



EASE Position on Energy Storage Deployment Hampered by Grid Charges

Brussels, May 2017

EASE is pleased that the European Commission recognises the value of energy storage as a provider of multiple services to the energy system. As the Commission acknowledges, however, today's regulatory frameworks across Member States remain fragmented, hampering the creation of an internal energy market.¹ This is illustrated here by highlighting the significant differences in grid charges across countries, to which large-scale pumped hydro storage (PHS) power plants are exposed today, and which will be valid for all energy storage technologies tomorrow.

EASE calls for a coordinated approach to defining grid tariffs for storage that recognises its alleviative effects on grid constraints and grid extension costs, while contributing to reduced curtailment of CO₂ free electricity generation.

National regulatory frameworks still fragmented and distortive

In its "Clean Energy for All Europeans" Package issued end-November 2016, the European Commission emphasises the value of storage at several occasions and underlines the need for a **level playing field between all generation, storage and demand-side resources**. This is a major step forward compared to the Third Energy Package of 2009, in which energy storage was not mentioned at all.

The "Clean Energy for All Europeans" Package is complemented by the European Commission Staff Working Document on energy storage, which was welcomed by EASE.² The document states that *"energy storage has not yet developed its full potential in the energy markets. [...] Furthermore, energy storage faced many different regulatory frameworks across Member States, with market inefficiency as a result of this fragmentation. There is no consistency amongst the Member States on the way storage is treated in the energy system."*

In particular, the Commission concluded in 2013 that *"the principal domains where intervention are needed relate to ancillary services and the grid tariff. For example, the **grid tariff should be based on the principle of cost causality**: if an energy storage system is systematically using the grid during off-peak periods and not during peak periods, it should not generate grid investment."*³ Today, and based on the benchmark below, we conclude that grid tariff design and levels still remain very heterogeneous among Member States.

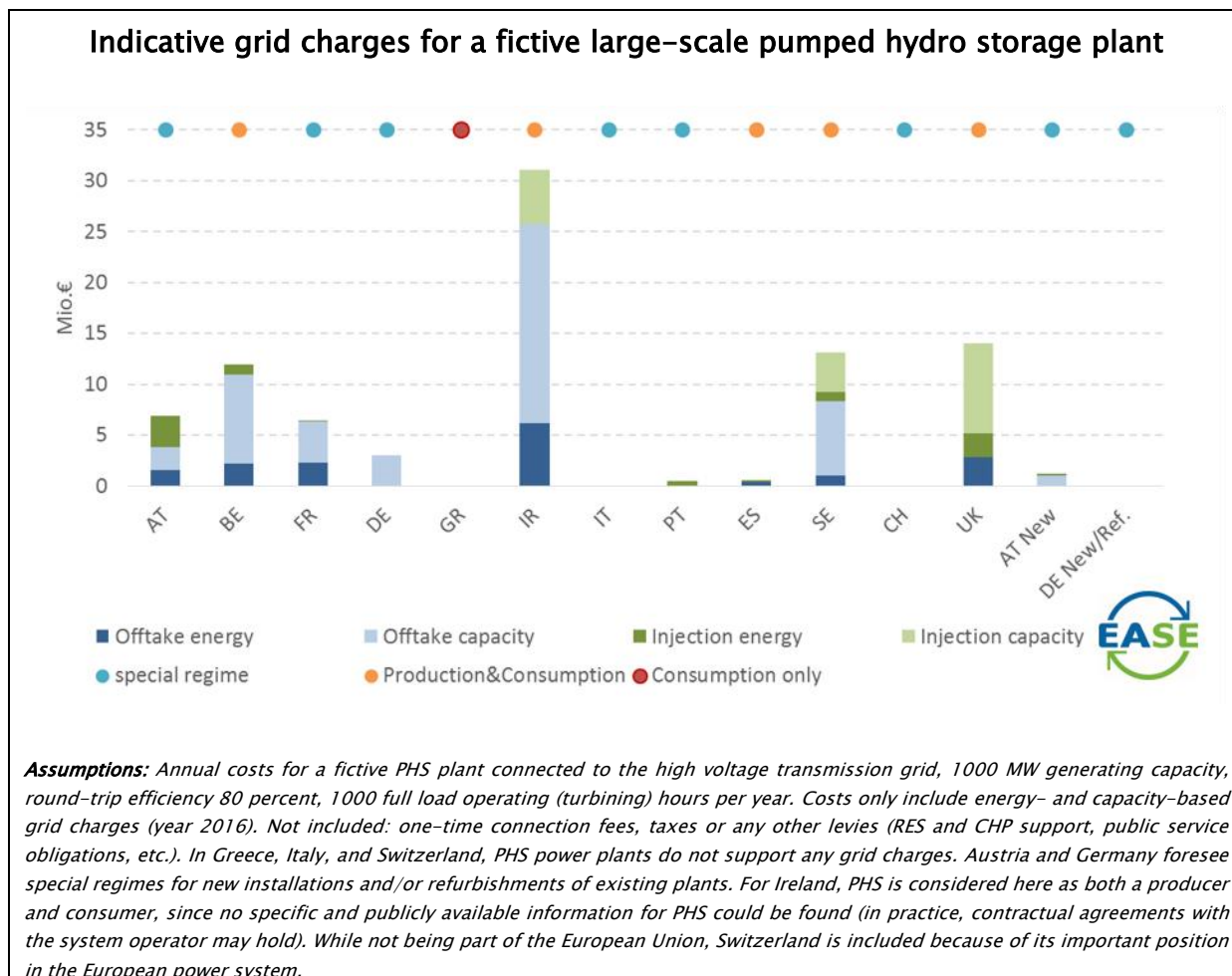
¹ European Commission: "[Energy storage – the role of electricity](#)", Commission Staff Working Document, 2017, p.16.

² EASE: "[EU Commission Outlines Four Principles on the Way Forward for Energy Storage](#)", Press Release 1–2017.

³ European Commission: "[The future role and challenges of Energy Storage](#)", DG ENER Working Paper, 2013, p. 12.

Storage development hampered by very different grid charges across Europe

To illustrate that storage is still facing very different situations with regards to grid tariffs, EASE has conducted an analysis of the grid charges to be paid by a fictive PHS power plant⁴ in 12 countries.



Because of the specificities of each single PHS plant, costs may of course slightly deviate in practice. Nevertheless, the benchmark allows drawing several high-level conclusions:

- **Total grid charges vary significantly between countries**, from 0 to more than €30 million per year. This creates distortions in cross-border energy trade. For instance, investment in new or existing PHS plants not only depends on where they are most needed, but also where grid costs are lower. This makes the transition towards a fully decarbonised electricity system more difficult.
- **6 out of the 12 countries considered foresee a specific tariff regime for PHS.** In these countries, total costs tend to be relatively low. One may infer from this that the concerned countries recognise the alleviative effects of PHS on grid constraints.

⁴ At this stage, other charges/taxes/costs are not included in the analysis.

- Although several countries foresee charges when pumping (withdrawing power from the grid) and turbining (injecting power into the grid), **the largest share of total costs results from pumping** (except for the UK). Nevertheless, for countries without a special regime, it still raises a question of equal treatment vis-à-vis consumption and production assets that are paying the cost in only one direction, or none at all. This is why EASE believes that energy storage should be recognised as the 4th element of the energy system (alongside generation, distribution/transmission, and consumption). This would allow for a cost regime fairly taking into account the particular features of energy storage.
- Depending on the country, **grid charges have a substantial impact on the overall cost and profitability of energy storage devices** if one compares them to total operations and maintenance (O&M) costs. In our case the total O&M costs are estimated at €7.6 million/year⁵, compared to grid charges that in some Member States could reach €30 million/year.

EASE would like to highlight that this benchmark only gives a partial view and that the reality is probably even worse. In addition to grid charges, the existence of other operating costs may create further distortions: PHS has to contribute to the cost of supporting renewables in some countries (e.g. Belgium), but not in others (e.g. Germany under certain conditions); distortions can also come from the revenue side, where PHS may benefit from relatively stable capacity payments for adequacy in some countries (e.g. France, UK), while it has to rely on more volatile (“energy-only”) prices in other countries (e.g. Austria, Germany). Including all these elements would go beyond the scope of this paper.

Coordination at European level is sorely needed. Whether and to what extent (pumped hydro) storage should finally contribute to grid costs merits a dedicated debate at European level. **EASE agrees with the Commission’s viewpoint that storage usually alleviates the grid⁶ and is a complement to grid development⁷. It follows that (pumped hydro) storage should be exempted from grid charges, or only have a relatively small contribution.**

⁵ stoRE project: *Facilitating energy storage to allow high penetration of intermittent renewable energy – Report summarising the current Status, Role and Costs of Energy Storage Technologies*, 2012, p. 32.

⁶ European Commission: “[The future role and challenges of Energy Storage](#)”, DG ENER Working Paper, 2013, p. 12.

⁷ European Commission: “[Energy storage – the role of electricity](#)”, Commission Staff Working Document, 2017, p.3.

About EASE

The European Association for Storage of Energy (EASE) is the voice of the energy storage community, actively promoting the use of energy storage in Europe and worldwide. It supports the deployment of energy storage as an indispensable instrument within the framework of the European energy and climate policy to deliver services to, and improve the flexibility of, the European energy system. EASE seeks to build a European platform for sharing and disseminating energy storage-related information and supports the transition towards a sustainable, flexible and stable energy system in Europe.

For more information please visit www.ease-storage.eu

Disclaimer

This response was elaborated by EASE and reflects a consolidated view of its members from an energy storage point of view. Individual EASE members may adopt different positions on certain topics from their corporate standpoint.

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