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Position Paper

ACER Public consultation on the impact of developing peak-shaving products on the Union electricity market under normal market circumstances

The German Association of Energy and Water Industries (BDEW), Berlin, represents over 1,900 companies. The range of members stretches from local and communal through regional and up to national and international businesses. It represents around 90 percent of the electricity production, over 60 percent of local and district heating supply, 90 percent of natural gas, over 90 percent of energy grid as well as 80 percent of drinking water extraction as well as around a third of wastewater disposal in Germany.

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Consultation questions

1. Policy Objectives

1.1 Impact on wholesale prices

1.1.1.

The first policy objective of a peak-shaving product is to lower wholesale electricity prices. The decrease of the wholesale electricity price would reduce potential “excessive” windfall profits of producers and reduce costs for consumers.

This concept is illustrated in Figure 1. The idea behind a peak-shaving product is to activate demand response based on another price signal than the day-ahead price, thereby reducing the volume of demand participating in the market as buy orders (shift from the right demand curve to the left demand curve*). This reduction in market-participating demand would, in turn, lead to a decrease in wholesale electricity prices compared to a scenario without a peak-shaving product.

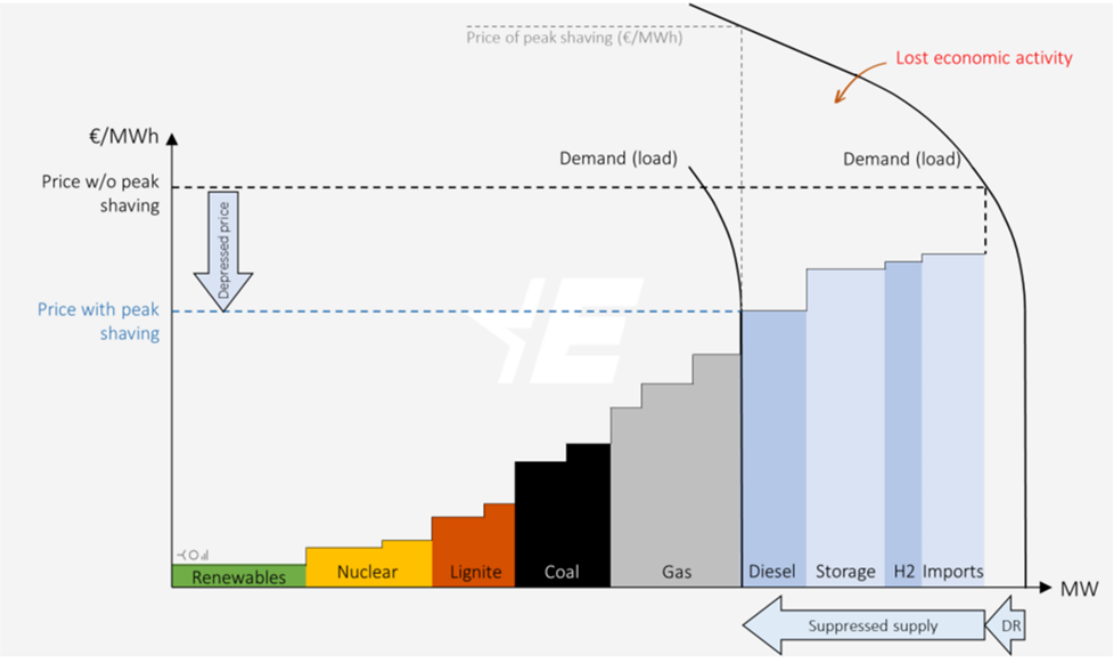

Figure 1: Illustration of the functioning of a peak-shaving product. (Source: Euractiv (2023))

Do you agree that the introduction of a peak-shaving product would lead to a reduction of the wholesale electricity prices?
☐ Fully agree
☐ Partially agree
☒ Partially disagree
☐ Fully disagree
☐ No opinion

Feel free to justify your answer above.
A peak-shaving product distorts free price formation, contradicting EU market principles. It may incentivize artificial price peaks rather than reducing them, creating more distortions. Even if it lowers wholesale prices, its direct and administrative costs would ultimately be passed to consumers, jeopardizing the remuneration of other assets. The interaction between peak shaving and day-ahead markets does not guarantee price reductions and may even lead to price increases. Alternative solutions, such as capacity remuneration mechanisms, forward, and balancing markets, offer more effective ways to ensure market stability and flexibility. During energy crises, peak shaving may stabilize prices. However, under normal conditions, it represents a costly and inefficient intervention. Widespread application is challenging, especially for large industrial consumers. If activated before DA, it could reduce demand and lower prices but could affect ID if activated later with minimal impact.

1.1.2

In an integrated electricity market, the price in a bidding zone depends on supply and demand across all Member States, as well as the available cross-zonal capacities. For a small, well-connected Member State, the price may be largely influenced by demand in larger neighbouring Member States. As a result, due to the different size of the System Operator (SO) and national systems, the ability of individual SOs to influence their national price might be different (due to national demand, level of cross-zonal capacities and national characteristics) compared to neighbouring Member States.

Do you agree that the SO of a small Member State may have a limited impact on market prices when using a peak-shaving product?
☐ Fully agree
☒ Partially agree
☐ Partially disagree
☐ Fully disagree
☐ No opinion

Feel free to justify your answer above.
The impact of peak shaving depends on several factors, including the definition of "small" Member States and their reliance on electricity imports. In fully import-dependent countries, peak shaving may have a more pronounced effect, while in others, it risks artificially suppressing market prices. Beyond national borders, peak-shaving products disrupt day-ahead market prices and market coupling, effectively acting as indirect price caps. This distorts price signals for other flexible assets, such as pumped storage, and creates inconsistencies across Member States. Since frameworks for implementation may vary, these distortions can spill over into neighbouring markets that do not apply such mechanisms. Additionally, the significance of peak shaving is not solely dependent on a Member State's size. Factors such as the presence of large industrial consumers (e.g., Belgium) or high electricity generation capacity relative to demand play a crucial role, particularly when considering cross-zonal capacities.

1.1.3

ACER understands that while the introduction of a peak-shaving product could reduce wholesale electricity prices, it may not guarantee lower costs for consumers. This is because a peak-shaving product also entails additional costs for SOs.

First, there is the cost of procuring the peak-shaving product in order to ensure it is available (i.e. reservation costs). Second, there is the cost of activating it. As illustrated in Figure 1, the price at which demand reduction is compensated through the peak-shaving product is higher than the day-ahead market price. This is because the reduced demand would have otherwise been cleared in the day-ahead market.

What is your view on the potential impact of a peak-shaving product on consumer costs, considering both its potential to lower wholesale electricity prices and the associated costs for SOs?
The introduction of peak-shaving products is likely to increase consumer costs due to additional market interventions that distort price signals, discouraging investment and triggering further interventions. While intended to lower prices, peak shaving can create inefficiencies, increase price volatility, and require costly redispatch measures. Consumers ultimately bear these costs through tariffs, benefiting only a subset of participants while raising concerns about over-compensation by System Operators when spot prices fall below bid prices. On the other hand, consumers could provide the same reaction (load-shifting) in the DA market through the incentive provided by a dynamic tariff. The result would be a reduction of the wholesale prices without extra costs. With a peak-shaving product there is a payment to be made for the same reaction. The real cost effects of this mechanism are therefore somewhat untransparent.

1.1.4

For assets receiving state support, such as renewable energy subsidies, capacity mechanisms, or Contracts for Difference (CfDs), ACER considers it more efficient to address potential "excessive" windfall profits through these support mechanisms rather than by introducing a peak-shaving product to lower wholesale electricity prices.

For example, the use of a two-sided Contract for Difference or the implementation of a reliability option within a capacity mechanism could ensure that producer revenues exceeding a certain threshold are recovered.

Do you agree with ACER's view?
☒ Fully agree
☐ Partially agree
☐ Partially disagree
☐ Fully disagree
☐ No opinion

Feel free to justify your answer above.
Impact of market interventions on windfall profits. Contracts for Difference (CfDs) are debated for their systemic effects but can help prevent windfall profits. Properly designed market interventions, such as CfDs and Capacity Remuneration Mechanisms (CRMs), eliminate the need for clawback mechanisms by ensuring fair pricing. **Distortions in capacity markets.** Peak-shaving products risk distorting capacity markets by altering expectations of missing money, potentially leading to double payments for security of supply. In CRMs designed as reliability options, peak shaving can make price assessments difficult, introducing further inefficiencies. **Regulatory complexity.** Overly complex regulatory frameworks with multiple overlapping mechanisms can hinder market participants' ability to make informed decisions. A simpler, more coherent approach is necessary to ensure effective market functioning.

1.1.5

For assets that are not under state support schemes, ACER understands that limiting the inframarginal rents of producers in normal market circumstances might prevent producers to recover their investment costs.

Do you agree with ACER's understanding?
☒ Fully agree
☐ Partially agree
☐ Partially disagree
☐ Fully disagree
☐ No opinion
Feel free to justify your answer above.
Price spikes are essential for refinancing unsubsidized flexibility in the market. Introducing peak-shaving products under normal conditions could artificially suppress these spikes, preventing operators and investors from covering their fixed and investment costs. This uncertainty undermines investor confidence, potentially delaying necessary new investments for the energy transition and increasing the long-term risk of more severe price spikes.

1.1.6

ACER considers that lowering wholesale electricity prices through subsidised demand response such as peak shaving is not an efficient approach to supporting consumers, as the subsidy provides the same level of support to all consumers, regardless of their actual needs. Instead, ACER recommends targeted measures for vulnerable consumers rather than broad mechanisms that benefit all consumers equally (see 2023 CEER/ACER retail report).

Do you agree with ACER's assessment?
☒ Fully agree
☐ Partially agree
☐ Partially disagree
☐ Fully disagree
☐ No opinion
Feel free to justify your answer above.
The impact of a peak-shaving product varies across consumer groups. While it acts as a subsidy for demand-response systems and certain companies, other consumers may bear the additional costs. Demand reduction should be driven by market signals, with subsidies targeted at vulnerable consumers. Large industrial consumers also face differing circumstances – some industries (e.g., glass, steel, chemicals) may be unable to participate, while others (e.g., paper) can. Therefore, targeted measures are more appropriate. Additionally, vulnerable households would see little immediate benefit from lower wholesale prices, as their electricity costs are often determined through long-term contracts.

1.2 Security of Supply

1.2.1

The second policy objective of a peak-shaving product is to ensure security of supply. The premise is that demand reduction from the activation of the peak-shaving product could help avoid situations where there is a loss of load (when production and imports cannot meet demand).

Capacity mechanisms and strategic reserves are introduced and sized to address adequacy concerns (Article 21.1 and 22.1(c) of Regulation 2019/943). For this reason, ACER is of the opinion that in Member States that already have a capacity mechanism or a strategic reserve in place, there is less need to introduce an additional peak-shaving product for ensuring security of supply, as these mechanisms already ensure the necessary level of security of supply.

Do you agree with ACER's understanding? Do you see any advantages in the design of a peak-shaving product compared to a strategic reserve or a capacity mechanism?
☒ Fully agree
☐ Partially agree
☐ Partially disagree
☐ Fully disagree
☐ No opinion
Feel free to justify your answer above.
Strategic reserves and capacity markets are preferable to peak-shaving products, as they better support security of supply without distorting market pricing. Peak-shaving products delay cost-optimized pricing, misallocate resources, and jeopardize security of supply by undermining the economic viability of firm capacity and disrupting adequacy assessments. In markets with existing capacity mechanisms that include demand response, peak-shaving products offer little added value. Increasing forecasting lead times may improve visibility but can reduce accuracy. Similarly, Germany already employs strategic reserves and demand reduction mechanisms at the regional level, making additional peak-shaving measures redundant. If demand response is needed for adequacy, strategic reserves or capacity markets are more efficient tools. Therefore, any new peak-shaving product should clearly justify its existence alongside established adequacy mechanisms and demonstrate mutual benefits.

1.2.2

For countries without capacity mechanisms or strategic reserves, ACER is concerned that by lowering wholesale electricity prices, the peak-shaving product could weaken investment incentives in new capacities, potentially affecting long-term security of supply.

Do you agree with ACER's concerns?
☒ Fully agree

☐ Partially agree ☐ Partially disagree ☐ Fully disagree ☐ No opinion
Feel free to justify your answer above.
Peak-shaving products can significantly impact investment signals and adequacy. They directly affect the economic viability of assets, particularly storage and other limited-energy resources. This can disrupt optimal dispatching, which is essential for maximizing social welfare, and create unintended side effects, including missing money problems for other assets.

1.3 Demand response development

1.3.1

The third policy objective of a peak-shaving product is to enable the participation of additional demand response that cannot currently participate in existing wholesale electricity markets.

Do you consider that, even after the implementation of the demand response network code, some demand response will still be unable to participate in the market? If so, what barriers prevents their participation?
Demand response (DR) should be driven by market signals, ensuring profitability. Overly complex regulations and administrative hurdles may prevent DR from participating effectively. Peak-shaving products could overlap with existing mechanisms and potentially hinder DR access to markets. Aggregators already enable DR by providing market access, load testing, activation, and data exchange services. The NC DR aims to remove technical barriers to market participation, such as registration and aggregation. However, economic factors like high upfront costs, limited incentives, and uncertainty about revenues also impact participation.

While peak-shaving products could provide additional incentives, they should not discourage DR's participation in existing markets or implicit DR mechanisms. Furthermore, certain industrial sectors face practical limitations, such as labour laws and technical constraints, which can restrict their ability to reduce production on short notice.

1.3.2

ACER understands that the technical requirements for participating in a peak-shaving product would not be lower than those for participating in day-ahead and intraday markets. This is because mechanisms like peak-shaving products, which provide remuneration for capacity (e.g., balancing capacity, capacity mechanisms), typically involve more stringent control processes (such as prequalification) than wholesale market participation.

Do you agree with ACER's understanding?
☒ Fully agree
☐ Partially agree
☐ Partially disagree
☐ Fully disagree
☐ No opinion
Feel free to justify your answer above.
The benefits of peak-shaving products compared to existing demand response options in short-term markets remain unclear. These products would likely withdraw liquidity from balancing markets, reducing the balancing capacity and creating a bias in favour of demand response over other technologies, contradicting the principles of technological neutrality and non-discrimination. A similar mechanism in Portugal has already shown its limitations. Practically, participation in peak-shaving schemes would require pre-qualification, activation, and validation, processes already in place for balancing services. It's uncertain whether such a scheme would mobilize more demand-side response than balancing services, as the technical challenges are similar. Furthermore, procurement by system operators before gate closure would interfere with spot auctions and OTC trading, potentially reducing demand response participation in day-ahead markets.

1.3.3

ACER understands that by providing remuneration for capacity, a peak-shaving product could enhance the business case for demand response developers and, in turn, support the development of additional demand response.

Do you agree with ACER's understanding?
☐ Fully agree
☒ Partially agree
☐ Partially disagree
☐ Fully disagree
☐ No opinion
Do you see any modifications to the characteristics (e.g., time of procurement, time of activation) of the peak-shaving product that would make it more attractive for demand response?
Despite the theoretical incentives of peak-shaving products, their negative impacts are expected to outweigh these benefits, resulting in a net zero or negative outcome for demand response developers. The focus should be on implementing the already advanced regulatory frameworks for demand response participation in electricity markets, rather than complicating their development with further market interventions. Technologically neutral competitive markets provide the best indication for the business case of demand response, making any additional incentives beyond these market signals likely inefficient.

1.3.4

When demand response is activated through the peak-shaving product, its remuneration is higher than if it had been activated through the market. This is because a demand response asset participating in the peak-shaving product receives both a capacity payment and an activation price, which exceeds the wholesale market price (see Figure 1). As a result, there is a risk that the introduction of a peak-shaving product could lead to a shift of demand response away from wholesale markets toward the peak-shaving product.

Do you agree with this?
☒ Fully agree

☐ Partially agree
☐ Partially disagree
☐ Fully disagree
☐ No opinion
Feel free to justify your answer above.
Demand response (DR) would likely optimize between markets and system operators' (SO) products, redirecting towards the most remunerative option. It is unrealistic to expect additional DR without participation in existing markets, as long as market access is available. DR in existing markets could choose between different opportunities, potentially shifting towards SOs' products if their price caps are higher than spot auction prices. Competitive and transparent markets ensure that the most efficient resources can respond to needs without favouring specific resources. If peak-shaving products are ring-fenced for DR rather than based on technical needs or price caps, it could prevent SOs from selecting the most cost-effective solutions, leading to market inefficiencies. For instance, if DR received higher payments through peak-shaving products while reducing market liquidity, all consumers would face higher costs through SOs' charges, with no significant improvement in service.

1.3.5

As a peak-shaving product reduces wholesale electricity prices, this might reduce the business case for the development of demand response projects to participate in wholesale electricity markets.

Do you agree with this?
☒ Fully agree
☐ Partially agree
☐ Partially disagree
☐ Fully disagree
☐ No opinion

Feel free to justify your answer above.
Investments in flexible assets which calculate with significant fluctuations in wholesale electricity prices are no longer economically attractive. This may lead to a reduced number of assets for network stability and participation in wholesale electricity markets. In the end, a peak-shaving product is yet just another product (besides day-ahead, intraday, primary- and secondary control power) with which flexibilities are split but not multiplied. Any flexibility utilised for the peak-shaving product cannot be simultaneously offered as another type of flexibility service under existing electricity market mechanisms.

2. Interaction of peak-shaving products with the electricity markets

2.1

ACER understands that by remunerating demand reduction at a price different from the wholesale electricity price, the introduction of a peak-shaving product could result in an inefficient dispatch and therefore a loss of socio-economic surplus. Specifically, demand response participating in the peak-shaving product may be activated and therefore not consume, even though its valuation is higher than the day-ahead price (see Figure 1). As a result, the economic surplus would have been increased if this demand had been allowed to consume instead.

Do you agree with this?
☒ Fully agree
☐ Partially agree
☐ Partially disagree
☐ Fully disagree
☐ No opinion
Feel free to justify your answer above.
It will indeed create an economically inefficient dispatch if the valuation is higher than the day-ahead price, as the consumer would have preferred to actually buy the electricity on the day-ahead market. On the other hand, if the valuation were lower than the day-ahead price, it would not clear in the day-ahead

market at all. The latter case represents an identical market outcome compared to the peak-shaving product, but without the capacity remuneration. Therefore, the peak-shaving product represents an inefficient instrument irrespective of whether the activation price is higher or lower than the day-ahead price.

2.2

In an integrated market, ACER understands that by reducing national demand, a System Operator would also lower electricity prices in other Member States. This price reduction could, in turn, impact the incentives for demand response development in those markets or affect their security of supply.

Do you agree with ACER's understanding regarding the cross-border impact of activating a peak-shaving product?
☒ Fully agree
☐ Partially agree
☐ Partially disagree
☐ Fully disagree
☐ No opinion
Feel free to justify your answer above.
As BDEW we fully agree with ACER's understanding, although we would like to point out that any conclusions derived from this theoretical exercise may – unintentionally – result in mechanisms that hinder the further integration of the European Energy Union. While TSOs recognize the need for mechanisms that ensure energy security, a mechanism designed to limit wholesale prices seems misplaced. It undermines flexibility development by eroding price signals and shifting the burden to other mechanisms, reducing overall cost-efficiency in the energy transition. Adding peak-shaving products could cause these mechanisms to cannibalise each other, further eroding the reliability of long-term price calculations.

2.3

Do you have any other comments on the interaction between a peak shaving product and existing mechanisms and markets (capacity mechanism, balancing products, wholesale markets)?
Peak-shaving products, especially when implemented by some system operators (SOs), could create a patchwork of national initiatives that disrupt the day-ahead and intraday market coupling, negatively impacting price formation and further challenging liquidity in the forward markets. This could worsen existing issues in the forward market, where liquidity is a concern in some regions. The uncertainty introduced by such measures could reduce investor confidence and undermine hedging incentives, particularly for industrial consumers involved in peak-shaving, thus destabilizing long-term market stability and investment. While TSOs recognize the need for mechanisms that ensure energy security, a mechanism designed to limit wholesale prices seems misplaced. It undermines flexibility development by eroding price signals and shifting the burden to other mechanisms, reducing overall cost-efficiency in the energy transition. Adding peak-shaving products could cause these mechanisms to cannibalise each other.

3. Other

You are kindly invited to share your general view on the topic of peak-shaving products. Feel free to provide any other benefit or disadvantage of the introduction of peak-shaving products under normal market circumstances, as well as any other comments.
As tackled in our responses above, peak-shaving products have the potential of creating huge distortions. Moreover, peak-shaving products conflict with the Electricity Regulation, which mandates no price limits except for technical ones, potentially introducing artificial bidding obligations with pre-defined prices, disrupting market functioning. In the forward market, peak-shaving products would impact consumer hedging during peak periods and misalign peak/off-peak tariffs as defined in the Electricity Directive. These products could distort tariff valuation, creating inefficiencies, especially during peak times.

Does your response contain confidential information?
☐ yes
☒ no (wird vom BDEW mit “no” beantwortet)

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