

Eurometaux position paper on the Electrification Action Plan

Key points

- 1. Addressing the main obstacle to industrial electrification: high and volatile electricity prices and costs**
 - ✓ Provide support mechanisms that encourage the uptake of long-term PPAs between renewable energy generators and industrial consumers, starting with providing a solution for matching profiles.
 - ✓ Allocate 50% of Contracts for Difference revenues to industrial PPAs at production cost and mark-up, building on a suggestion in the Draghi report (p. 37).
 - ✓ Ensure the EIB PPAs guarantee scheme is technology neutral, sufficiently funded and facilitating immediate access to electricity.
- 2. Electrification must be market-driven**
 - ✓ Refrain from setting any electrification target; instead create a business case for electrification.
- 3. Providing robust financial support for industrial electrification**
 - ✓ Provide upfront capital for industries to invest in electric technologies and infrastructure upgrades. These can help overcome the initial high investment costs.
 - ✓ Aid for investments in industrial decarbonisation should also be granted in the form of electricity price relief schemes or CCfDs to subsidize the increased OPEX caused by fuel switching.
 - ✓ Maintain, enhance and prolong beyond 2030 the indirect carbon cost compensation mechanism of ETS State Aid guidelines to alleviate the burden of carbon costs embedded in electricity prices and encourage all Member States to implement them, making electrification more competitive.
 - ✓ Respect technological neutrality by guaranteeing no electrification technologies are prioritized over others.
 - ✓ Encourage the use of refundable tax credits for electrification, as they offer direct financial incentives to companies by reducing their tax liability and allow for better financial planning.
- 4. Implement a balanced and truly technology neutral energy policy**
 - ✓ While renewables seem to constitute the bulk of capacity additions moving forward, they alone cannot preserve security of supply. Current battery technologies are also unable to fully solve this problem. Controllable and dispatchable generation technologies will nevertheless remain essential to ensure system adequacy, and measures should be taken to deliver such generation in the most cost-competitive way possible.
- 5. Acknowledging the contribution of already electrified sectors to the overall electricity demand**
 - ✓ Preventing RES curtailment and reducing the occurrence of negative prices requires stronger electricity demand.
 - ✓ Restarting electrified industrial capacities idled due to high energy prices and increasing the deployment of mature already electrified industrial processes must be prioritised.

6. Acknowledging limitations of industrial demand-side response which must remain voluntary and adequately remunerated

- ✓ Demand-side response should always be voluntary and never penalise market participants with less flexibility potential. Refrain from adopting any measures that have an obligatory demand response effect.
- ✓ Demand-side response should always be incentivised through adequate remuneration.
- ✓ Provide investment support for industrial demand response projects.

7. Ensure grid development does not undermine the competitiveness of industrial consumers

- ✓ Implement targeted measures, like specific network tariff regimes for industrial consumers, to lower industrial electricity costs.

This paper provides Eurometaux’s position on the Electrification Action Plan, due in Q1 2026. Eurometaux represents European producers of Non-Ferrous Metals (NFM) like Aluminium, Copper, Lithium, Nickel, Zinc, Silicon, but also ferro-alloys, among other energy transition metals.

Introduction

Electrification depends on the availability of key raw materials. Our industry is central to the electrification ecosystem, supplying the critical components for everything from renewable energy grids to EVs and battery storage. Without a robust and competitive European metals sector, Europe risks becoming dangerously dependent on other countries for the materials needed for the green transition. In addition, maintaining the NFM baseload electro-intensive industry in Europe is crucial for grid stability, as it provides a consistent electricity consumption base that helps system operators keep the system in balance, which is becoming even more important as we increase the share of intermittent renewables.

1. Addressing the main obstacle to industrial electrification: high and volatile electricity prices and costs

As highly electro-intensive, price-taking businesses (with metals prices set globally on the London Metals Exchange) exposed to fierce global competition, the NFM industry is facing an existential crisis due to soaring electricity prices, which are still 2-3 times higher in Europe than in the US, as the Draghi report highlighted. The high energy prices in Europe are partly caused by geopolitics, but also partly by European policy and politics (e.g. carbon pricing and EU and national decisions to move away from developing domestic natural gas extraction).

In addition, energy retail prices in the EU for industry are impacted by taxes, levies and charges. When combined, they can account for a substantial portion of the final cost paid by consumers and are already higher relative to other regions. At the same time, we anticipate rising costs associated with the green transition. Network charges are likely to increase to finance essential grid upgrades. The increasing intermittency of electricity supply will necessitate greater investment in flexibility and storage incentivised through capacity mechanisms, driving up their costs. Public investment in renewables, storage, and supply security will likely be financed through increased taxes and levies. As a result, the already striking energy price competitiveness gap between European electro-intensive industry and global competitors is driving the shuttering of refining and processing plants across Europe and constitutes a critical obstacle to industrial electrification. Indeed, electricity represents 30% to 45% of the overall operational costs for many of NFM installations and thus, is the main localisation and investment factors for continuation of investments in existing locations.



October 2025

For industries already struggling with the operational costs of existing electrified processes under these price pressures, committing to decades-long investments requiring considerable capital expenditures in new electrification infrastructure appears economically unrealistic.

To stimulate industrial electrification, the top priority should be ensuring access to decarbonised electricity at globally competitive prices.

Long-term contracts – such as Power Purchase Agreement (PPA) – are considered to offer a means of reducing the impact of volatile prices on end-user energy costs. However, these long-term contract solutions are underdeveloped in Europe and still face significant barriers which should be urgently addressed, starting with the cost of matching variable RES production with baseload industrial consumption profiles¹, as the Draghi report (Part B, p. 35) (recommendation to pool industrial demand and provide public support to corporate PPAs, precisely to reduce these costs) and the Antwerp Dialogue Recommendations on Industrial Electrification & Competitiveness (see recommendation 1b on p. 5 of the Recommendations) – signed by both the power sector and energy intensive industries – recognize the matching costs are a key barrier for electro-intensive industries to electrify their processes.

Furthermore, de-risking tools such as guarantee schemes for PPAs with energy-intensive companies need to be implemented and the EIB pilot programme must deliver technology-neutrality (as provided in the Affordable Energy Action Plan). To have an immediate positive impact, the EIB programme must also apply to existing generation capacities; otherwise, limiting its scope only to new RES generation capacities goes against the mandate set in the Affordable Energy Action Plan and would lead to delays in using this instrument due to long permitting procedures, etc.

Recommendations:

Provide support mechanisms that encourage the uptake of long-term PPAs between renewable energy generators and baseload industrial consumers, starting with **providing a solution for profile-matching costs**. To reduce the firming and shaping costs, the demand for renewable PPAs from electro-intensive consumers could be **aggregated by a third party** such as an aggregator or an energy service provider. For the purpose of ensuring European industry competitiveness and encouraging consumption of renewable electricity and subsequent deployment, governments may decide that it is necessary to provide industrial energy off-takers with **a subsidy for the shaping costs**. Therefore, we propose the Commission include such schemes under the Action Plan or initiatives like the Clean Flexibility Instrument and enables Member States to design these schemes under the CISAF.

Allocate 50% of Contracts for Difference revenues to industrial PPAs at production cost and mark-up, building on a suggestion in the Draghi report (p. 37). CfDs negatively impact the PPA market's liquidity as they discourage RES producers from signing PPAs with industrial consumers because banks will likely support state-backed systems.

Ensure the EIB PPAs guarantee scheme is technology neutral, sufficiently funded and facilitating immediate access to electricity.

2. Electrification must be market-driven

Recommendation: Refrain from setting any electrification target; instead create a business case for electrification.

¹ For instance, [Pexapark](#) reported that 81% less PPA contracts were signed in May 2025 compared to the previous month, reaching the lowest monthly volume since 2020.



3. Providing robust financial support for industrial electrification

Although EU funding mechanisms, including the Innovation Fund, support the green transition of energy-intensive industries, the substantial capital required for NFM decarbonization while staying competitive necessitates significantly increased financial support. The future Competitiveness Fund and the next MFF should direct more investment towards energy-intensive industries. Importantly, funding should not be limited to the “first-of-a-kind” deployment of non-mature decarbonization/innovation technologies. Instead, support should also be granted to follow-up cases, given that achieving maturity and scale of a breakthrough industrial process needs time and effort (and in many cases, electrified processes will always involve a green premium compared to using fossil fuels). The EU should also allow Member States to subsidize OPEX costs of energy intensive companies for the electrification of carbon intensive production processes.

Additionally, technological neutrality must always be respected, and equal treatment of electrification technologies must be ensured in terms of funding or permitting rules – a principle unobserved by the Innovation Fund and CISAF.

Financial support under the MFF should also encourage the use of refundable tax credits for electrification, following DG TAXUD’s **Recommendations on Tax Incentives for the Clean Industrial Transition**. Refundable tax credits like those under Section §45X of the Internal Revenue Code under the Inflation Reduction Act support the production of critical minerals. As highlighted in the Letta report (pp. 26-27) and the Draghi report (p. 36), they offer several significant advantages over loans including direct financial incentive to companies and individuals by reducing their tax liability and higher predictability, allowing for better financial planning. The Electrification Action Plan should therefore introduce similar credits.

Recommendations:

Provide upfront capital for industries to invest in electric technologies and infrastructure upgrades. These can help overcome the initial high investment costs.

Aid for investments in industrial decarbonisation should also be granted in the form of electricity price relief schemes or CCfDs to subsidize the increased OPEX caused by fuel switching. Not granting support for the OPEX increase would render such decarbonisation investments economically unviable.

Maintain, enhance and extend beyond 2030 the indirect carbon cost compensation mechanism of ETS State Aid guidelines to alleviate the burden of carbon costs embedded in electricity prices and encourage all Member States to implement such schemes, making electrification more competitive.

Respect technological neutrality by guaranteeing no electrification technologies are prioritized over others.

Encourage the use of refundable tax credits for electrification, as they offer direct financial incentives to companies by reducing their tax liability and allow for better financial planning.

4. Implement a balanced and truly technology-neutral energy policy

Because renewables will likely constitute the bulk of capacity additions moving forward, **system adequacy will require controllable and dispatchable generation** to cover periods of low wind/solar and to provide essential system services (frequency, ramping). Battery storage is often seen as the answer, but current technologies are only able to offer short



October 2025

duration balancing of up to two hours, while long-term storage solutions such as green/clean hydrogen or pumped hydropower are expensive, geographically limited or not yet deployable at the necessary scale.

JRC analysis of EU price-setting dynamics shows why sustained periods of tightness still push marginal prices up (often set by gas), underscoring the value of firm, controllable supply alongside RES and storage to keep prices stable and affordable for electro-intensive industry. It also highlights that in 2030 fossil fuels will still set the price close to 56% of the time¹. OECD's 2025 EU survey reaches a similar conclusion, pointing out that gas-fired plants remain the marginal price-setters, meaning any spike in gas prices will continue to feed directly into power prices². This means that globally competitive electricity prices will require globally-competitive fossil fuels prices.

The Clean Industrial Deal (CID) explicitly targets **lower energy prices and security of supply** as foundations of competitiveness, while the Steel & Metals Action Plan links metals' viability to affordable energy and continuous operation (noting capital-intensive plants typically need >85% utilisation to stay competitive)³. These points also echo the Antwerp Declaration and subsequent Antwerp Dialogues, which stressed that competitiveness and affordability must be treated as equal priorities to decarbonisation. Together, these initiatives point to a balanced mix that includes enabling firm capacity (where needed) and affordability measures tailored to industry.

Recommendations:

Enable cost-competitive controllable and dispatchable generation capacity to complement renewables and storage. Clarifying the long-term role of these generation technologies in the European power mix would also lower the cost of importing the necessary fuels, by enabling importers to commit to long-term contracts, which tend to imply a lower price than spot purchases.

5. Acknowledging the contribution of already electrified sectors to the overall electricity demand

Preventing RES curtailment and reducing the occurrence of negative prices requires stronger electricity demand. EU electricity demand has decreased in two of the last three years and is likely to drop again this year – the overall average high prices and increased volatility being the main causes. To solve these problems while supporting competitiveness, the fastest and cheapest lever is to support mature, already-electrified industrial processes and reopening the capacities idled during the energy crisis. This is fundamentally a more effective approach to increasing electricity demand, rather than betting first on immature, untested technologies in other sectors that are not yet electrified.

Across Europe, negative or zero wholesale prices have become a structural feature of the market rather than a blip. JRC modelling shows that without stronger demand, redispatch could reach 374 TWh in 2030 and RES curtailment between 50–120 TW⁴. In other words, Europe risks throwing away clean power if there isn't enough stable industrial load to absorb it.

Electro-intensive non-ferrous metals (NFM) are precisely such “ready-to-scale” loads. They are **baseload, continuous consumers that stabilise grids** and can underpin long-term RES build-out if price risk is addressed. But after the high

¹ **European Commission**, Joint Research Centre (2023) Merit order and price-setting dynamics in European electricity markets (JRC134300)

Publications Office of the European Union;

² **OECD** (2025) *OECD Economic Surveys: European Union and Euro Area 2025*.

³ **European Commission** (2025). *European Steel and Metals Action Plan*.

⁴ **JRC** (2024) *Redispatch and congestion management: Future-proofing the European power market*.



October 2025

energy prices have forced many plants to reduce or close production capacity. Bringing this capacity back is both faster and cheaper than betting on immature electrification technologies that still need years of development and will likely always remain more expensive than their conventional alternatives.

The main barrier isn't the lack of willingness to electrify, but the lack of a business case to do so. The closure or curtailment of already electrified industrial capacities does not set an encouraging precedent. The high and volatile prices, still 2-3 times higher than the rest of the world and the lack of bankable long-term contracts (the uptake of PPAs has even slowed down in 2025) are the main barriers to electrification and industrial competitiveness. The Draghi Report¹ makes the same point - Europe's industrial future depends on closing the energy price gap with competitors.

Various NFM are explicitly treated as strategic under the Critical Raw Materials Act (CRMA), reflecting their role in grids, renewables, and defence value chains, so retaining and re-ramping EU capacity is a strategic resilience objective.

Recommendations:

Support the restart and expansion of already-electrified industrial capacity. Provide targeted measures to bring curtailed or shuttered electro-intensive plants back online, since this is a faster and cheaper way to absorb surplus RES and cut curtailment. Support new investments in EU-based non-ferrous metals production.

Improve affordability and long-term contract frameworks. Strengthen bankable PPAs (including by offering support for firming/shaping costs) so electro-intensive industries can operate competitively.

6. Acknowledging limitations of industrial demand-side response which must remain voluntary and adequately remunerated

Load shifting is not a one-fit-all solution and cannot be achieved similarly by every sector due to technical, location and economic reasons. Demand-side response (DSR) must be designed to allow for different types of demand participation considering inherent features and restrictions of every sector and their technologies. For example, while zinc has the potential to reduce its consumption by more than 80% very fast, most NFM are identified as "baseload consumers", which means that these sectors have in general a stable consumption of electricity (24/7) with limited flexibility potential. Turning most NFM processes on and off places great thermal stress on furnaces and electrodes, which in turn may cause irreparable damage to equipment – as a result of metal cooling and solidifying. Demand-side response therefore involves production risks. Indeed, DSR can only serve as a secondary revenue stream as metal production is a commodity business focused on metal output, not energy trading. To remain voluntary across sectors, DSR schemes should also avoid sector-agnostic flexibility benchmarks or targets.

According to an upcoming Compass Lexecon report, the total cost of demand-response (flexibility) for an aluminium smelter would be approximately €900/MWh. This includes - for complete or partial interruption for under one hour - approximately €300/MWh in lost production, €100/MWh in anode costs and €150/MWh in other costs + €300/MWh in lost production for load reduction.

Demand-side flexibility, therefore, often requires significant investments, brings additional operational costs and reduces efficiency of electricity consumption. It is often not economically viable if compensated only through the electricity market.

¹ [Draghi, M.](#) (2024). *The future of European competitiveness*



October 2025

That means that dedicated incentivising mechanisms are needed to unlock investment in industrial demand response, while always recognizing technical limitations.

Importantly, in line with the CRM Regulation and the Draghi Report, Europe requires more, not less, NFMs, which dictates that such industrial DSR should by no means lead to significant output reduction, as this would contradict defined targets ('benchmarks') and jeopardize Europe's efforts to secure the materials needed for its twin transition and defense.

Our position:

Demand-side response should always be voluntary and never penalise market participants with less flexibility potential. Policymakers should avoid scenarios where "non or less flexible" market participants are pushed outside the market because they cannot afford reducing production in the short to medium term.

Demand-side response should always be incentivised through adequate remuneration. Clear market signals and appropriate incentives through adequate remuneration are essential to foster power consumption reduction (where and when technically possible) at moments of low availability of electricity and stabilise grids. Incentives could take the form of expedited grid connection, reduced transmission tariffs and grid charges.

Investment support for industrial demand response projects must be ensured.

7. Ensure grid development does not undermine the competitiveness of industrial consumers

Prioritise better and more efficient utilization of the existing grid to ensure the whole potential of existing grid is used at its best capacity and most cost-effective for consumers. Investments should first target grid efficiency. Network tariffs must remain affordable in a way that does not compromise the competitiveness of electro-intensive consumers that are exposed to international competition. Locational signals in the grid tariff should be carefully considered to avoid unintended effects. Flexibility should primarily be incentivised through market mechanisms, including voluntary bids in balancing markets.

Recommendation:

Implement targeted measures, like **specific network tariff regimes for industrial consumers**, to lower or at minimum maintain reductions on network charges for industrial consumers and, in turn, industrial electricity costs.

Design a separate band of network charges for flexible consumers whose intention is to solely consume electricity during times of oversupply. This will ensure baseload consumers are not required to pay more for their energy costs.

Include and align above recommendations with the upcoming guidance document on promoting remuneration of flexibility in retail contracts and the Network Code on Demand Response.

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