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## DEVELOPING DEMAND SIDE FLEXIBILITY PROPOSITIONS FOR THE “CLEAN ENERGY FOR ALL EUROPEANS” PACKAGE

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Developing demand side flexibility across Europe will not only deliver benefits for individual consumers but could also dramatically reduce total energy costs and build Europe’s smart energy leadership. In this briefing, E3G highlights elements of the Commission’s proposals enabling demand side flexibility, and additional propositions to make sure that this important resource is indeed deployed.

Key steps needed to ensure the potential of demand-side flexibility is met include:

- > Maintain the Commission’s necessary proposals encouraging demand side response in the Electricity Directive and the Electricity Regulation, notably those conferring basic rights for consumers to participate in energy markets and preventing discrimination between market participants and resources.
- > Ensure cost minimisation and fair remuneration for consumers by fully remunerating their valuable contribution to system flexibility and to the reduction in network costs.
- > Track whether the development of demand side flexibility is sufficient and task TSOs and national regulators to assess what level of flexibility they would need to minimise the curtailment of renewables and meet climate and energy objectives.
- > In case of insufficient development, consider temporary market creating measures to kick-start demand response markets.

①

**Approve proposals**



②

**Ensure fair remuneration**



③

**Monitor progress  
Plan for success**



④

**Review in case  
of under delivery**





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*Demand side flexibility would lead to savings of €5.6bn/yr, but only 20% of today's potential has been exploited.*

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## Why developing demand side flexibility matters

Demand side flexibility – the ability of consumers to adapt their electricity consumption in response to market signals – is both an extremely valuable resource to the European electricity system, and a remarkably untapped one.

Demand side flexibility improves system resilience and allows for the integration of growing volumes of variable renewables. It is both a reliable and cost competitive alternative to generation capacity<sup>1</sup>, and lowers the amount of investment needed in generation capacity, transmission and distribution grids. It benefits consumers: those participating actively and thus minimising their energy bills or being remunerated for the flexibility they provide; and the others, exposed to lower network costs and more competitive markets.

The European Commission estimates that its proposals would lead to savings of €5.6bn/yr from reduced back up capacity, network and fuel costs. However, it also estimates that only 20% of today's potential has been exploited, due to the fact that demand side flexibility is either not allowed or made difficult by outdated rules in most of the Member States.

## Important proposals that encourage demand side flexibility

The Commission's proposals include a series of important and necessary provisions to develop demand side flexibility in the EU. These measures should be retained in the final legislative package, notably those:

- > Conferring **basic rights and means for consumers** to participate in energy markets by establishing their right to generate, store, consumer and sell electricity in all organised markets, as well as the right to request a smart meter and a dynamic electricity price contract (see Electricity Directive Article 11, 15, 16, 21 also supported in the Renewable Energy Directive Article 21, 22).
- > Promoting **fair competition** and **preventing discrimination** between types of resources and market participants in all organised markets i.e. day-ahead, intraday, ancillary, etc. (see Electricity Regulation Article 5, 6, 7 and Electricity Directive Article 17, 32).
- > Ensuring that **price signals reflect the true costs of balancing supply and demand** (see notably Electricity Regulation Article 5, 7, 9). Accurate and predictable mechanisms for creating short term prices are important for supporting the development of demand side flexibility.
- > Establishing the **right of consumers to sell flexibility independently of any contractual arrangements to procure energy**. This is extremely important since there is a risk that incumbent utilities will seek to suppress demand side flexibility and aggregation where it poses a threat to their market share or to earnings from the generation assets of affiliated or closely related entities (Electricity Directive Article 17).

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<sup>1</sup> Evidence shows that demand side resources have reduced peak demand as much as 10-12% in Northeastern and Midwestern regions with far superior performance than that provided by generation, while reducing the clearing price tenfold in unconstrained zones of the PJM capacity market.

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## Supplier compensation – a fee on demand response that must be avoided

We argue that suppliers are fully able to manage any costs or risks that may arise from their consumers providing demand response whilst “compensation” payments risk stifling the development of demand side flexibility. Aggregators should not be penalised by “compensation” payments to suppliers.

### What is the argument about?

Suppliers generally buy energy ahead of time, based on an estimation of how much energy their consumers will need. When the consumers they are supplying decide to provide flexibility to the system and ultimately reduce their demand, suppliers are potentially faced with a perceived loss of earnings from lower-than-expected demand from their consumers, and an ‘imbalance settlement cost’ (a penalty of sorts for having misjudged their consumers’ demand and therefore potentially disturbing the system’s supply/demand balance).

The latter, the risk of suppliers having to pay an imbalance penalty, was addressed and removed thanks to a set of rules called the **Network Code for Electricity Balancing**, approved by Member States in March 2017 as a result of lengthy discussions involving suppliers, TSOs, the Commission, ACER and various stakeholders. As an extra safeguard, Article 17.4 of the Electricity Directive was specifically drafted to allow financial compensation for cases when aggregators fail to deliver the promised level of demand response and could create an additional imbalance settlement cost for the supplier.

Regarding the perceived loss of earnings: suppliers argue that their consumers lowering their demand to provide demand response implies that they effectively sell back the volume not consumed to the system for free. As a result they demand compensation for this perceived loss of revenue from ‘aggregators’, businesses living off selling flexibility on behalf of consumers.

### What would be the implications for market actors and demand side flexibility?

-The occurrence of such situations cannot be considered to be adding a material cost to the supplier. While levels of demand response are low, the impact on suppliers will be very small and probably well within typical demand forecast errors.

Over time, one would expect suppliers – who are sophisticated enough to model detailed electricity demand forecasts on the basis of consumers’ behaviour, TV programmes or weather forecasts – to become better at pre-empting the reduction in energy sales, and adjust their energy procurement strategies accordingly. Any supplier unable or unwilling to develop this capability would also be free to compensate for any cost through their energy tariffs. In reality, it is likely that suppliers will find it in their best interest to develop their own competitive demand response offering to consumers, thereby continuing to help grow this market. As a result, as the market for demand response begins to flourish, “compensating” suppliers may even become a temptation for them to systematically over-procure energy.

Having to pay suppliers, on the other hand, would have very significant impacts on aggregators, whose business model solely relies on monetising the benefits of demand reductions. It also risks reducing, or eliminating, the reward consumers are due for selling their flexibility and ultimately restrain consumers’ appetite for offering their flexibility.

### Conclusion

“Compensation payments” for suppliers are not required since they will be able to manage effectively any new costs or risks that may arise. Establishing the right for consumers to sell flexibility independently of their contract with suppliers therefore represents a fair and pragmatic approach that will help stimulate the growth of the market for demand response.



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*The proposals should include a basis for assessing whether progress is sufficient and triggering additional action if it isn't.*

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## What is missing: network tariffs that reflect benefits

The idea that consumers providing flexibility should be rewarded to the full value of their contribution is an important principle to be added to the Electricity Directive.

The value of demand flexibility lies in its ability to maintain the balance of electricity demand and supply at low cost, notably through avoiding investment in network and generation assets.

**Whilst the proposals rightly require that demand flexibility should have unfettered access to all organised markets, and that network operators should use these services to offset system investment costs, there is no requirement for energy markets and network tariffs to be designed in a way that consumers providing demand flexibility have access to the full value of these services.**

In particular, whereas consumers providing demand side flexibility will directly benefit from savings on their energy bills, or receive direct remuneration for their flexibility, they will not necessarily benefit from the network costs they've contributed to reducing. **Network tariffs, for distribution and transmission, should be designed to reflect the costs of operating the system and reflect the value of demand flexibility.**

There may be instances in which the requirement to balance the system locally cannot be reflected in wholesale power prices or network tariffs and Distribution System Operators (DSOs) may wish to contract with providers of demand flexibility to cope with such situations. These arrangements should be designed to further increase the value available to providers of demand flexibility. This is an important area for on-going market development with the value of demand flexibility expected to become increasingly local as consumption and distributed production patterns evolve.

## What is missing: assessment of progress & flexibility needs

Although the measures set out in the proposals represent an important step forward, they might not be enough to trigger the growth in demand response that the system requires. **It is therefore necessary that the legislative package includes a basis for assessing whether progress is sufficient and an option to trigger additional market creation mechanisms to support demand response if its development is insufficient.**

Under the current proposals Transmission System Operators (TSOs) are required to minimise the curtailment of renewable energy resources (Art 12, Electricity Regulation) and to draft Ten Year Network Development Plans (TYNDP) (Art 51, Electricity Directive). They are not, however, explicitly required to do so by planning an electricity system that it is sufficiently flexible to integrate rising levels of variable renewables and meet European decarbonisation objectives. Avoiding curtailment of renewable generation, using demand side flexibility, and building regional markets, are key tools at TSOs' disposal to minimise the costs of decarbonisation.

As part of the drafting of their TYNDPs, **TSOs should be required to analyse future flexibility requirements to deliver European climate and energy objectives and to provide an assessment of the future growth of flexibility resources** including in particular emerging sources such as demand side response and storage. **National Regulatory Authorities (NRAs) would then use the information contained in the TYNDPs to assess whether it is necessary to**



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*Member States should evaluate the need for more active market creation measures.*

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**implement proactive measures to develop additional system flexibility**, and in particular demand response.

At EU level, **ENTSO-E and ACER should ensure the consistency of the national assessments, identify any cross-border implications created from potential deficiencies in system flexibility and provide advice on best practices to develop additional flexibility resources.** These measures would provide an effective early warning system that the development of system flexibility is insufficient and can therefore be used as the basis for triggering measures that more proactively develop additional system flexibility.

## What is missing: market creation measures

The thrust of the Commission proposals seeks to ensure that demand side flexibility is given a chance to develop and grow through removing barriers to entry and allowing it to compete on a level playing field with other resources. Nevertheless, the immaturity of this market and the threat that it poses to the assets of incumbent utilities could require that more active measures are needed to drive growth in this market. This is reflected in the conclusions of DG Competition's sector inquiry into capacity markets which found that it was acceptable to promote development of demand resources through the establishment of dedicated demand response-only schemes.

**Member States should evaluate the need for more active market creation measures.** For instance, NRAs, TSOs and DSOs could be required to achieve overall levels of system flexibility and actively encourage demand flexibility, possibly through dedicated procurement processes.

Another approach could be to expand the requirement to offer dynamic electricity price contracts to consumers to include an obligation on suppliers to sell a minimum number of such contracts, thus increasing flexible consumption. It may also be appropriate to make such contracts mandatory for consumers using electrically intensive appliances such as home electric vehicle charging points.

## About E3G

E3G is an independent, non-profit European organisation operating in the public interest to accelerate the global transition to sustainable development. E3G builds cross-sectoral coalitions to achieve carefully defined outcomes, chosen for their capacity to leverage change. E3G works closely with like-minded partners in government, politics, business, civil society, science, the media, public interest foundations and elsewhere.

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