

## CRE survey on battery storage



### EFET response – 28 February 2019

The European Federation of Energy Traders (EFET) thanks CRE for the opportunity to provide comments on its survey on battery storage. The question of electricity storage is gaining greater importance as a result of technological improvements combined with changing patterns in the production and consumption of electricity. We have seen the regulatory debate start at national level in many European countries, as well as at Union level.

In France, the approval of the RTE-led RINGO project by CRE happened without constructive debate on the interaction between the regulatory framework and storage, in particular the role and responsibilities of market participants vs. system operators regarding the ownership and operation of storage assets. Therefore we very much welcome the present survey put forward by CRE. We hope it will help clarify the interaction between the French regulatory framework and storage, in the wider context of the provisions recently approved at European level as part of the Clean Energy Package.

*Q. 1: In your opinion, what will be the place of battery storage among the solutions that bring flexibility to the electrical system?*

#### **a. Understanding “flexibility”**

At EFET, we define **flexibility as the ability to use capacity with minimal or no limitations** – thus flexibility is a characteristic of capacity: capacity (in the form of electricity generation, demand, or storage assets) is “flexible” only to the extent that constraints upon the use of that capacity at any level, at any time and for any duration, according to need or a bid, are limited. It thus follows:

- Flexibility is **not a standard product as such**.
- There is no such animal as a “flexibility market”: the **energy-only market (i.e. the market in power as a commodity)** is the place where “flexible capacity”

can create value – accordingly it cannot be the role of TSOs/ DSOs to provide “flexibility”.

On the other hand we see that the current operation of wholesale power markets in Europe does afford opportunities for market participants with access to flexible capacity:

- **Energy products**, which signal certain flexible characteristics of capacity, are **already traded on the wholesale market** (base vs. peak forwards and futures, options, profiles...). Excessive interventions may reduce the ability of existing standard base and peak load profiles to adequately attribute value to flexibility.
- **New products with smaller granularity** will help provide price signals for more flexible capacity **when the market signals this need** (e.g. shorter-term products, but also shorter-duration/delivery forwards/futures).
- Policy makers should continue to focus on **improving the efficiency of the markets** (incl. enlargement of markets, flexible access to interconnections in intraday, open balancing markets), so that market participants are exposed to the correct price signals and can make correct decisions<sup>1</sup>.
- A **level playing field** is of utmost importance, i.e. equal rights and obligations for any type of technology.

As a natural consequence of the principles we highlighted above, we consider that electricity storage has the potential to respond to the flexibility needs of the market and the system, alongside electricity generation and demand response. Each of the different technologies and assets have different characteristics and complement each other. Battery storage is an efficient tool to respond to very short-term, fast ramping needs of the market or the system. However, it is not the best tool to respond to long periods of activation. Hence battery storage should only be considered as one of the answers to the flexibility needs of the market and the system, and be treated on an equal footing to electricity generation and demand response.

#### **b. Battery storage, a market activity like any other**

Furthermore, we believe that electricity storage, just like demand response and generation, are competitive activities that are in the realm of the market. As a principle, they should not be regulated activities carried out by system operators (TSOs or DSOs). Strict unbundling rules are the corner stone of a sustainable liberalisation process in a network-backed industry like electricity. The separation of regulated monopoly system operation from all the other competitive activities in the sector ensures that TSOs and DSOs act as neutral facilitators of the market.

Therefore, we welcome the principle enshrined in articles 36 and 54 of the recast Electricity Directive (Clean Energy Package) that TSOs and DSOs shall not be allowed to own, manage and operate electricity storage facilities. Storage assets – in the same manner as generation assets or demand-response capacities – should never be

<sup>1</sup> For more details on the subject, we refer to our paper on the Free formation of prices in the wholesale electricity market, dated June 2016, available at:  
[http://www.efet.org/Cms\\_Data/Contents/EFET/Folders/Documents/EnergyMarkets/ElectPosPapers/~contents/GGH299HP5MPZQ5T5/EFET\\_Free-formation-of-prices-power-market.pdf](http://www.efet.org/Cms_Data/Contents/EFET/Folders/Documents/EnergyMarkets/ElectPosPapers/~contents/GGH299HP5MPZQ5T5/EFET_Free-formation-of-prices-power-market.pdf).

considered as part of a network unless they can only be used for purposes other than system operation (such as, e.g., transmission lines, phase-shifters or transformers). System operators who identify a specific need for the system to perform their duties should procure this capacity from market participants. As a rule, system operators should procure their needs in a technology neutral manner, leaving the choice to market participant to use the type of capacity they wish to respond to this need, as they are best placed to provide cost-efficient. Therefore the expression of system needs by TSOs and DSOs should neither, de facto or de jure, be restricted to storage assets, or exclude them. Only that way can owners and operators of all types of flexible capacity compete on a level-playing field.

**c. Ensuring the cost efficiency of flexibility services procurement by TSOs and DSOs**

Besides the legalistic argument, there are also economic efficiency arguments to restricting very tightly the possibility for system operators to own or operate storage :

- **Economically inefficient use of the TSO-owned assets:** as we highlight in our paper on the roles and responsibilities of system operators regarding access to electricity storage<sup>2</sup>, should TSOs be allowed to own and operate storage assets directly, then it should be expected that these assets would be under-used. Indeed, the TSOs could not use them for any competitive activity. For example, in the framework of the RINGO project, RTE assessed that the batteries they will run at the beginning of the project would be idle 60 to 80% of the time. This would diminish the value of the TSO-owned assets. On the contrary, if owned by market participants, the capacity and output of different storage assets could be sold both on the market and to the TSO, even pooled, thereby decreasing the price of storage capacity use for all users, including for the contracting TSO.
- **Economically inefficient congestion management practices:** when a TSO owns and operates assets, including storage, there is an inherent risk of unfair competition to respond to the TSO needs. Indeed, it would pose questions regarding the choice by the TSO between the use of its own energy storage assets versus other assets (batteries or other) owned and operated by market participants to remedy congestions in the grid. First, there is no guarantee that using batteries is the most efficient action to undertake in order to solve a specific congestion. Second, should the congestion be best resolved with the use of batteries, the TSO could exercise a preference to use its own energy storage assets in order to ensure their return on investment. The principle of unbundling was enacted to avoid precisely this sort of situation. In the case of the RINGO project, detailed rules would therefore need to be developed to ensure proper monitoring of the use of RTE's storage assets: not only should the regulator be able to make sure that RTE uses these assets for system balancing and congestion management only and not for market activities, it should also ensure that the full cost of using the batteries owned and operated

<sup>2</sup> EFET position paper on the roles and responsibilities of DSOs, particularly regarding access to electricity storage, dated October 2016 (all remarks of this paper on DSOs also apply for TSOs), available at: [http://www.efet.org/Files/Documents/Electricity%20Market/DSM%20storage%20and%20retail%20market/EFET-paper\\_DSOs-and-storage\\_21102016.pdf](http://www.efet.org/Files/Documents/Electricity%20Market/DSM%20storage%20and%20retail%20market/EFET-paper_DSOs-and-storage_21102016.pdf).

by RTE each time they are activated compares favourably to other flexibility sources – in the case of congestion management: activation of storage but also re-dispatch – proposed by the market to respond to the TSO needs at that moment.

- **Economically inefficient investment signals to the market:** as indicated above, storage assets owned by a TSO will inevitably be under-used compared to the use that market participants could make of them. In addition, keeping these assets under such economically inefficient ownership and management structure, whose risk-free investment costs are borne by the consumer, would weaken the business case for further private investments in storage assets, as it would suppress signals of the value of storage capacity on the market. This is exactly the case that private investors are experiencing in Italy with the ownership and operation of storage assets by the local TSO Terna.

#### **EFET Recommendations:**

In summary, here are the principles we would like CRE to keep in mind if and when formalising the regulatory framework around battery storage:

- battery storage is just one form of flexible capacity among many others
- all flexible capacities (batteries, other forms of storage, generation of all types and demand response) should compete on a level-playing field in the market and for ancillary services – same rights, same opportunities
- TSOs and DSOs should not be allowed to own and/or operate storage assets, in the same manner as they are not allowed to own and/or operate power plants or portfolios of clients engaged in demand response
- when needed, TSOs should procure flexibility services based on neutrally formulated needs in order for market participants to respond to these needs with the most economically efficient technology (including, possibly, battery storage)

**Q. 2 :** *Do you currently identify regulatory, tariff or contractual barriers to the development of battery storage? It may be relevant to distinguish storage on an industrial scale (above 1 MW) from domestic storage (from a few kW to a few hundred kW).*

To allow battery storage, like all other flexible capacities, to flourish, CRE should focus on establishing the conditions for the true value of these capacities to emerge. This can be ensured through improvements to the current design and operation of wholesale power markets<sup>3</sup>:

- **French balancing market:** The price signal coming from the balancing market is the one guiding all the decisions of market participants. We consider all

<sup>3</sup> For more details on the subject, we refer to our paper on the Free formation of prices in the wholesale electricity market, dated June 2016, available at:  
[http://www.efet.org/Files/Documents/Electricity%20Market/General%20market%20design%20and%20governance/EFET\\_Free-formation-of-prices-power-market.pdf](http://www.efet.org/Files/Documents/Electricity%20Market/General%20market%20design%20and%20governance/EFET_Free-formation-of-prices-power-market.pdf).

preceding markets (including day-ahead and intraday) as forward markets of the balancing timeframe. Unfortunately, this price signal is blurred on the French market because of:

- The “k coefficient” that remains in the imbalance price and skews the equilibrium between balancing energy price and imbalance price
- The weighted average price remuneration of balancing bids
- The reference to the day-ahead price used to remunerate secondary reserve
- **EU rules for the balancing market:** Likewise, some rules decided at EU level are prone to “pollute” the price signal stemming from the balancing timeframe, including:
  - The TSOs proposal of balancing energy pricing period over control cycles of 4 seconds for aFRR – a period upon which market participants cannot react and have no control – instead of the ISP.
  - The unclear and unharmonised proposal of the TSOs regarding imbalance settlement
- **Intransparent congestion management practices:** In France, RTE can deviate from merit order activation on the « Mécanisme d’Ajustement » if specific offers would create or aggravate congestions. First, there is very limited transparency on RTE’s actions in that regard (balancing or congestion management activation or non-activation). Second, BSPs may suffer from opportunity losses, which are not compensated by the TSO. Hence, RTE benefits from « Free congestion management » service done by BSPs. The cost of cogestion management, normally borne by the TSO, is thus externalised to market participants. Beside the discriminatory aspect of this practice, it also blurs signals for congestion management, infrastructure investment or alternative zonal delineation on the TSO side.  
Despite concrete propoals from market participants, no progress can be observed on this matter for the past 2 years, either at French or European level
- **Projects of SOs investing in batteries themselves, instead of procuring services from the market:** we refer to our statements on TSO or DSO ownership and operation of storage assets in our response to question 1, and in particular to the unfortunate precedent of the RINGO project in France. We insist that system operators, when confronted with specific flexibility needs, clearly express these needs to the market in a technology neutral manner, and refrain from investing themselves in any type of asset, battery or other.

**Q. 3 :** *Do you agree with the three themes identified by CRE to enable the development of storage (simplification of the contractual framework and connection procedures, accessibility of different forms of storage to different market mechanisms, sending the right price signals)? Do you see others?*

Generally, we agree with the three themes identified by CRE. A few comments on these :

- **Simplification of contractual framework and connection procedures:** as usual, non-discrimination should be the motto of the regulator. Should the framework established by the system operators around contracts and connection procedures de jure or de facto make the access of battery storage

to the market impossible or more difficult, this should be tackled to ensure that those assets can access the energy and ancillary services market in the same way as other technologies. No technology specific hurdle should be maintained, but no privileges should be created either.

The regulator should also remember that not everything need be regulated: contractual relationships between market participants ought to be left to their choice. We refer to the work that EFET has performed in providing open standards for energy trading in all forms over the past 20 years.

- **Accessibility of different forms of storage to the market:** fundamentally, nothing prevents at the moment storage asset operators from trading on the energy market. When it comes to the ancillary services market, it will be up to system operators to formulate products that allow all market participants to provide services, based on neutrally expressed needs of the SOs. Finally, for smaller domestic battery operators, direct participation to the market, or participation to the market via aggregators should be allowed (once again, same rights and same obligations as any other market activity).
- **Sending the right price signals:** letting the true value of electricity emerge is probably the most important element to allow battery storage to develop, if it makes technical and economical sense. We refer to our answers to questions 1 and 2 for more details on this point.

*Q. 4 : Which elements of the regulatory framework for storage could be tested? If a "legal sandbox" was put in place by law, would you be interested in experimenting with one of your projects? If yes which ?*

We insist that battery storage is one type of (flexible) capacity among many others to respond to the ever changing needs of both the market and the system. The very concept of "a regulatory framework for storage" raised red flags for us, as battery storage should abide by the same rules, have the same rights and opportunities, but also the same obligations as any other type of storage, demand response or generation assets.

We recommend CRE maps the areas (technical, legal, market design, tariffs) where the current regulatory framework disfavours battery storage de facto or the jure. These possible discriminations should be tackled. But in no case should a specific regulatory framework be developed for (battery) storage only.

*Q. 5 : Do you have other thoughts ?*

No further comments.