

The danger of technical price limits in day-ahead, intraday and balancing markets suppressing price signals



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The importance of the energy price signal

The key signal coming from energy markets is the price. The energy price allows market participants – generators, traders, suppliers, storage operators, independent demand-response aggregators and other service providers – to **take the right decisions for the dispatch of energy on the one hand, and the hedging of price risks on the other hand**. With an increasing share of intermittent power generation in the European energy mix, precise price signals are more needed than ever to ensure the reactivity of market participants' dispatch decisions to rapidly changing demand and supply conditions. It is also of vital importance that short-term prices correctly reflect the reality of the balance between offer and demand, as they will influence forward prices. Accurate forward prices are the corner stone upon which market participants build their hedging strategies in order to provide end-consumers with stable retail offers.

Further, **energy prices are a key driver of investment and divestment decisions**. The above-mentioned massive penetration of intermittent generation will need to be accompanied in due time by investments in peak generation units, storage solutions and demand-side management. Only accurate price signals will allow investors to identify the need for and timing of such investments, alongside more traditional investment in generation and transmission capacity.

Energy prices should be allowed to reflect the true value of scarcity during times of system stress and high demand for power; similarly, when energy is in abundance prices should be allowed to reflect the value of displacing that generation and even go negative – which would give signals for storage operators/investments if they are not caused by out of the market reasons. Likewise, the volatility of energy prices, when not induced by flows in the market design – e.g. lack of transparency, excessive reserve margins, or any other distortion to price formation – is a sign that the market reacts appropriately and fast to demand and supply signals.

¹ The European Federation of Energy Traders (EFET) promotes competition, transparency and open access in the European energy sector. We build trust in power and gas markets across Europe, so that they may underpin a sustainable and secure energy supply and a competitive economy. We currently represent more than 100 energy trading companies, active in over 27 European countries. For more information: www.efet.org

In their Joint Declaration for Regional Cooperation on Security of Electricity Supply in the Framework of the Internal Energy Market of June 2015, **twelve European countries committed to “allow flexible prices, not introduce legal price caps and avoid that national measures have the effect of indirect price caps”²**. This clear vision, also underpinned in Art. 9.1 of the draft recast Electricity Regulation³, ought to become a reality in order to enable energy markets to provide the right signals to market participants and potential investors.

NEMOs proposal for technical price limits in the spot markets

The Regulation establishing a Guideline for Capacity Allocation and Congestion Management Guideline (CACM GL) in day-ahead and intraday, which entered into force on 25 July 2015, and the Electricity Balancing Guideline (EB GL), approved by Member States on 16 March 2017, both foresee the establishment of technical price limits for the day-ahead, intraday and balancing markets⁴. Though the establishment of *technical* price limits may be required to ensure the functioning of the market – for reasons linked to the functioning of market coupling algorithms or collateral – they should not have the effect of *legal* price limits that would **limit market participants’ bidding behaviour directly or indirectly**.

In their recent submission of harmonised day-ahead and intraday price limits⁵, the power exchanges acting as Nominated Electricity Market Operators (NEMOs) running the market coupling mechanisms proposed for approval to the national regulators the following price limits:

- EUR +3,000 / -500 per MWh in day-ahead
- EUR +9,999 / -9,999 per MWh in intraday

These limits are the ones currently applied in the largest part of Europe, concentrating most of the electricity markets liquidity. As there is no clear explanation in the NEMOs proposal why they wish to keep price limits at the current level, we believe that their status quo proposal lacks ambition and falls short of the objective set in the CACM Regulation that **harmonised price limits should take account of the value of lost load (VoLL)**.

² Joint Declaration signed by governments of Austria, Belgium, the Czech Republic, Denmark, France, Germany, Luxembourg, the Netherlands, Norway, Poland, Sweden, and Switzerland on 8 June 2015, available at: <http://www.benelux.int/files/4414/3375/5898/Jointdeclaration.pdf>.

³ Art. 9.1 of the draft recast Electricity Regulation (version of December 2016) states that “*there shall be no maximum limit of the wholesale electricity price unless it is set at the value of lost load*”, available at: http://ec.europa.eu/energy/sites/ener/files/documents/1_en_act_part1_v9.pdf.

⁴ See Art. 41 and 54 of the CACM GL for day-ahead and intraday, respectively, and Art. 30.2 of the EB GL for balancing.

⁵ Proposal of the NEMOs for harmonised minimum and maximum prices for single day ahead and intraday coupling, submitted to national regulators on 14 February 2017, available at: <http://www.europex.org/external-consultations/all-nemos-consultation>. See also the EFET response to the consultation of the NEMOs on the subject, dated 2 December 2016, available at: http://www.efet.org/Cms_Data/Contents/EFET/Folders/Documents/EnergyMarkets/ElectPosPapers/~contents/M2E2WTMJ3R2JQS5H/EFET_NEMOs-consult_price-limits_02122016.pdf.

EFET analysis and recommendations

It is evident that **the proposed price limits for day-ahead and intraday are too low**. Indeed:

- This value of **EUR +3,000 per MWh in day-ahead has already been reached in a few instances** in the past and thus has already constrained day-ahead market prices.
- Secondly, it is safe to assume that current overcapacity will be reduced following the closing and/or mothballing of some of the existing capacity. Thus, **high prices due scarcity will be more likely to occur in the coming years**, for example in evening hours (no PV), with low wind and high demand.
- Finally, it is important to note that **price caps that do not take proper account of the VoLL not only constrain market prices when the day-ahead price actually reaches this cap. They also continuously constrain prices on the forward markets**, because forward prices reflect expected spot prices. Any potential capping of spot prices thus suppresses forward price signals.

Price formation in the power market, including the day-ahead and intraday timeframes, is based on expected real-time prices – so-called imbalance prices. In case of actual physical scarcity (with involuntary load shedding), an uncapped imbalance price will reach a value that reflects the VoLL. Studies have been conducted in certain Member States to assess the VoLL. In July 2013, the British Energy Ministry and regulator indicated a peak winter workday VoLL of GBP 10,289 per MWh for domestic users and GBP 35,488 per MWh for SME users based on willingness-to-accept. DECC and Ofgem calculated a weighted-average VoLL figure of GBP 16,940 per MWh (about EUR 21,700 per MWh) for peak winter workdays in Great Britain⁶.

Based on this study EFET suggests that the estimated VoLL value of EUR 20,000 per MWh be used by regulators when assessing the NEMOs' proposal. As a consequence, any technical price limit should be established as follows:

- **a price cap for day-ahead somewhere between EUR 5,000 and 15,000 per MWh; a price floor of EUR -3,000 per MWh seems low enough** and should not restrict free formation of prices.
- **if any, a price cap for intraday at EUR 20,000 per MWh; a price floor of EUR -9,999 per MWh seems low enough** and should not restrict the free formation of prices.

We of course welcome the removal in the final submission of the NEMOs of a permanent exemption clause that would have allowed individual markets to continue applying even lower cap than those proposed. However, we do not believe that the automatic review mechanism for the price limit in day-ahead⁷ that features in the final

⁶ The Value of Lost Load (VoLL) for Electricity in Great Britain, Final report by London Economics for OFGEM and DECC, July 2013, available at: <https://www.ofgem.gov.uk/ofgem-publications/82293/london-economics-value-lost-load-electricity-gb.pdf>.

⁷ Article 5 of the NEMOs proposal, which foresees an automatic review mechanism of the price limit in day-ahead by an increment of EUR 1,000 per MWh in the event the hourly clearing price in an individual or multiple bidding

version of the NEMOs proposal complies with the Art. 9.2 of the draft recast Electricity Regulation⁸ and would ensure that price signals are not suppressed. As mentioned before, the mere existence of price limits in spot markets that do not take due account of the VoLL continuously suppresses price signals on the forward markets, because forward prices reflect expected spot prices.

At the very least, we expect regulators will demand a clear roadmap from TSOs to ensure that price limits in day-ahead and intraday truly reflect the VoLL. **The final decision of regulators should provide a view of the estimated impact on the cost of collateral in case of higher price caps**, including the consideration that with higher price caps, market participants may take actions to shield themselves from higher potential spikes (e.g. less must-buy or must-sell bids). From a market participant standpoint, we do not expect such hurdles in terms of cost of trading that would, for instance, limit market entry for smaller market participants, if price limits were raised towards the VoLL. **We call for pragmatism in the definition of the VoLL**, e.g. by using a proxy based on academic studies until further elements are developed in European legislation.

The example of the NEMOs proposal for price limits in day-ahead and intraday is also an important reminder for regulators in advance of the possible establishment of technical price limits in the balancing timeframe. Price limits in balancing that would not be set at the VoLL would necessarily suppress price signals in all other timeframes.

zones has exceeded a value of 60% of the price limit on at least three separate delivery dates in the preceding 30 days, to be implemented within five weeks.

⁸ Art. 9.2 of the draft recast Electricity Regulation (version of December 2016) requires that “*in the event that [maximum clearing prices for day-ahead and intraday applied according to Art. 41 and 54 of the CACM GL] limits are, or are anticipated to be, reached, they shall be raised for the following day*”, available at: http://ec.europa.eu/energy/sites/ener/files/documents/1_en_act_part1_v9.pdf.