JANUARY 2023

Electricity market reform recommendations: Targeted EU action for industry competitiveness

Summary

Eurometaux represents the European non-ferrous metals industry, whose production is unavoidably electro-intensive (before today's crisis, electricity represented 30-45% of operational costs). European power prices have risen by 10 times in the last year due to very low electricity supply. These unbearable power prices have taken 50% of EU aluminium and zinc capacity offline and 30% of EU silicon production capacity– with **more closures likely** this winter.

The Commission's upcoming work on electricity market design reform, triggered by the energy crisis, should aim fourfold:

1. *Take temporary action to address excessive power prices.*
2. *Accelerate the roll-out of decarbonised additional power generation capacity.*
3. *Ensure certainty and predictability of the European electricity market for investments, business & development.*
4. *Ensure globally competitive industrial electricity supply to maintain the energy-intensive industry in the EU, ensure strategic autonomy and support decarbonization through electrification.*

The European Commission should avoid profound reforms in times of crisis[1], given the need for serious public consultation and thorough impact assessment. The European electricity market must maintain market integrity, competition between energy sources, transparent transactions, competitive prices, efficient investment signals for additional generation capacity, security of supply, and decarbonisation.

The Commission could better address today's temporary crisis and high prices through an in-built market emergency mechanism, which can be implemented quickly and triggered when needed. This should not change market fundamentals nor involve state aid, but provide more certainty and a harmonious EU level solution instead of the patchwork of inframarginal revenue taxes. We propose a ***temporary price shock absorber*** for further analysis, that would limit the ability of fossil generation to set wholesale electricity clearing prices when market prices are extraordinarily high.

In the long-term, Europe will achieve security and affordability of electricity supply through increasing domestic generation capacity, delivering an abundance of electricity and market liquidity.

Eurometaux policy asks in relation to the electricity market design reform

- Improve the legal and regulatory regime for long-term contracts, particularly with renewable energy producers – through incentivising RES plants to participate in auctions for state-backed PPAs, State/EU guarantees to foster signing of RES PPAs with electro-intensive industry, addressing firming and shaping costs of RES PPAs, exploring the possibility of an EU-wide Green Pool-style solution[2] to mitigate the impact of gas on respective power prices.
- Incentivise investments in additional generation capacity, grids, and flexible resources to match the stark need for long term hedging opportunities for consumers. This must be coupled with the simplification and acceleration of the permitting procedures to unlock RES capacity bottlenecks.
- Achieve a complete and correct implementation of Clean Energy Package provisions.
- Foster demand response flexibility and capacity mechanisms.
- Address high electricity prices by potentially equipping the European power market with a temporary, uniform and technology neutral mechanism, preserving the level playing field among Member States, to be triggered during crisis.

[1] See **CEPS (2022)** Electricity markets will need an overhaul, but not now.

[2] See **Enervis (2022)** The Green Pool: A concept for decarbonizing the electro-intensive industry of Greece.

JANUARY 2023

Background and justification for a potential temporary "price shock absorber" mechanism[3]

Why is a temporary price shock absorber mechanism needed?

The unbearable power prices – reflecting the supply scarcity – are having a destructive impact on European metals producers and distorting the global level playing field. Therefore, the European Commission should determine solutions to limit peak electricity prices set by the fossil generation. We believe that a ***temporary price shock absorber*** would play that critical and necessary and role. This mechanism has been independently modelled by AFRY Management Consulting Oy in 2022 and it showed that wholesale electricity prices could be reduced by 10-29% in comparison to 2021 reference prices.

How should a temporary shock absorber be designed?

Such a temporary mechanism would be an additional market feature designed to limit the ability of fossil generation to set wholesale electricity market clearing prices in case of extraordinarily high market prices, where the accumulated inframarginal rents reach a level that is no longer contributing to the EU electricity market's objective to ensure affordable energy prices.[4]

While keeping the merit order curve, fundamental to the EU electricity market, the proposed market mechanism would combine two clearing models:

- Once the mechanism is triggered, the final demand price would be set by combining the clearing models "pay-as-clear" and "pay-as-bid".
- A certain percentage of the total load volume (for instance 90% or 80%) would be cleared with pay-as-clear method (i.e. all participants receive the price of the most expensive item procured as it is currently the case in the European day ahead wholesale electricity market). This percentage of the load volume would mostly cover energy sources with lowest production costs: hydroelectric power generation, solar, wind and nuclear.
- The remaining percentage of total load volume (for instance 10% or 20%) would be cleared with a pay-as-bid method (i.e. each market participant receives the price they have bid into the market with). This percentage of the load volume would mostly cover energy sources with highest production costs: coal and gas.
- The final demand price would be a uniform weighted average of the pay-as-clear prices and the pay-as-bid prices[5]. As result, the price shock absorber shaves peak wholesale power prices[6].

This mechanism splits price clearing methods based on pre-determined percentages of the aggregate load volume. Once set, the percentage split is applicable whatever the price is. It is therefore technology neutral as it does not split between different types of generation technologies. A pre-determined percentage split also provides predictability – a key investment signal for additional renewable capacity.

Fossil generators would be eligible to continue to bid at their marginal cost and would recover excess operating costs for the volume percentage with highest costs. Nonetheless, those excess fuel costs would be limited in setting the market

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[3] Hogan, M., B. Claeys, Z. Pató, D. Scott, S. Yule-Bennett and M. Morawiecka (2022) 'Price Shock Absorber', Discussion Briefing, Regulatory Assistance Project, available at **https://www.raponline.org/wp-content/uploads/2022/04/rap-briefing-price-shock-absorber-2022-april-8-final.pdf.**

[4] Art. 1 of Directive 2019/944 of the European Parliament and of the Council of 5 June 2019 on common rules for the internal market for electricity and amending Directive 2012/27/EU.

[5] See figure 1 in the Annex.

[6] See figure 2 in the Annex.

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clearing price. To prevent circumvention and speculation, the mechanism would be equipped with ex-ante market power mitigation measures to avoid changed bidding behaviour of power generators.

This mechanism shows flexibility and resilience, and it preserves the present market fundamentals, only slightly affecting the current price setting mechanism. Should the split be set at either 95/5%, 90/10% or 80/20%, the benefits of the price shock absorber on the wholesale power prices will always be greater when the supply curve is steeper. However, the price shock absorber will bring very little change to power prices if the supply curve is flat.

Being a market-based mechanism, the price shock absorber will not involve national public support. The final price is set uniformly for all market participants and the benefits (i.e. lower power prices) will therefore be equally spread to all consumers.

In its "Final Assessment of the EU Wholesale Electricity Market Design", published in April 2022, ACER has already acknowledged the regulatory stability merits of a similar mechanisms.[7] We see merit in implementing such mechanism in Europe, obviously adapted to the specifics of the European electricity market, and we thus ask the Commission to give consideration and assess its potential. **A temporary mechanism bringing down power prices in crisis situations and/or supply scarcity – potentially in the shape of a price shock absorber – should be designed in a way that**:

- Does not negatively affect EU cross-border trade.
- Does not lead to unintended market disturbances or manifest risks of such disturbances.
- Does not negatively affect Europe's security of supply or determine increased consumption.
- Ensures subsidised electricity does not benefit third countries at the expense of Member States.
- Avoids circumvention via the modification of bidding behaviours patterns as generators could speculate and try to bid higher than true generations costs to be in the percentage range with highest costs (raising the overall power price).
- Ensures market predictability and certainty through pre-determined conditions addressing price spikes, implemented uniformly across the EU (instead of a patchwork of windfall taxes).

About Eurometaux

Eurometaux is the decisive voice of non-ferrous metals producers and recyclers in Europe. With an annual turnover of €120bn, our members represent an essential industry for European society that businesses in almost every sector depend on. Together, we are leading Europe towards a more circular future through the endlessly recyclable potential of metals.

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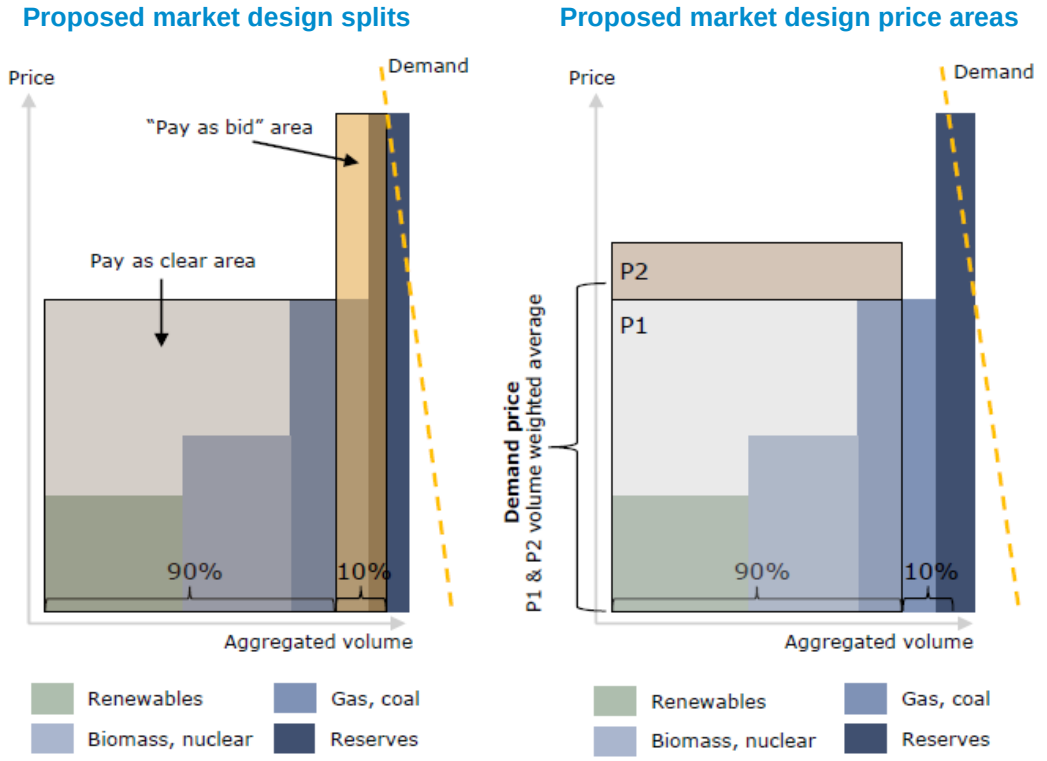
[7] ACER (April 2022) ACER's Final Assessment of the EU Wholesale Electricity Market Design, page 49. See Annex 2.

JANUARY 2023

Annex 1: Figures to illustrate the temporary price shock absorber mechanism

Figure 1: Combination of the pay-as-clear and pay-as-bid clearing models



Description of the mechanism[8]

- P1 received price would be set by the most expensive accepted sales order within the least cost 90% accepted sales orders.
- P2 average received price would be set by volume weighted average of the accepted sales orders within the most expensive 10% of the accepted sales orders.
- Demand would pay a volume weighted average price of the P1 (pay-as-clear) and P2 (pay-as-bid) prices, demand price.

[8] "ELFI/TIF proposed market design: analysis of impact on wholesale power prices: Final Report – short version", AFRY, 7 December 2022.

JANUARY 2023

Figure 2: Analysis of the demand price in case of a shock absorber set with a 90/10% split

Table on the average real monthly and annual wholesale electricity prices against new modelled prices via price shock absorber

Price / Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
2021 real market price[1]	53	49	47	54	53	74	81	83	128	139	176	221	97
Reference price	56	54	55	59	67	75	84	91	124	144	166	205	99
Demand price	50	49	47	54	58	71	78	84	106	116	126	139	82
P1 received price	50	49	47	53	57	70	78	83	105	114	124	135	81
P2 average received price	53	52	54	58	65	74	82	88	115	130	146	170	91

Key takeaways from the table[9]

- The table provides 2021 average monthly wholesale electricity prices that were reported by a power exchange.[10] These prices illustrate potential differences to the modelled prices.
- When compared to the real-life price data, it can be observed that until August there is very little to no deviation in the monthly averages when the price shock absorber is applicable (see "Demand price"). However, from September onwards the prices start to diverge from the historical price.
- The results show that the price shock absorber would shave off peak prices for all price categories.

[9] ibid.

[10] Source: Nordpool.

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JANUARY 2023

Annex 2: ACER assessment of comparable mechanisms to price shock absorber

In its "Final Assessment of the EU Wholesale Electricity Market Design",[11] ACER has assessed similar price shock absorber mechanism

The US "Peaker Net Margin" (Texas) and the Australian "Cumulative Pricing Threshold" in the National Electricity Market[12] constitute examples of a price shock absorber measure. Both markets foresee a normal market clearing, with regular price signals, including from price spikes, up to the point where sustained high prices have reached the mechanism's pre-defined threshold.

The "**Peaker Net Margin" measure** calculates the accumulated profits over a year as a difference between the operating costs, defined by natural gas, and the real-time electricity price. The threshold is set at three times the cost of new entry of new generation plants. When the threshold is reached, the maximum price on the market is temporarily lowered and then, according to certain criteria, automatically raised again later on ensuring full price formation.

The Australian National Electricity Market imposes a so-called **"Administered Price Period"** when the sum of the spot prices for the previous seven days reaches the 'Cumulative Pricing Threshold' (CPT) or when the sum of the ancillary service prices for a market ancillary service in the previous seven days exceeds six times the CPT. In 2019-2020, the CPT was equivalent to an average spot price of 658.04 AUD/MWh. The administered price cap during the administered price period is set at 300 AUD/MWh. The 'Administered Price Period' ends when the cumulative price has fallen below the CPT.

[11] ACER (April 2022) ACER's Final Assessment of the EU Wholesale Electricity Market Design, page 49.

[12] See for example the Operation of the administered price provisions in the national electricity market briefing paper from the Australian Energy Market Operator (AEMO), July 2019.

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