



Storage Keynote

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Michael Lippert

EASE Vice President

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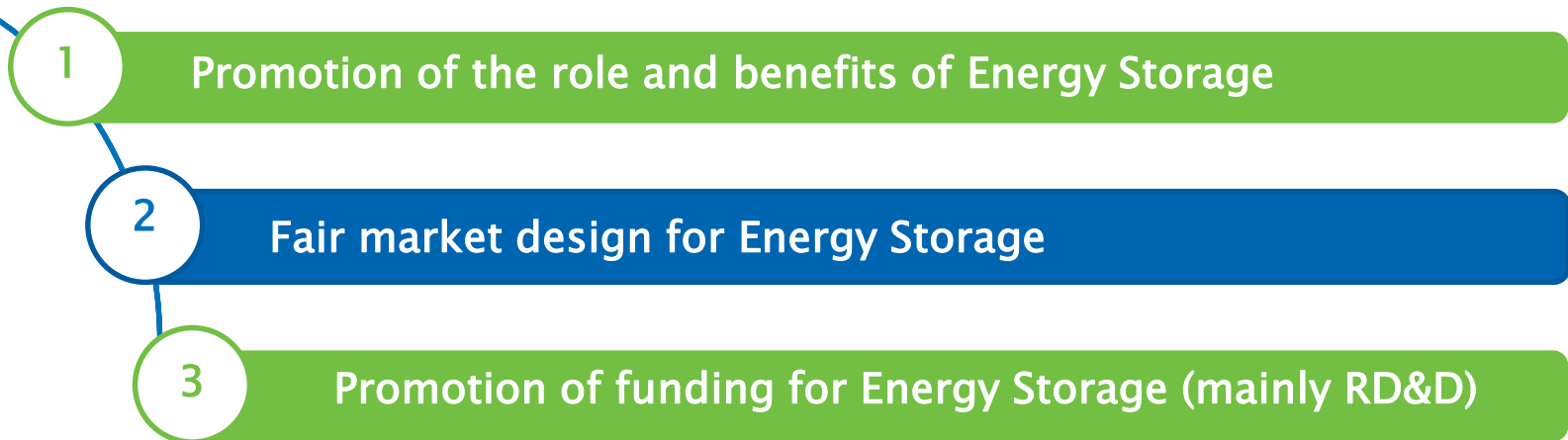


Introduction to EASE

European Association for Storage of Energy...

- ...is the European **voice** of the Energy Storage community
- ...advocates the **role of Energy Storage** as an indispensable instrument for the energy system
- ...supports a **sustainable**, **flexible** and **stable** energy system
- ...**shares** and **disseminates** information

Strategic objectives:





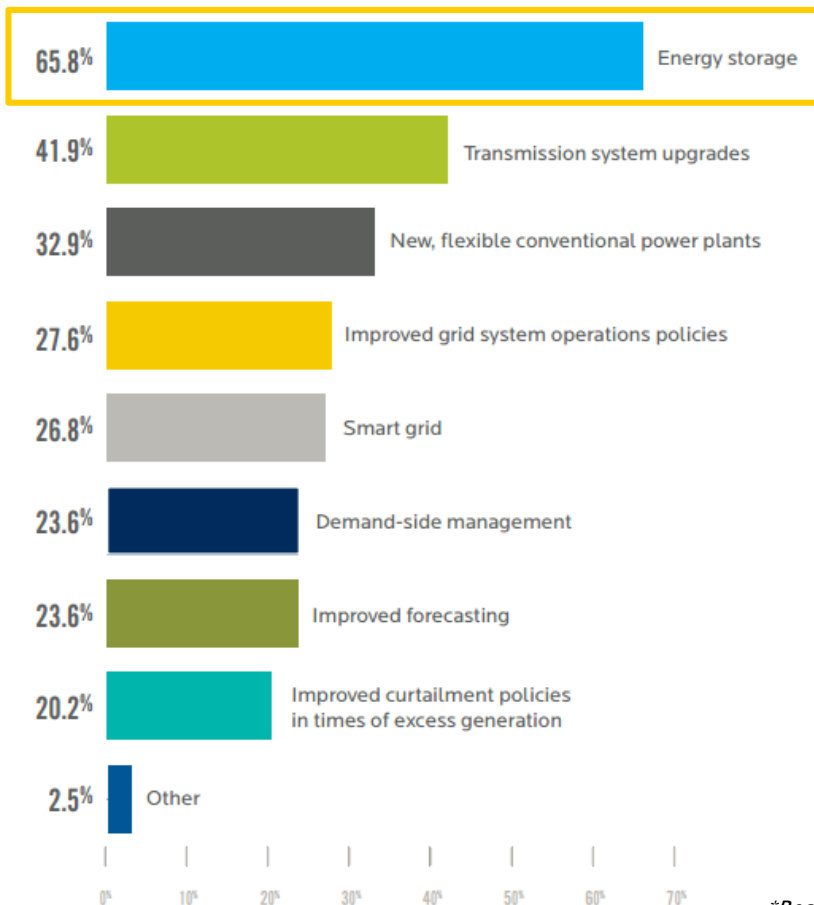
EASE Members





Energy Storage and the integration of renewables

ES is seen as the most important factor for facilitating the integration of variable renewable energies*

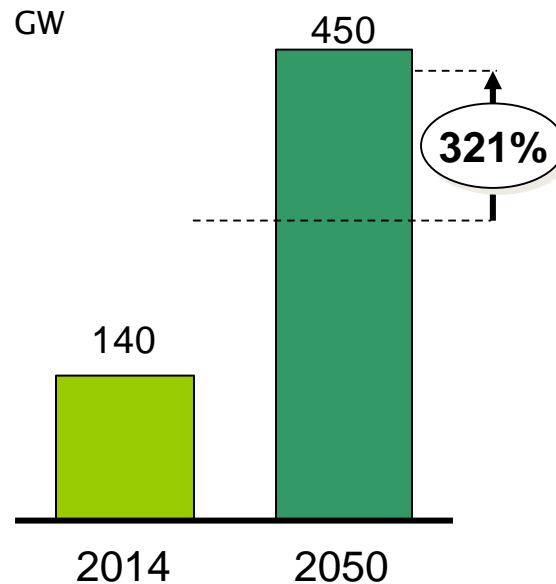


➤ ES is a **key enabling technology** because it can help compensate for the challenges of variable RES (output variability, negative effects on the electrical grid,...)



IEA forecasts three-fold increase in Energy Storage to meet climate change goals

To limit global warming to below 2°C, the capacity of storage connected to the grid should increase

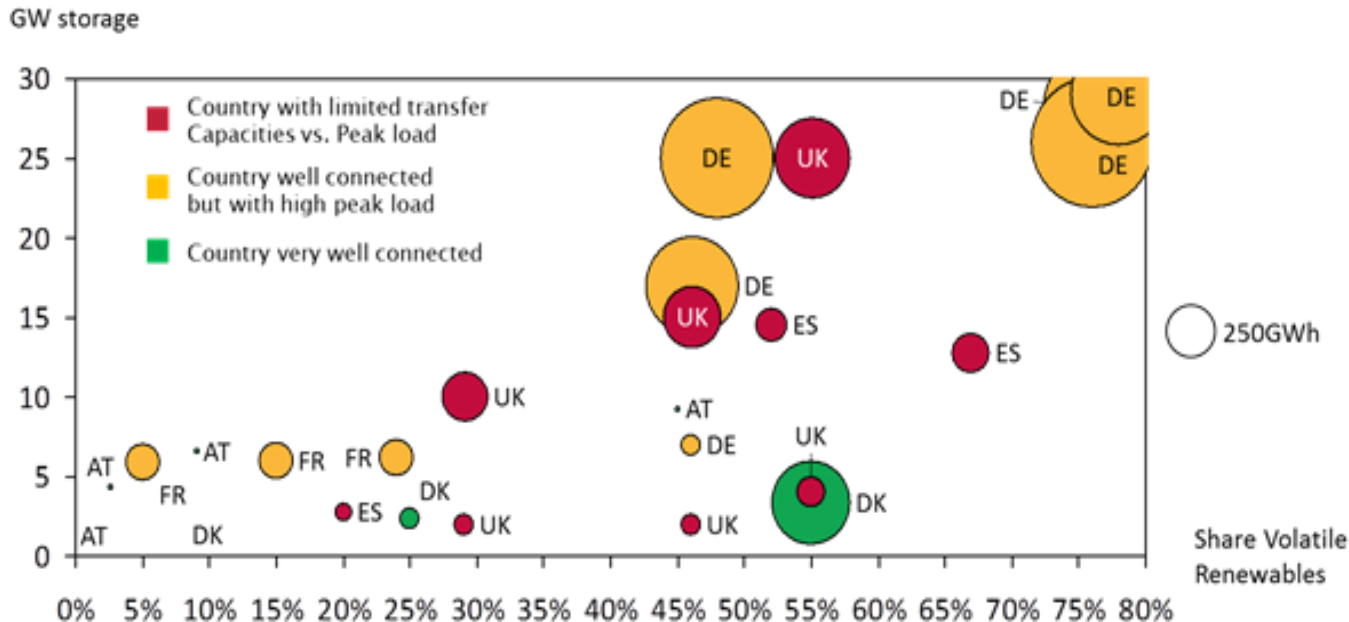


Source: IEA (2014)



But various studies highlight the varying demand across EU Member States

Storage demand in EU member countries in GW and GWh (bubble size) as a function of wind & solar power generation



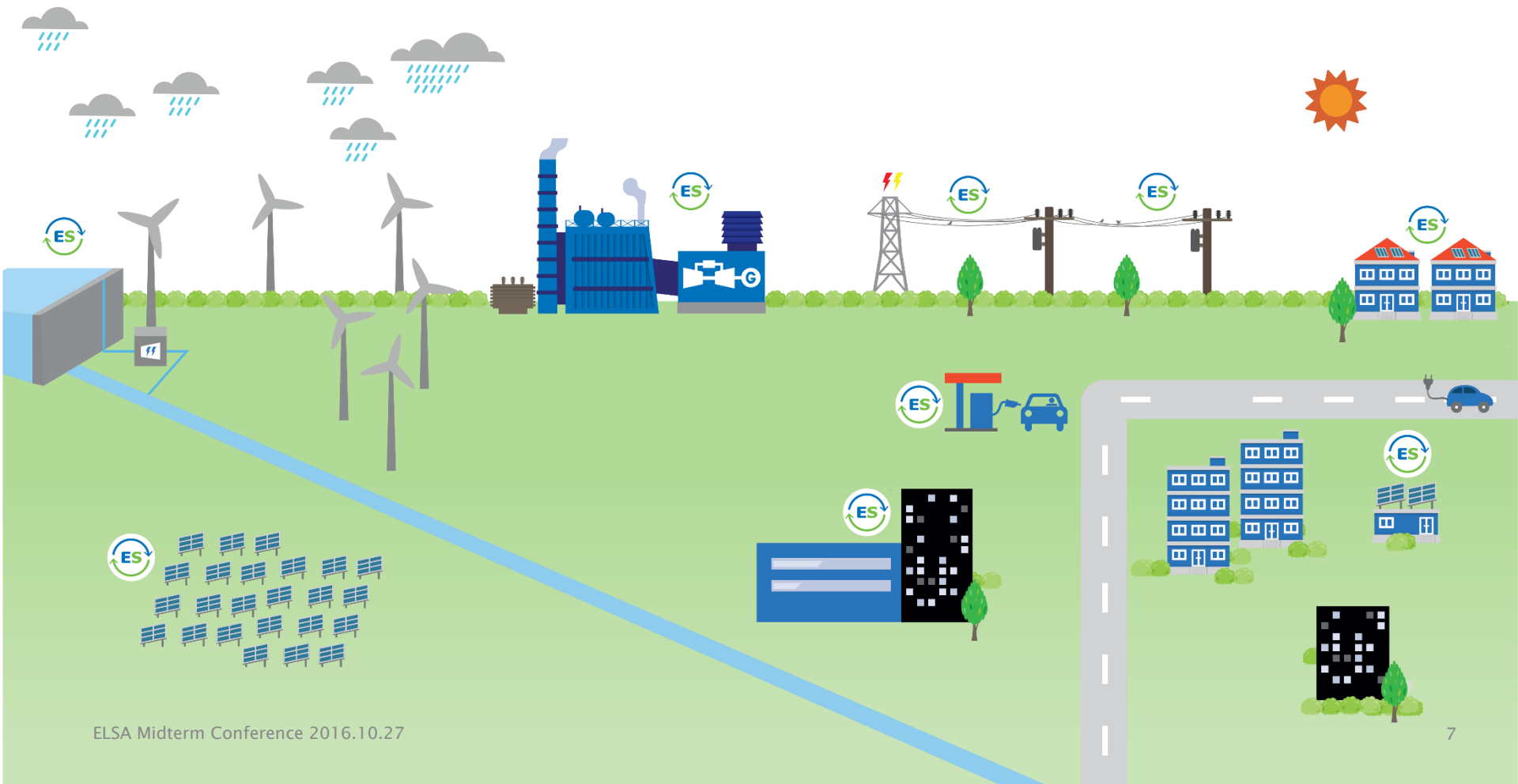
The value/ flexibility benefits of storage for each Member State can vary significantly according to power system characteristics and storage costs

Source: EASE (2015), based on a survey of industry studies



Energy Storage in the energy system

Energy Storage is being deployed at all levels of the grid, but significant barriers to entry remain





Universe of entry barriers is broad

NOT EXHAUSTIVE

a) No level playing field

- regulation of existing energy system components, e.g. RES
- relationship to existing energy system components

b) Insufficient market access

- network codes
- openness, competition inter alia, access to bulk markets

c) System position of Energy Storage

- lack of definition of ES
- regulatory uncertainty on ownership
- potential for heat storage underestimated

d) Remuneration not matching value creation

- for flexibility and capacity
- for additional storage services
- for regulated markets (TSO/DSO)

e) Unacceptable implementation

- unwarranted fees and taxes

f) Insufficient incentives besides R&D funds

g) Lack of technical standards

- interfaces

h) Further regulatory points

- concessional rights
- Water Framework Directive national implementation
- missing acceptance for emission reduction potential of Green H₂ (P2G)



Definition of Energy Storage

Top policy priority

- EASE calls for the inclusion of an Energy Storage definition in the ‘Winter Package’ proposals:

Storing energy in the electricity system would be defined as deferring an amount of the energy that was produced to the moment of use, either as final energy or converted into another energy carrier.

- This robust and broad definition includes cross-sectorial interfaces (electricity in and heat, gas or fuel out), which allow for a dynamic operation of the electricity grid.
- The definition is needed to **create investment security** for European industry and to **properly situate energy storage in the regulatory framework**, alongside generation and demand.



Recommendations for the ownership of Energy Storage (1 / 2)

EASE recommends establishing clarity on the rules under which energy storage can access markets, keeping in mind that:

- One cannot talk about ownership of energy storage by regulated entities in the abstract; positions can only be expressed relative to energy storage applications or services.
- For energy storage applications deemed to be market services (e.g., arbitrage) only market players should be allowed to own or operate energy storage facilities.
- Energy storage devices should be able to deliver energy storage applications deemed to be infrastructure services, i.e., fulfilling services which are today already used by regulated entities with other technologies



Recommendations for the ownership of Energy Storage (2/2)

For the ownership of Energy Storage by regulated entities (e.g., for the provision of system services) in the absence of competitive supply:

- Ownership should be exceptional and on a temporary basis, subject to a periodic review of the situation.
- Unjustified market barriers for Energy Storage should be removed.
- As a general rule, regulated entities could be allowed to own Energy Storage in this context only upon the approval of the relevant national regulatory authority.
- In the longer term, the underlying reason(s) for the market failure should be identified and addressed.





Ancillary Services Procurement

Creating a level playing field for Energy Storage

- System service procurement does not occur according to market based conditions in all EU Member States.
- This leads to a **higher cost for the consumer and discrimination against technologies** that are not allowed to provide these services, even if they would be cheaper and more accurate.
- Example: In Italy, frequency containment reserve (FCR) procurement is **not** market based, increasing the cost of FCR services for the consumer.
 - According to RSE, one Italian coal plant would save €1.7 m/year by providing the service with Energy Storage, such as batteries.



Eliminating Unwarranted Taxes and Fees on Energy Storage

- EASE calls for the elimination of double charging, and, in particular, the application of final consumption fees and taxes to Energy Storage.
- Energy Storage is not a load; it is storing energy for later use in the grid. It supports the grid. Therefore, grid fees should not be applied twice.
- Energy Storage is not "consumption". Therefore, any kind of taxes that consumers would have to pay should not apply to energy storage.



Conclusions

Energy Storage provides necessary flexibilities in a future electricity system with increasingly renewable and decentralised generation

- Energy Storage is being deployed all along the energy value chain, from generation to transmission/distribution to end users
- Future regulation and market design needs to take into account the specific capabilities of storage devices. We advocate creation of a level playing field with fair market access for all flexibility options



Thank you for your attention.

EASE – European Association for Storage of Energy
Avenue Adolphe Lacomblé 59/8 | BE – 1030 Brussels
Tel: +32 2 743 29 82
Twitter: [@EASE_ES](https://twitter.com/EASE_ES)
info@ease-storage.eu
www.ease-storage.eu

Vice President: Michael Lippert
Michael.LIPPERT@saftbatteries.com