In this quarterly newsletter, Nord Pool's Market Surveillance raises the topic of REMIT's application to demand bidding and, in particular, to demand flexibility. First, we explain what demand flexibility is and why it matters. Then we look at how REMIT may be interpreted on the demand side and how not offering demand flexibility that is actually available may constitute a breach of REMIT. Further, we propose concrete actions which market participants can take to ensure their orders and transactions reflect their available demand flexibility, thus being compliant with REMIT.

What is demand flexibility?

Demand flexibility is the ability to adapt electricity demand – either shifting consumption in time or choosing not to consume when prices are high. Demand flexibility can exist both within the day reflected in a day-ahead bid (see Figure 1 for an example), or over longer time horizons.

In general, demand flexibility refers to physical flexibility. In a purely market-based context however, one may also consider opportunity cost flexibility, i.e. speculating between different segments in wholesale energy markets.[1]

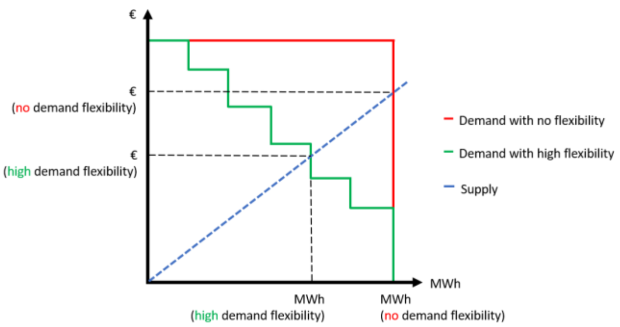

Figure 1: Illustration of market outcomes with high and no demand flexibility in the day-ahead market.

Why does it matter?

The power market is developing towards more intermittent renewable generation, as European climate policies aim to reduce emissions. This increased intermittency – variation in renewable power generation – will likely be reflected in higher price volatility. It is therefore both more climate friendly and profitable to, whenever possible, adjust demand to the electricity price.

Additionally, recent years have seen unprecedented prices in European power markets – some hours priced at very high levels, while other hours realise at a negative level in the day-ahead market. Instances of high prices have frequently been characterised by tight supply in combination with inelastic demand. To ensure effective price formation maximising social welfare, it is imperative that all actual demand flexibility is reflected in the bid. If not, too much power is dispatched at a higher cost than the real willingness to pay for electricity, affecting all consumers through electricity prices which are too high.

At the moment, we are not aware of clear regulatory guidance on offering demand flexibility. At the same time, REMIT may be applied both on demand and supply. Below we provide a possible interpretation of REMIT in relation to demand flexibility. Based on our reading of REMIT, *not* offering available demand flexibility may constitute a breach of REMIT, as explained below.

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[1] Opportunity cost flexibility can be flexible bids dependent on the price in other wholesale electricity markets. See more in our [newsletter for Q2 2022.]

Demand flexibility under REMIT

REMIT Article 5 prohibits market manipulation. Article 2 defines *market manipulation* as:

"entering into any transaction or issuing any order to trade in wholesale energy products which:

(i) gives, or is likely to give, false or misleading signals as to the [..] demand [..] or price of wholesale energy products;

(ii) secures or attempts to secure [..] the price of [..] wholesale energy products at an artificial level [..]"

REMIT and the ACER Guidance[2] do not focus explicitly on demand flexibility and its potential link to orders, qualifying as market manipulation. However, demand orders not reflecting the true willingness to purchase electricity can be interpreted as being analogous to a producer pricing above opportunity cost.

The implication may then be that an order that does not reflect actual demand flexibility is market manipulation, in particular as set out in (ii) above.

Securing the price at an artificial level

A lack of demand flexibility when, in reality, it exists, may secure the price at an artificial level. The ACER Guidance states:

"The notion of 'artificiality' entails that the level of the price of a wholesale energy product does not correspond to the one that would have emerged from a fair and competitive interplay between the supply and the demand in that particular market, reflecting market fundamentals."

While generation resources compete on the supply side and the cheapest generation is dispatched first, the same is true on the demand side. Not offering the demand flexibility that a market participant possesses can lead to other, higher utility demand not being covered. It can be argued that this is not a *fair and competitive* demand-situation. This entails that a market price affected by demand which does not have economic interest in purchasing electricity at that market price, may be artificial.

Further, the ACER Guidance states that *"Whether the price is secured at a higher or lower level compared to the counterfactual price is irrelevant in the assessment of the artificiality".* This underlines the symmetry of assessments of generation and demand under REMIT. Generators engaging in economic withholding and consumers not reflecting actual demand flexibility, may both lead to artificial prices.

A very important clarification is that demand might, in many cases, be price-independent within the day-ahead timeframe. This means that there is no demand flexibility available within the day. Examples can be:

- High costs related to shutting down consumption for an hour or a day.
- Necessary preparations for demand flexibility are yet to be made.

It is not prohibited to have physical consumption assets with such characteristics, disabling you having price-dependent orders in the day ahead timeframe. In our view, it would not be a breach of REMIT to place price-independent demand bids to the market in case that reflects the genuine willingness to purchase power irrespective of the price.

Market participants' actions

We believe that individual market participants and price formation benefit when actual demand flexibility is reflected in the bids of market participants. If not, they may risk sending false or misleading signals or securing the price at an artificial level, thus being in breach of the prohibition of market manipulation in REMIT Article 5. We recommend that market participants do the following to ensure their compliance with REMIT:

1. Assess whether consumption in own portfolio can offer demand flexibility

If, in reality, your consumption assets would be willing and capable of reducing consumption for one or several hours if prices reach a certain level, this should be reflected in the bid.

[2] ACER Guidance on the application of Regulation (EU) No 1227/2011 of the European Parliament and of the Council of 25 October 2011 on wholesale energy market integrity and transparency, 6th ed., 2021

If demand flexibility is available within the day-ahead timeframe, it can be reflected through price dependent curve orders. In the case where consumption is only flexible and economically viable if done for several adjacent hours, adding sell blocks creating the envisioned consumption profile should be considered.

If demand flexibility is not available within the day-ahead timeframe, we recommend that physical consumption assets develop routines for demand flexibility based on easily assessable criteria, e.g. based off your own or a third party's price prognosis ahead in time.

2. Consider products that enable flexibility when offering market access to third parties.

If a market participant is trading on behalf of third parties, the market participant and the third party share the responsibility of ensuring that orders are legitimate. If the third party ends up reducing (or would have preferred to reduce) consumption at high prices and this is not reflected in the bid, this might also be a breach of REMIT Article 5 for the participant providing market access. It should be in the market participant's interest to avoid such situations.

We believe that market participants should consider the following actions towards third parties:

- Ensure easy possibility for offering available demand flexibility in market access services
- Actively inform and promote the use of demand flexibility wherever possible
- Communicate the responsibilities the third party has under REMIT and require the third party to provide available flexibility

In the case of a market participant providing market access to many smaller third party customers, the market participant should consider estimating the actual aggregated demand flexibility in the portfolio, themselves.

3. Assess opportunity cost flexibility

As mentioned in the introduction and in our Quarterly Newsletter for 2022 Q2, market participants may consider opportunity cost flexibility. According to the ACER Guidance, expectation of prices in sequential markets is a legitimate input into opportunity cost. In the context of demand, this means that if you expect prices to be lower in the intraday market than in day-ahead (e.g., €50 versus €100/MWh), it is legitimate to reduce parts of your demand order to €50/MWh in the day-ahead market.

Opportunity cost flexibility is equivalent to speculating between the markets. When deciding which price levels and amount of volume to add in the day-ahead bid when adding opportunity cost flexibility, market participants can simply reflect the prices and volumes at which they would be willing to speculate between the markets as if there were no underlying physical asset. Opportunity for such flexibility is subject to, for instance, the expected liquidity of later markets.

Conclusion

Here we have shed light on why and how market participants should think about demand flexibility in terms of REMIT.

We wish to underline that some physical consumption assets are not sufficiently flexible to offer meaningful flexibility into the day-ahead market, due to physical restrictions. It is not expected that such assets enter price dependent curve orders resulting in potentially ramping up or down in an unprofitable manner. Neither is it a breach of REMIT.

However, market participants have an important responsibility for ensuring that all existing demand flexibility is offered to the market. This is both important for the long-term efficiency of wholesale energy markets and for REMIT-compliance.

We welcome any input from market participants on this topic and would like to hear your views on the interpretation of REMIT applied to the demand side.

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