

Contribution to the
Swedish Ministry of Infrastructure
on the transposition of the Clean energy package
regarding

Demand response participation through aggregation

from
DR4EU
a pan-European aggregators' coalition

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Executive summary

This contribution focuses on the following:

1. **Consumers should be allowed to participate independently from any supply contract** (as per art.13 of the EMD - *Directive 2019/944 on Electricity markets*). Hence ‘model 1’ (also called *split supply*) should not be imposed, because it would force DR aggregation contract to be linked with a supply contract.
2. DR aggregator’s balance responsibility should be defined as per the European legislation: his **imbalance is (limited to) the difference between volumes delivered and sold** – similar to that of a generator, no less, no more (as per the CEP – *Clean energy package including EMD and Regulation 2019/943*, particularly its art.5 clarified by recital 15)..
3. There may be a ‘compensation’ paid to third parties (namely suppliers or BRPs of participating consumers), but this is not related to the aggregator’s imbalance.
 1. On the one side, regarding those who may **receive this compensation**, it should not exceed their (proven) costs incurred during DR activation, hence it should be at most: $\leq \text{volumes of DR} * \text{spot price}$.
 2. On the other side, regarding those who would be required to **pay this compensation**, it shall not create a barrier to DR participation in all electricity markets. Therefore the burden cannot fall only onto DR (otherwise DR would be barred from participating in electricity wholesale markets). Hence ‘model 2’ would infringe the European legislation.

A solution to have a compensation but not create a barrier to DR is provided by following the net benefit principle (as stated in art.17-4 of the EMD): as was suggested by BEUC during the negotiation of the CEP, should there be a compensation paid to some suppliers, its costs should be borne by those who benefit from DR, i.e. all suppliers – and by DR only when and to the extent that benefits would not exceed costs.

(1) DR should remain independent from supply, not forcing aggregator to become supplier as per ‘model 1’

- The EMD sets clearly that DR aggregation should be independent from supply
 - Not only art. 17-3 (a): *‘no consent from other market participants’*
 - Also art. 13: *‘independently from their supply contract’*
- The DR aggregation contract should not be linked with any supply contract – this excludes ‘model 1’

(2) Balance responsibility of DR aggregator is defined in the CEP: proposed legislation does not comply

- The EMD provides for a **clear definition of this balance responsibility** under art.17-3-d, referring to art.5 in the ER, further clarified by its recital 15.
 - Recital 15 clarifies what are ‘the imbalances created in the system’: not vague at all, very precisely limited to the difference between ‘allocated volumes’ and sales (‘final position in the market’)
For an aggregator, as for any market party, balance responsibility is to match sales with ‘allocated volume’.
 - For a generator, allocated volume is the number of MWh of generated as assessed with a meter.
 - For an aggregator, allocated volume is, as per recital 15, the number of MWh of consumption that is curtailed. It is assessed as the difference between a baseline and the remaining actual consumption.
 - The responsibility for the remaining actual consumption should remain with the supplier (and his BRP).
 - **The aggregator should be financially responsible for (and only for) any difference between his allocated volumes, as actually delivered, and his sales;** the aggregator should **not** be responsible for anything else; exactly as a generator is, no discrimination.
- The CEP is thus very clear on the balance responsibility of aggregators, and leaves little room for Member State if any. The reason is straightforward: this is critical to ensure that DR contributes to the grid balance, as an alternative to generation, on a level-playing field.
- **The proposed legislation, as per the EI Report, does not comply with the CEP, because it would impose DR aggregators to be responsible for other parties’ imbalances, not their own**

(3) The ‘compensation’ issue:

How to comply with the EMD

- Should Sweden wish a ‘compensation’ be paid to suppliers, the conditions set forth by the EMD should be carefully met.
 - In particular, it is not possible to charge the compensation cost to DR only, because this would create a barrier to DR, as forbidden by art.17-4 of the EMD.
 - Indeed, having DR participate in the wholesale market, e.g. be sold at spot price, but have to pay a compensation at spot price or so, would mean a radical barrier to DR
 - To ensure this works, the key innovation embedded in the EMD is to separate two different issues:
 1. Whether a compensation should be paid to suppliers or their BRPs?
 - This is a possibility left to MS, provided the compensation is limited to those parties *directly* affected and to their *direct* costs during DR activation.
 2. Who should pay the compensation?
 - MS may require any ‘electricity undertaking’ to pay, not only nor even specifically DR aggregators.
 - On the contrary, the EMD imposes that any compensation scheme “shall not create a barrier to market entry” of DR.
 - To share the burden, and ensure it does not create unlawful barriers, the EMD sets forth a simple principle: the net benefit rule.
- The only solution left by the EMD for Member States who wish to set a ‘compensation’ to their suppliers is to share the burden of this compensation among market parties, and basically not to charge DR, or not mainly, as described in art.17-4 establishing the net benefit rule.

The economics behind the net benefit rule:

how to ensure that DR always benefits all consumers

- As soon as DR is allowed to bid in the wholesale market, DR will be selected, and sold, only when cheaper than alternative bids, so that:
 - Less generation will be sold: DR bids will be chosen instead
 - Market will settle at lower prices.
- For suppliers, economic consequences are two-fold:
 - Benefits: they will save money from buying cheaper in the market, and this will ultimately benefit consumers.
 - Costs: they will buy DR volumes they cannot bill to consumers (as opposed to MWh-s from generation, which are consumed)
- At this stage, the analysis is simple: as long as benefits are greater than costs, there is no reason DR should pay any compensation to suppliers overall, because this would mean overcompensating them.

Because numbers show that benefits are indeed due to be many times greater than cost (cf various market studies worldwide already, and a recent paneuropean one presented by CompassLexecon, to be found here: <https://dr4eu.org/ecer-dr4eu-may-6-2021/>), **DR should not contribute to any compensation to suppliers – only if ever benefits would in fact not exceed costs.**

However, a compensation may be defined *among* suppliers, in order to share benefits and costs evenly *among* all suppliers, and ultimately *among* customers, i.e. all consumers.
- Benefits are spontaneously shared via the market, because all suppliers will buy cheaper thanks to DR.
- Costs may not be evenly spread, and this depends on the market model used for balance sheets.
- Indeed, when DR volumes will be sold in the market and bought by suppliers, these volumes will be accounted for as inputs in their balance sheets, just as any MWh purchased. This will end up creating an ‘accounting imbalance’ for those suppliers with consumers reducing their load, i.e. a positive imbalance (note: it is an accounting imbalance, not a physical imbalance of the grid).
- Should Sweden use an ‘uncorrected model’, this positive imbalance will owe them a payment from the TSO, so that BRPs/suppliers are fine without any specific ‘compensation’ for DR.
- Should Sweden use a ‘corrected model’, the positive imbalance will be cancelled by the correction, but the BRPs should receive from the TSO a compensation for this correction he would impose them (and no payment by consumers for energy neither used nor generated).
- Ultimately, the TSO will end up charging his costs either (in the uncorrected model) to BRPs, or (in the corrected model) to market parties. And in the end, these will in turn finally transfer these costs to consumers.
- **To sum up: DR will benefit suppliers, but in some cases there will be a cost for the TSO. And ultimately both will be transferred to the consumers. Hence DR will ensure a net benefit to all consumers provided benefits are greater than cost. In the event costs would exceed benefits, the EMD allows to charge the difference to DR. Hence the EMD ensures that DR will always benefit all consumers.**

Context

- This response focuses on key provisions of the proposed approach to DR, and builds upon the takeaways of the European workshops organised by DR4EU and EER with the participation of the European Commission (DGENER) and other key stakeholders (BEUC, ACER,...).
- More on the European framework for DR aggregation can be found here:

<https://dr4eu.org/workshops-2021/>

- DR4EU is a pan-European coalition of companies operating demand response in more than 20 countries in Europe and beyond.



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Appendix

Key provisions on DR from the CEP

*Article 17***Demand response through aggregation**

1. Member States shall allow and foster participation of demand response through aggregation. Member States shall allow final customers, including those offering demand response through aggregation, to participate alongside producers in a non-discriminatory manner in all electricity markets.
2. Member States shall ensure that transmission system operators and distribution system operators, when procuring ancillary services, treat market participants engaged in the aggregation of demand response in a non-discriminatory manner alongside producers on the basis of their technical capabilities.
3. Member States shall ensure that their relevant regulatory framework contains at least the following elements:
 - (a) the right for each market participant engaged in aggregation, including independent aggregators, to enter electricity markets without the consent of other market participants;
 - (b) non-discriminatory and transparent rules that clearly assign roles and responsibilities to all electricity undertakings and customers;
 - (c) non-discriminatory and transparent rules and procedures for the exchange of data between market participants engaged in aggregation and other electricity undertakings that ensure easy access to data on equal and non-discriminatory terms while fully protecting commercially sensitive information and customers' personal data;
 - (d) an obligation on market participants engaged in aggregation to be financially responsible for the imbalances that they cause in the electricity system; to that extent they shall be balance responsible parties or shall delegate their balancing responsibility in accordance with Article 5 of Regulation (EU) 2019/943;
 - (e) provision for final customers who have a contract with independent aggregators not to be subject to undue payments, penalties or other undue contractual restrictions by their suppliers;
 - (f) a conflict resolution mechanism between market participants engaged in aggregation and other market participants, including responsibility for imbalances.

4. Member States may require electricity undertakings or participating final customers to pay financial compensation to other market participants or to the market participants' balance responsible parties, if those market participants or balance responsible parties are directly affected by demand response activation. Such financial compensation shall not create a barrier to market entry for market participants engaged in aggregation or a barrier to flexibility. In such cases, the financial compensation shall be strictly limited to covering the resulting costs incurred by the suppliers of participating customers or the suppliers' balance responsible parties during the activation of demand response. The method for calculating compensation may take account of the benefits brought about by the independent aggregators to other market participants and, where it does so, the aggregators or participating customers may be required to contribute to such compensation but only where and to the extent that the benefits to all suppliers, customers and their balance responsible parties do not exceed the direct costs incurred. The calculation method shall be subject to approval by the regulatory authority or by another competent national authority.

5. Member States shall ensure that regulatory authorities or, where their national legal system so requires, transmission system operators and distribution system operators, acting in close cooperation with market participants and final customers, establish the technical requirements for participation of demand response in all electricity markets on the basis of the technical characteristics of those markets and the capabilities of demand response. Such requirements shall cover participation involving aggregated loads.

Recital 39 in the Directive

- (39) All customer groups (industrial, commercial and households) should have access to the electricity markets to trade their flexibility and self-generated electricity. Customers should be allowed to make full use of the advantages of aggregation of production and supply over larger regions and benefit from cross-border competition. Market participants engaged in aggregation are likely to play an important role as intermediaries between customer groups and the market. Member States should be free to choose the appropriate implementation model and approach to governance for independent aggregation while respecting the general principles set out in this Directive. Such a model or approach could include choosing market-based or regulatory principles which provide solutions to comply with this Directive, such as models where imbalances are settled or where perimeter corrections are introduced. The chosen model should contain transparent and fair rules to allow independent aggregators to fulfil their roles as intermediaries and to ensure that the final customer adequately benefits from their activities. Products should be defined on all electricity markets, including ancillary services and capacity markets, so as to encourage the participation of demand response.

Recital 15 in the Regulation

- (15) Title V of Regulation (EU) 2017/2195 established that the general objective of imbalance settlement is to ensure that balance responsible parties keep their own balance or help restore the system balance in an efficient way and to provide incentives to market participants for keeping or helping to restore the system balance. To make balancing markets and the overall energy system fit for the integration of the increasing share of variable renewable energy, imbalance prices should reflect the real-time value of energy. All market participants should be financially responsible for the imbalances they cause in the system, representing the difference between the allocated volume and the final position in the market. For demand response aggregators, the allocated volume consists of the volume of energy physically activated by the participating customers' load, based on a defined measurement and baseline methodology.

Article 13 in the Directive: Aggregation contract

1. Member States shall ensure that all customers are free to purchase and sell electricity services, including aggregation, other than supply, independently from their electricity supply contract and from an electricity undertaking of their choice.