

# Updating minimum capacities for the energy transition

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## Vattenfall's views on the EU electricity markets' 70%-rule

The revision of the EU Electricity Regulation (Regulation (EU) 2019/943) introduced the requirement for Transmissions System Operators (TSOs) to provide 70% of trading capacity of interconnectors and cables that influence the available capacity on these interconnectors for cross-border exchange. The aim of this rule is to increase the available capacities for cross-border trade.

The intervention at 70% comes with a significant impact on the management of the electricity grid for both TSOs and market participants. Congestions that previously occurred at the border, and thus obstructing cross-border trade, are now pushed to the internal grids. This is a built-in design and conscious choice of lawmakers when enacting the policy. However, this choice comes with unintended side effects:

- Redispatch measures increase
- Smaller bidding zones are penalized
- Transparency during the capacity calculation is reduced
- The measure is not suited for offshore hybrid assets

Vattenfall argues that the tailoring of the value of the minimum capacities per asset going forward is a better alternative. While some minimum capacities might be needed, lawmakers should have the chance to review on a case-by-case basis and need not necessarily always have to evaluate against the 70%. The special function of offshore hybrid assets with the direct current infrastructure should be acknowledged. Care should be taken to ensure that the purpose of the measure is achieved: that additional capacities become available throughout and that the process can be tracked in the daily capacity calculation.

These considerations should be taken into account in the review of the Regulation on Capacity Allocation and Congestion Management (CACM) and any future review of the EU Electricity Regulation. Likewise, the Renewable Energy Directive provides an opportunity to address offshore hybrid regulation.

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Vattenfall is a European energy company with approximately 20,000 employees. For more than 100 years we have electrified industries, supplied energy to people's homes and modernized our way of living through innovation and cooperation. Our goal is to make fossil-free living possible within one generation. Everything we do and the decisions we take shall lead to this goal. This is the basis of Vattenfall's strategy, and we advocate for a regulatory environment that makes this transition possible – in the energy sector and beyond in transport, industry etc.



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## Background

Minimum capacities have been introduced with the aim of freeing up cross-border capacities. However, the freeing up of cross-border capacities goes at the expense of the functioning of the market. Vattenfall therefore argues for a more tailored approach for enabling the cross-border electricity trade.

The Clean Energy Package (CEP) was the EU's legislative engine to, amongst others, empower the electricity market set-up to be fit for the transition to renewable generation. Part of this engine was a revision of the EU Electricity Regulation (Regulation (EU) 2019/943). For the electricity market one of the profound changes was the requirement to provide 70% of trading capacity of interconnectors and cables that influence the available capacity on these interconnectors for cross-border exchange, so called cross-border relevant cables.

### Cross border relevance

The 70% rule does not only apply to interconnectors but also to so called cross-border relevant cables. This is because if the capacity on the interconnector is constrained by the adjacent connections, the interconnector capacity also cannot be fully used. Typically, assets are considered cross-border relevant if they influence the interconnection capacity with more than 5%.

This minimum requirement reflects the vision that cross-border capacity must be available for trading at all times and be maximized. The philosophy is that it allows renewable sources such as solar power to be transported from the south to the north and vice versa. In turn, the intervention was meant to unlock the status quo and ensure that these benefits of local production can be reaped at EU level, and that consequently the notions of a single EU electricity market can be strengthened.

Yet, this intervention comes with a significant impact on the management of the electricity grid. Congestions that previously occurred at the border, and thus obstructing cross-border trade, are now pushed away from the border. This is a built-in design and conscious choice. However, this choice comes with four main side-effects:

#### #1 Redispatch measures increase

To physically deliver the capacity at the border, additional redispatch (a post-market intervention to overwrite the established capacity allocation) is applied. This redispatch intervention means that the internal congestions are solved by shutting off generation in heavily congested areas and then feeding the power back into the grid for a market-based fee in less congested areas. For large bidding zones, this means that these post-market interventions are in areas that are usually less integrated in the meshed grid: wind-parks. This was already common practice before the introduction of the minimum capacities, and is now further exacerbated. The impact for smaller bidding zone on the other hand is different. Here, the relative proximity of the cross-border elements to the internal grid actually calls for more redispatch measures to ensure that cross-border capacities can in fact be used at the set 70%. The solution would be to further accelerate the transmission grid build out.

## #2 Smaller bidding zones are penalized

Further to the redispatch measures outlined above, small bidding zones feel a large effect of the minimum capacities, as the borders are geographically closer and hence most of the grid is impacted by the minimum capacities. This is not an academic example, but the practice in the Nordic markets, with 12 member areas. The constraints imposed mean that transit and loop flows still block a lot of what was once available transport capacity: the minimum capacity is ineffective in achieving its aim. The congestion is pushed to the internal grid but so severe that the consequences are still felt at the border; the internal congestions are of such height that the transport to the border is now blocked. This contrasts with having the minimum capacities in a large bidding zone such as the German one, where the large copper plate allows for balancing portfolios within the timeframe. A mismatch in generation cannot be offset by another asset in small bidding zones. This in turn pushes the imbalances into the intraday market, creating a lake of imbalances and volatile prices.

## #3 Transparency during the capacity calculation is reduced

Thirdly, the implementation of these minimum capacities is difficult for market participants to follow. In the current set-up, TSOs and Acer report separately on their compliance with the 70%, derogation, and/or action plan. Insightful as this is, the ex-post nature of the reporting does not aid market participants in understanding the day-to-day decisions leading to deviations from the 70% minimum capacity, for instance when TSOs reduce the capacity because of concerns for the security of the grid. This complicates the understanding of the result of the capacity calculation and thus obstructs the transparency and predictability of this calculation. This risk of arbitrary changes in the calculation is problematic for the market integration process.

## #4 The measure is not suited for offshore hybrid assets

Offshore hybrid assets are an electricity infrastructure asset with dual functionality combining transmission of offshore wind energy to shore and interconnector function. By applying the 70%-rule to them, the dual-purpose is neglected and they're reduced to the cross-border trade function. Applying the 70%-rule, would lead to curtailment of offshore generation, while in our opinion offshore hybrid assets should be primarily accommodating transport of generation from the connected offshore generators to shore. The 70%-rule should only be applied to the residual capacity, that is capacity not forecasted to be used by offshore generation. For this to be addressed we do not need to wait for a re-opening of market legislation, but can already tackle the regulatory mismatch in the currently negotiated Renewable Energy Directive.

**As a way forward, Vattenfall argues for the tailoring of the value of the minimum capacities per asset going forward.** While some minimum capacities might be needed, they should be reviewed on a case-by-case basis and need not necessarily always be 70%. In some cases, they can occasionally be higher (e.g. when taking the LTA into account) and in others they can be lower (i.e. to ensure efficient redispatch processes). The special function of offshore hybrid assets should be acknowledged. Care should be taken to ensure that the purpose of the measure is achieved: that additional capacities become available throughout and that the process can be tracked in the daily capacity calculation.

Beyond the immediate fine tuning of the minimum capacities, a more tailored model could be found in the introduction of a two auction-market. The first part could be a daily DA-auction: similarly to today's DA-auction, but with the major difference that only a limited amount of the transmission capacity (e.g. 50%) is allocated to this auction and that participation in this auction is completely voluntary, and as second part as an hourly balancing auction: executed 0-60 min before the start of the delivery hour, where the remaining part of the transmission capacity (e.g. the remaining 50%) is used, with obligation to bid the remaining production, consumption, auxiliary services.

**These considerations need to be taken into account going forward in the review of the Regulation on Capacity Allocation and Congestion Management (CACM) and any future review of the EU Electricity Regulation. Likewise, the Renewable Energy Directive provides an opportunity to address offshore hybrid regulation.**