BVES – German Energy Storage Association

Position Paper - European Electricity Market Design Directive (MDD)

September 2018

Summary and Key Messages

To realise the full potential of energy storage and make Europe the market leader for this key technology, the Market Design Directive (MDD) must ensure the following:

Make storage work for the customer:

1. Get storage right: The MDD should provide a clear and ambitious definition for storage. Storage is neither generation nor consumption, but a distinctly different activity.
2. The price is right: The MDD should provide for free formation of electricity prices so that new technologies can such as storage can compete in the market.
3. Active customers should be happy customers: The MDD should demand that becoming an active customer who generates, stores, sells and shares his/her own electricity is no longer disproportionately burdensome for average households. Most important, stored electricity should no longer be subject to double charges, taxes, and fees

Make storage work for the system:

1. Take unbundling seriously: Storage facilities should be owned, managed and operated by market participants, not monopolist DSOs or TSOs. Grid operators should buy storage-as-a-service in the market. Grid operators should not be given a chance to easily own storage facilities by merely labeling them “fully integrated network components”.
2. All storage options should be treated equally: The MDD should not include provisions which favor battery storage over other storage technologies. Also pumped hydro, fly wheels, thermal storage and other cross sectoral Power-to-X storage technologies (such as Power-to-Gas, Power-to-Methane, Power-to-Liquid) offer a large variety of services that can contribute to a stable, efficient and sustainable electricity system.
3. Flex it first: DSOs and TSOs should consider storage in parallel to grid expansion in their network development plans. This requires the definition of standardised “storage-as-a-service” products so that market participants can offer several services simultaneously to DSOs and TSOs.
In Detail

1. Energy Transition, Storage and Market Design

The German Energy Storage Association (BVES) represents the interests of companies from the most diverse sectors, which have the common goal to develop and operate energy storage and provide easy access to storage in the areas of electricity, heat, and mobility. BVES strongly supports the increase of renewables in the energy system and demands ambitious renewable targets, which are in line with the Paris climate goals to reduce greenhouse gas emissions. To reach these goals the system integration of energy storage technologies is crucial for all Europeans as energy storage offers the needed flexibility for a higher share of renewables. In the following, we show how to make storage work for the customers as well as the electricity system as a whole.

2. Make storage work for customers

2.1 Get storage right: A clear and ambitious definition – Article 2 Nr. 47

Relevant text: Art. 2 Nr. 47

*BVES strongly supports AM 30 in the Parliament’s version of this Article: “energy storage means, in the electricity system, deferring the use of electricity to a later moment than when it was generated or the conversion of electrical energy into a form of energy which can be stored, the storing of that energy, and the subsequent reconversion of that energy back into electrical energy or another energy carrier.”*

The Market Design Directive should clearly state that storage is an activity distinctly different from generation or consumption. Today storage typically gets treated as if it was a combination of consumption and generation. That means that charges, fees, and taxes are levied twice on stored electricity: once when the electricity is stored and twice when the electricity is actually consumed. On top of this, even household-level storage facilities are treated as generators and are subject to rules and regulations which were originally created for large-scale fossil-fueled power plants.

The Market Design Directive should ensure that storage can realise its full technical potential by providing a clear definition of storage.

2.2 The price is right: Market-based supply prices – Article 5

Relevant text: Art. 5:

*BVES opposes the Council’s version to Art. 5.2 and Art. 5.3c, fully supports AM 38 in the Parliament’s text and suggests to improve AM 37 to read: ‘Member States shall ensure the protection of energy poor or vulnerable customers by social policy or other means than public interventions in the price-setting for the supply of electricity.’*

Member States should protect vulnerable customers through means of social policy and not through intervention in the price setting mechanism. Economic theory shows that free market formation and market-based supply prices lead to a least-cost equilibrium between offer and demand. Hence, the Council text regarding Article 5 and especially paragraph 3.c allows for a derogation from this principle by allowing member states who already have such public interventions in the open electricity market in place to keep these. This significantly hinders the energy transition in Europe from progressing towards a least-cost renewable system.
Free price formation both in the wholesale and retail market is the key ingredient to facilitate uptake of renewables and other emerging technologies. This does not mean that Member States should not protect vulnerable customers. Such interventions are inevitable in certain situations. However, support should be provided through measures of social policy, not interference in the price setting mechanism.

2.3 Active customers should be happy customers – Article 15

Relevant text: Art. 15

BVES suggests to improve AM 67 in the Parliament’s text and Art. 15.1 (a) in the Council’s text to read: ‘Member States shall ensure that final customers are entitled to generate, store, consume and sell self-generated electricity in all organised markets either individually or through aggregators without being subject to discriminatory or disproportionately burdensome procedures and charges that are not cost reflective.’

Relevant text: Amendment 68

BVES supports the Council’s version for Articles 15.1(a) to 15.1(f) and Articles 15.2(a) to 15.2(d) of AM 68 in the Parliament’s text and strongly opposes the first paragraph of AM 68 in the Parliament’s version. ‘Member States shall ensure that active customers owning a storage facility:

[a] have the right to a grid connection within a reasonable time following the request;
[b] are not subject to additional taxes, surcharges, and fees for the electricity stored in the storage facility;
[c] are distinguished from generators and not subject to related licensing requirements and fees;
[d] are allowed to provide several services simultaneously, if technically feasible.’

Art. 15 should clearly state that becoming an active customer shall not be disproportionately burdensome or costly. This includes, that electricity which is stored shall not be subject to double or additional charges, fees or taxes. Further, BVES strongly supports Art. 15 (d) to ensure that storage systems can unleash their full flexibility in our future grid. By allowing active customers to dispatch their flexibility sources into different markets within the same timeframe, by providing several services simultaneously, each individual system will help better the situation in the grid by e.g. proving grid services like local congestion management services or frequency restoration services.

It is not enough that final customers are not subject to discriminatory technical and administrative requirements, procedures and charges, which were for the most part developed for large-scale fossil fuel power plants decades ago. A non-discriminatory application of such provisions to final customers will always be disproportionately burdensome. Even in Germany, arguably the most developed market for active customers, the procedures are a strong disincentive: A customer wanting to become an active customer must file more than 30 pages of forms. By comparison, the filing for an income tax return in Germany requires seven pages of forms and filing for an EU Merger Notification requires only 20 pages. Further, a digital meter costs on average 455 Euro per year and it is not uncommon for DSOs to argue over billing inaccuracies of 0,0005 kWh.

Unless Member States actively develop rules for final consumers to become active customers, the EU’s goal of empowered consumers cannot be reached. Even though the concept of non-discrimination has been written into the law for a decade, it has not led to the emergence of active customers. The reason are disproportionately burdensome procedures, not a lack of non-discrimination. That is why BVES and its members strongly support the Storage Bill of Rights suggested by the EU Parliament in Amendment 68. In particular, Member States need to ensure that electricity is no longer subject to double charges, fees and taxes every time it is stored.
3. Make storage work for the system

3.1 Taking unbundling seriously: No storage as a fully-integrated-network-component - Article 2 – Definitions and Article 36 & 54 – Ownership of storage

Relevant text:

Art. 2 No. 39a:
BVES opposes both the council and parliament’s version:
‘fully integrated network components’ means static network components that are integrated in the transmission or distribution system, including storage facility, and are used for the only purpose of ensuring a secure and reliable operation of the transmission or distribution system but not for balancing nor congestion management; [Council Version]

Art. 36 and 54 paragraph 1:
Distribution [and Transmission] system operators shall not be allowed to own, develop, manage or operate energy storage facilities,
2. By way of derogation from paragraph 1, Member States may allow distribution system operators to own, develop, manage or operate energy storage facilities which are fully integrated network components and the regulatory authority has granted its approval or if all of the following conditions are fulfilled: [followed by rules for a market-test] [Council version]

BVES strongly urges the parties of the trilogue to narrow down the definition of “fully integrated network component” (“FINC”). It conflicts with the rules on unbundled storage ownership. BVES instead strongly supports the idea of a market test before DSOs and TSOs can buy their own storage facilities as an exception to unbundling (Art. 36 and Art. 54 MDD) as expressed by the European Commission. The MDD aims to realise maximum consumer benefit by allowing customers to own directly and manage storage solutions (Art. 17 and Art. 36 MDD). Just as with power generation assets, there needs to be a wall of unbundling between the grid as a monopoly and the market for storage solutions. Grid operators should first and foremost buy storage and demand response “as-a-service” from market actors (Art. 32 MDD):

<table>
<thead>
<tr>
<th>Grid</th>
<th>2018</th>
<th>Market</th>
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![Diagram showing unbundling and flexibility as a service](image)

Fig 1: Flexibility from various sources in the market can be used as-a-service by TSOs and DSOs to operate the grid
That is why grid operators should only be allowed to buy storage for themselves in exceptional circumstances (Art. 36 MDD). The following shows how the decision-making process would look as a flow-chart:

**Fig. 2: How DSOs can procure storage in light of MDD Art. 17 and Art. 37**

This well-balanced approach gives grid operators options in times of immediate need of storage. But it leaves intact the general idea of Art. 17 and Art. 32 MDD that if grid operators need storage services, they should buy it as a service from markets, e.g. active customers. However, the new and broad definition of “fully integrated network components” (“FINC”) in Art. 2 Nr. 39a MDD now includes storage facilities and allows DSOs and TSOs to circumvent the strong protections of Art. 36 MDD. DSOs can skip the market tests of Art. 36 MDD fully, by simply declaring a storage facility a “fully integrated network component”. The following depicts this circumvention in an easily understandable manner:

**Fig. 3: How DSOs can circumvent the needs set by Art. 17 and Art. 37 by using Art. 2 Nr. 39a – Fully Integrated Network Components**

As Fig. 3 shows grid operators can declare storage facilities as ‘an essential part of the network’, hence a FINC, and skip the market test of Art. 36 and Art. 54 MDD. In addition, the more assets are part of the grid, the higher the regulated return of the grid operator. That is why grid operators will always try to own storage if given the opportunity and not buy „storage-as-a-service“ (Averch-Johnson-Effect).
Against this backdrop the declaration of storage technologies as “fully integrated network components” must be limited to absolutely exceptional cases. If DSOs or TSOs are given the opportunity to own storage, they must be obliged to phase-out ownership after a very short time period.

Grid operators should instead provide e.g. a “whitelist”, guarded by the National Regulatory Authority (NRA), of technical equipment they traditionally need as FINCs in their existing asset-base and their specific use in the secure and reliable operation of the transmission or distribution system, e.g. coils, capacitors or transformers within grid-critical infrastructure itself. If DSOs or TSOs want to own a particular storage-technology-as-a-FINC, e.g. flywheels, they shall suggest it for “whitelist” approval by the National Regulatory Authority. The NRA-approved whitelist of FINC-equipment should be subject to review by the NRA / regulator every two years following a market test if the markets, e.g. active customers or other market participants, could now also provide the function of the FINC. The EU Commission can monitor the development of whitelists in different Member States, as BVES also recognizes the dramatic differences in the energy transition between the various EU Member States.

3.2 All storage is equal: Avoiding a battery rush – Article 36 paragraph 4a

Relevant text:
Art. 36 paragraph 4: The distribution system operators or the regulatory authority shall perform at regular intervals or at least every five years a public consultation for the required energy storage facilities in order to assess the potential availability and interest of market parties to invest in such facilities. Where the public consultation, as assessed by the regulatory authority, indicates that third parties are able to own, develop, operate or manage such facilities in a cost-effective manner, regulatory authorities shall ensure that distribution system operators’ activities in this regard are phased-out within 24 months. (Council Version)

Art. 36 paragraph 4a: Paragraph 4 shall not apply for the usual depreciation period of new battery storage facilities with a final investment decision until 2024.

Council proposes that the phase-out rules shall not apply to battery storage facilities with a final investment decision until 2024. In light of the entry force date and transposition time, the 2024 time horizon seems unreasonable. Rather, rules should apply immediately after transposition as
expressed by Commission and Parliament. The introduction of Art. 36 paragraph 4a MDD will create a "battery-rush". This new paragraph creates a direct incentive for DSOs to favor battery storage over other storage technologies such as power-to-gas, pumped hydro, flywheels or thermal storage. That is because DSO ownership of all other storage-technologies would have to be phased-out after five years according Art. 36 paragraph 4 MDD. But batteries do not have to be phased-out and can effectively be kept for decades until the end of their life-cycle (Art. 36 paragraph 4b MDD). This is by no means technology-neutral and is implemented in the current text without any plausible justification. After five years the DSO owning a storage facility has to phase-out storage ownership as follows under Art. 36 paragraph 4a MDD:

After five years:

Are you a DSO and do you own storage?

- Yes
- No

Is it a battery?

- Yes
- No

Did you ask the market to buy your storage facility?

- Yes
- No

Did the market want to buy it?

- Yes
- No

Keep your storage facility for all of its deprecation period.

Please try to sell your storage facility to the market.

Please sell your storage facility.

Keep your storage facility for five more years, then try again.

BVES believes this will create a strong incentive for DSOs and TSOs to try to own battery storage, as ownership does not have to be phased out. We strongly recommend to delete this section entirely as it will lead to vast market distortions and technology discrimination.

3.3 Flex it first: Put flexibility to work in the distribution system – Article 32

Relevant text: Art 32

BVES supports AM 119, 120 and the Council’s position on Articles 32.2 and 32.2[a].

1. Member States shall provide the necessary regulatory framework to allow and incentivise distribution system operators to procure services in order to improve efficiencies in the operation and development of the distribution system, including local congestion management. In particular, regulatory frameworks shall enable distribution system operators to procure services from resources such as distributed generation, demand response or storage and consider energy efficiency measures, which may supplant the need to upgrade or replace electricity capacity and which support the efficient and secure operation of the distribution system. [...] Member States may decide not to apply this obligation to integrated undertakings serving less than 100 000 connected consumers, or serving isolated systems.

We strongly support the aim of the MDD to allow DSOs to choose “storage-as-a-service” and demand response in parallel to grid expansion. Today, even if DSOs want to choose storage, they do not find the regulatory environment to do so. The key is to get to standardised market products and a reliable network development plan for DSOs. However, we reject the idea that DSOs with less than 100,000 connection points are exempted from this provision. These exemptions create a growing divide in the capabilities and the digitalisation of DSOs. In Germany there are more than 850 DSOs, most of which are not properly unbundled and do not have more than 100,000 connection points. As a result from such exemptions, a lot of the smaller DSOs do not have the capabilities to properly provide customers with the digital services they need. In addition, it would make it extremely difficult to offer next-generation energy products and services to customers nationwide. We therefore strongly recommend getting rid of all provisions which stand in the way of the development of smaller DSOs.