of zero-emission vehicles, providing also additional room for transport electrification and vehicle-to-grid solutions. EASE [submitted a public consultation reply in September](#).
- ❖ **Revision of the TEN-E Legislation:** focused on smart energy infrastructure; Commission proposal expected on 9 December 2020. Funding agreed for the CEF to be €5.18 billion for energy. See [EASE recommendations](#)
- ❖ **Batteries Regulation:** addressing topics such as sustainability and recycling. To be published in December 2020 (postponed from 18 November). New standards that batteries for storage will have to comply.

# Policies

## European Green Deal – Upcoming Initiatives (2/3)

- ❖ **Sustainable Finance:** Renewed Sustainable Finance Strategy to be adopted Q4 2020 by the Commission. It aims to guide private investment towards sustainable project, which can include energy storage facilities.
- ❖ **State Aid Guidelines:** European Commission proposing revision of Energy and Environmental Aid Guidelines to align them with European Green Deal. EASE will prepare its position for the public consultation (deadline January 2021) and prepare targeted advocacy in 2021 to ensure more energy storage projects are covered.
- ❖ **Renovation Wave:** a [Communication](#) was launched on 14 October 2020, focusing on encouraging building renovation including through investment and financing. Consider introducing a requirement for minimum proportions of renewable energy in buildings by 2021 and create zero-energy districts, where consumers become prosumers selling energy to the grid. More storage deployment will be needed to decarbonise heating/cooling and for grid balance.
- ❖ **Just Transition Fund:** €17,5 billion in support for the regions that are most dependent on fossil fuels.



# Policies

## European Green Deal – Upcoming Initiatives (3/3)

- ❖ And many more...
  - ✓ Circular Economy Action Plan
  - ✓ Funding call to support the deployment of public recharging and refuelling points as part of alternative fuel infrastructure
  - ✓ Carbon Border Adjustment Mechanism
  - ✓ Energy Efficiency Directive
  - ✓ Renewable Energy Directive
  - ✓ Reform of the Third Energy Package for gas



*And the Parliament has focused  
exclusively on energy storage*

# Policies

## Report on a comprehensive European approach to energy storage

- ❖ Report by MEP Claudia Gamon (ITRE, Renew)
  - ✓ Recognise the value of different energy storage solutions.
  - ✓ Identifies gaps in legislation, e.g.:
    - Calls the Commission to develop a comprehensive strategy on energy storage.
    - Calls the revision of the TEN-E Regulation to better address the development of energy storage facilities before the adoption of the next list of PCIs.
  - ✓ Pushes for more funding for energy storage.
- ❖ In other words: Energy storage is among the priority areas for 2030, and is tackled in several dossiers.



# Policies

## Recovery Plan “Next Generation EU” and EU Budget (MFF)

- ❖ Discussions among EU policymakers have continued for months on the COVID-19 Recovery Plan “Next Generation EU” and the EU Budget 2021–2027 (Multi-Annual Financial Framework, MFF).
- ❖ On 10 November, [the European Parliament and EU Member States reached agreement on both the MFF and Recovery Plan](#), for a total of €1.8 trillion. It will be the largest package ever financed through the EU budget.
- ❖ Notable points for storage:
  - ✓ 30% of the EU funds will be spent to fight climate change.
  - ✓ Horizon Europe gained an additional €4 billion, to be added to the € 80.9 billion EU Member States endorsed in July 2020, down from €94.4 proposed by Commission.
  - ✓ First ever own resources for the EU to help repay the borrowing: proposals being prepared by Commission for carbon border adjustment mechanism, digital levy, a revised EU Emissions Trading System, plus additional own resources (financial transaction tax, ...).
- ✓ The MFF Regulation and the Interinstitutional Agreement must still be formally adopted by the European Parliament and the Council before the end of the year. National Recovery and Resilience Plans will be key to fully foster storage uptake.

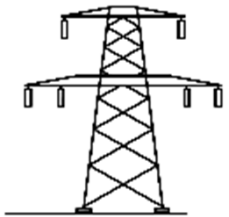


A close-up, slightly blurred photograph of a computer monitor displaying financial data. The screen is filled with various charts and graphs. On the left, there's a red rectangular area, possibly a button or a highlighted section. The main part of the screen shows several line graphs with different colored lines (red, green, yellow, blue) and some data points. The lines generally trend upwards from left to right. The background is dark, and the overall image has a professional, tech-oriented feel.

# The Storage Market

# Energy Storage Market

## Significant changes in the past years



### Front of the Meter

- ❖ New market products/ancillary services for new value streams, e.g.
  - ❖ Fast Reserve in Italy
  - ❖ Firm Frequency Response in the UK



### Commercial & Industrial

- ❖ New, dramatically diverse business cases across Europe
  - ✓ Agriculture: dairy industry to provide peak shaving in Ireland...
  - ✓ Public buildings to improve energy efficiency in Switzerland...
  - ✓ To energy storage for industrial processes in Germany

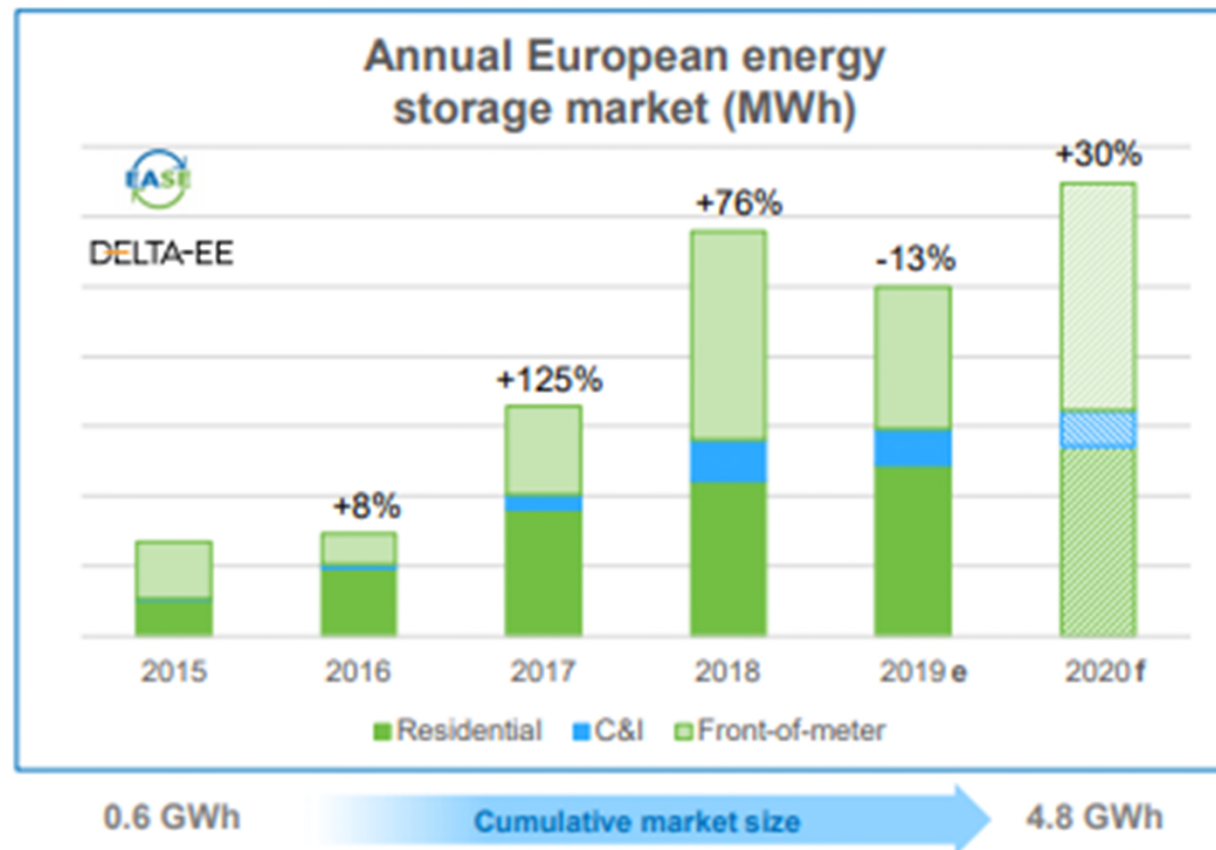


### Behind the Meter

- ❖ New business models based on IoT, smart services
- ❖ Growing customer awareness
- ❖ Emergence of “energy communities”

# Energy Storage Market

Higher uptake, lower costs for energy storage solutions





# Energy Storage Market

## Challenges during the global pandemic

- ❖ The Covid-19 Pandemic had an impact on energy storage-focused companies.
  - ✓ There have been lower revenues than foreseen...
  - ✓ ...although significantly only for a small minority.
- ❖ Oftentimes, we have seen delays related to:
  - ✓ Projects, logistics, permitting/administration
- ❖ But all in all,
  - ✓ Market outlook is positive
  - ✓ The market (for flexibility products, technologies) has developed
  - ✓ European climate policies have gained momentum



# EU initiatives for industry

- ❖ To achieve the ambitious goals set by the European Union, it is necessary to involve the EU's industry and develop its full potential.
- ❖ The European Commission elaborated a set of initiatives related to energy storage sectors.
- ❖ *Here are some of them...*



# EU initiatives for industry

## European Battery Alliance and Public Private Partnership on Batteries

- ❖ EBA launched on October 2017 by Vice President Šefčovič.
  - ❖ Actors involved:
    - the European Commission
    - interested EU countries
    - the European Investment Bank
    - key industrial stakeholders
    - innovation actors
  - ❖ Aim: to create a competitive manufacturing value chain in Europe with sustainable battery cells at its core.
- ❖ A Public Private Partnership on Batteries is also incoming.



*But the EU has also focused on R&I...*





# Research and Innovation

- ❖ Given the high level of complexity that energy storage involves, it is crucial to invest in research to develop more effective solutions.
- ❖ To promote scientific and technological innovation is part of the European Commission's tools to accelerate energy storage deployment.
- ❖ The initiatives in this realm include specific programmes for financial support.
- ❖ *Some examples...*



# The Just Transition Fund

## Research and Innovation

### The Just Transition Fund

- ❖ *Focus:*
  - ✓ Support economic diversification
  - ✓ Support reconversion of carbon-intensive territories
  - ✓ Investments in Small and Medium-sized, new firms
  - ✓ Investments in R&I, environment, clean energy
  - ✓ Reskilling of workers, job-search assistance/programmes
  - ✓ Transformation of existing carbon-intensive installations
- ❖ The Fund will be equipped with €17,5 billion.





# Research and Innovation

## From Horizon 2020 to Horizon Europe

- ❖ In November, the European Parliament and EU Member States in the Council reached an agreement on the next long-term budget and NextGenerationEU. This involves also the research and innovation programme that will succeed Horizon 2020.
- ❖ Horizon Europe will have a **€79,9 billion** budget. Additional 5 billion coming from NextGenerationEU, for a total of **€84,9 billion**.
- ❖ Launch: 1 January 2021.



# Research and Innovation

## Connecting Europe Facility

- ❖ Key EU funding instrument to promote growth, jobs and competitiveness through targeted infrastructure investment.
- ❖ Supports the development of sustainable interconnected trans-European networks in transport, energy and digital services.
- ❖ As part of the next long-term EU budget (MFF 2021–2027, the Commission proposed a total budget of €31,7 billion.



# Research and Innovation

## First Innovation Fund call for clean tech projects

- ❖ Focus:
  - ✓ Innovative low-carbon technologies and processes in energy intensive industries
  - ✓ Carbon capture and utilisation (CCU)
  - ✓ Construction and operation of carbon capture and storage (CCS)
  - ✓ Innovative renewable energy generation
  - ✓ Energy storage
- ❖ For the period 2020–2030, the Fund amounts to about €10 billion.



# Conclusions

## What needs to be done

- ❖ The energy transition entails significant challenges.
- ❖ Energy storage **can and shall play a key role** in addressing them through a wide arrays of solutions.
- ❖ Energy storage is discussed in several European policy initiatives and it is a substantial part of the European Green Deal.
- ❖ Its role as an enabler of the energy transition is more and more recognised.
- ❖ Much needs to be done – from different perspectives – to further develop storage technologies and industries and to better integrate them within the European economic system.

