

EXECUTIVE SUMMARY

European industry faces a competitiveness challenge from persistently higher energy costs compared to global competitors. Deeper electrification will be essential to reach climate neutrality and can bring lower and more stable prices for consumers. As availability of affordable electricity remains a key barrier to further electrification, a viable business model should be created to incentivise electrification and support competitiveness.

The paper highlights seven policy levers to create the business case for electrification:

- Making electricity affordable: Action Plan for Affordable Energy should be translated into concrete action to lower energy costs. A thorough review of the cost structure faced by consumers is needed, along with additional efforts to reduce overall system costs.
- Improving the long-term contracting framework: Instruments like PPAs and CfDs are important levers to provide stable, predictable and competitive price. Existing barriers to long-term contracts should be swiftly addressed.
- Ensuring a balanced approach to flexibility: Exposure to market signals can support additional flexibility. However, some industries do not present a high flexibility potential and their function as baseload consumption provides real value to the grid.
- Support the derisking and targeted financing of electrification investments: Financing measures should be focused on derisking private investments as public funding cannot cover the entire investment needed.
- Increase EU funding for grids and implement cost sharing schemes: Increased EU funding, including expanded CEF-E fund, will be crucial to develop energy infrastructure. A fair sharing of the direct and indirect benefits and costs of developing cross-border infrastructure should be considered, also considering necessary investments in infrastructure and flexibility in each Member State.
- Improve permitting for energy infrastructure: Ensuring the implementation of REDIII provisions is a good first step to accelerate permitting. Connections and grid infrastructure in general must also benefit from faster permitting procedures.
- Optimise planning and connection decisions: Grid connection gueues should be further optimised to improve investments visibility and address the drawbacks of the current "first come, first served" system.

INTRODUCTION

The recent energy crisis has intensified the competitive pressure on European businesses, particularly in the hard-to-abate sectors. High and volatile energy prices, which are projected to remain higher than those of our major competitors over the coming decades¹, are one of the key factors contributing to the competitiveness decline. This puts at risk Europe's ability to invest in the transition to a decarbonised economy. A competitive and future-proof European economy can only be built on a competitive, secure and decarbonised energy system.

All key net-zero outlooks, including CompassLexecon study commissioned last year for BusinessEurope² show that **reaching climate neutrality by 2050 requires a deep electrification of our economy,** with renewable and low-carbon molecules playing a complementary role to electricity-based solutions when they are not feasible or competitive.

An electrified system with a higher share of decarbonised sources, necessary flexibility and baseload power can bring lower and more stable prices for consumers³. Greater electrification also represents a strategic opportunity to reduce Europe's dependence on fossil fuel imports and shield our economy from future energy price shocks and geopolitical disruptions.

However, the electrification of our economy has been stagnating. The European electrification rate has remained at around 22% for over 10 years while it is increasing rapidly in Asia, especially in China thanks to inter alia globally competitive electricity prices.

Further policy measures are urgently needed to ensure energy affordability, remove bottlenecks and unlock and accelerate the electrification of our economy. The challenge of the electrification plan will be to ensure coordinated planning and investment across all segments of the system: generation, infrastructure, flexibility, and demand. In turn, businesses need visibility on the access to competitive, secure and decarbonised electricity to continue operating, plan and to roll-out investments and shape their decarbonisation trajectories.

The upcoming policy initiatives should therefore provide a coherent, efficient and predicable framework to make electricity and electrification affordable and globally competitive, derisk investments and support the rollout of underlying infrastructures and related value chains that will be needed to sustain electrification. Below we highlight seven key policy levers to increase the electrification rate in Europe.

MAKING ELECTRICITY AFFORDABLE

A key barrier to further electrification remains the availability of affordable electricity. In 2024 retail electricity prices paid by industrial consumers on average in the EU were at least 50% higher than in 2019 and remain at least twice as high than in the US⁴. Based on CompassLexecon projections, the average cost of electricity generation is expected to remain at least 50% higher in Europe compared to the USA, China and India until 2050⁵.

¹ Based on CompassLexecon study for BusinessEurope (2024). Energy and climate transition: How to strengthen the EU's competitiveness

² Ibidem.

³ The CompassLexecon study demonstrated that a well-integrated EU electricity market with a higher share of electricity in the mix, coupled with the necessary flexibility and infrastructure, can bring up to 30% lower total system costs by 2050.

⁴ Market Observatory for Energy at DG Energy (2025). Quarterly report on European electricity markets. Figure 28

⁵ CompassLexecon for BusinessEurope (2024). Energy and climate transition: How to strengthen the EU's competitiveness.

Furthermore, the price of electricity is still predominantly influenced by fossil fuel prices. The JRC⁶ has forecasted that fossil-fired power plants will continue setting the marginal price of electricity in the EU in the current decade given the energy mix and reliance on expensive and volatile LNG supply, worsening the outlook of affordability for businesses.

A viable business model needs to be created to both, incentivise electrification and support competitiveness. In this respect, while its effect still needs to be seen, the Action Plan for Affordable Energy rightly combines short-term measures to drive down energy prices including measures at Member State level with structural reforms to reduce system costs.

This plan should now be urgently translated into concrete action to lower energy costs and provide credible medium and long-term signals. A thorough review of the whole cost structure faced by consumers is needed, along with additional efforts to reduce overall system costs.

The following components should in particular be pursued:

- Reviewing the EU energy taxation framework to ensure both competitive end user taxes and fiscal stability for Member States. A revised ETD should achieve a practical and competitive framework for businesses operating within the EU with measures that complement, rather than contradict or restrict, the broader Clean Industrial Deal policy agenda⁷.
- Addressing the rising system costs. As fossil fuels play a diminishing role in the electricity market due to the increasing share of renewables, levies and charges (e.g., for renewable support schemes and backup capacity) are projected to rise⁸. The same applies to network fees if the projected cost increases due to grid extensions and reinforcements are not balanced out by increasing amounts of demand. As proposed in the recently published guidance on network charges, Member States must ensure a fair and efficient allocation of these costs among users based on the principle of cost causality and recognition of their benefits to the system. Reflections on system cost tariffing should also take into account the exposure of industrial companies to competitiveness risks alongside the broader "toolbox" combining European and national instruments.
- Preserving the framework for indirect cost compensation under the EU ETS including for CBAM sectors beyond 2030 to address the indirect carbon costs passed on to European consumers through electricity prices?.

IMPROVING THE LONG-TERM CONTRACTING FRAMEWORK

Businesses require access to clean electricity at a stable, predictable and competitive price to invest confidently in electrification. Long-term instruments like PPAs, CfDs or other forms of multi-year contracts between two parties are important levers to provide such visibility and stability in a system with increasingly volatile prices, decouple electricity prices from fossil fuel prices, and stimulate long-term investment in the most competitive and efficient solutions.

The national implementation of the European market design (EMD) reform, also listed in the Affordable Energy Action Plan, can help to unlock long-term contracting and create market signals, and should be prioritised. It includes a number of relevant provisions on supporting the PPA market by removing unjustified barriers or putting in place guarantee schemes to reduce the financial risks

⁶ Gasparella, A., Koolen, D. and Zucker, A. (2023). The Merit Order and Price-Setting Dynamics in European Electricity Markets, European Commission, JRC134300.

⁷ See BusinessEurope's letter on the proposed revisions to the Energy Taxation Directive (2024).

⁸ CompassLexecon for BusinessEurope (2024). Energy and climate transition: How to strengthen the EU's competitiveness, p.52.

⁹ This bullet reflects existing positions on indirect cost compensation. BusinessEurope will develop further positions on indirect cost compensation as part of its work on ETS.

associated to the offtaker payment default. In the annex we point out a number of existing barriers to long-term contracts which should be scrutinised and addressed. In general, long-term contracts should restore medium- and long-term investment signals and ensure stable, predictable, and competitive electricity prices, decoupled as much as possible from the price of fossil fuels.

In addition, the EMD reform obliges Member States to use two-way Contracts for Difference (CfDs) or equivalent schemes with the same effects for their direct price support schemes to support new investments in electricity generation. While CfDs will play an important role in ensuring sufficient investments for decarbonised generation, a more widespread use of CfDs can have unintended consequences on the functioning of the short-term market which should be carefully monitored. The following conditions should in particular be applied:

- CfD's should be designed in a way that incentivises energy producers to be responsive to price signals in order to ensure the optimal dispatch of all the resources in the market and an efficient use of demand side flexibility.
- When CfD-based schemes are implemented by Member States, any revenues being collected
 must be redistributed to final electricity customers or be used to finance the costs of the direct
 price support schemes for generation. In this context, the tripartite contracts as suggested in the
 Affordable Energy Action Plan can be an interesting tool to empower Member States to commit
 to transferring any revenues collected to customers.

ENSURING A BALANCED APPROACH TO FLEXIBILITY

System flexibility is a necessary component of a decarbonised power system. It will contribute to decreasing the volatility of electricity prices and creating a more stable investment environment. In November 2024 ACER concluded¹⁰ that limited system flexibility led to high day-ahead prices and instances of low or negative prices, creating challenges for market operations and investment.

A balanced and inclusive approach – grounded in technological neutrality – is needed to reduce system costs and support price stability and system adequacy. This should consider the full range of flexibility solutions: storage, demand-side flexibility, as well as low-carbon and renewable dispatchable generation.

Additional flexibility on the demand and supply side can be supported by exposure to market signals and additional market incentives in accordance with evolving EU network codes and guidelines.

- National Regulatory Authorities (NRAs) should utilise their options to incentivise grid-flexibility
 with time-of-use tariffs, capacity tariffs, and voluntary flexible grid connection agreements,
 particularly in the short term, while network reinforcements are being planned and implemented.
- Appropriate price signals could also encourage industrial sectors with the technical and commercial ability to do so to shift their electricity consumption to specific time intervals (e.g. hourly clusters), helping to stabilise baseload demand and reducing the need for compensation schemes triggered by under/over production from non-dispatchable renewables.
- Furthermore, a more 'flexible' approach to the participation of demand-side resources in the
 market (e.g., through an intermediary such as an aggregator or a retailer) can be relevant (e.g.,
 by bilaterally adjusting with the intermediary the notice time for demand reduction, duration of
 reduction or number of demand drops per week). This can enable more sectors to contribute to
 flexibility, which will also improve the overall system's efficiency, thanks to the various adaptation
 capacities of those different sectors.

¹⁰ ACER (2024). Progress of EU electricity wholesale market integration. 2024 Market Monitoring Report.

At the same time, some industries do not present a high flexibility potential due to operational, safety and technological aspects.

- The role of the baseload industrial consumption should also be acknowledged and renumerated as it provides real value to the grid and contributes to an efficient use of grid capacity.
- Such baseload consumers exposed to competitiveness risks should not bear disproportionate
 costs arising from the system-wide flexibility needs of an increasingly variable mix. Responsibility
 for providing flexibility should be shared fairly across all system participants, including
 responsiveness of producers during negative price situations or obligations to participate in
 balancing mechanisms.
- It is also concerning to note that CISAF introduces a new concept of "flexible electrification"
 which can become a burden for industrial consumers that want to electrify and need the baseload
 electricity. All consumers should be incentivised to explore possibilities for their own flexibility.

In general, the overall aim should be to ensure a stable energy market and a reliable energy supply, without over-dependency on user flexibility. Investments in flexibility must always be economically attractive without triggering any adverse economic effects, for instance on production continuity.

SUPPORT THE DERISKING AND TARGETED FINANCING OF ELECTRIFICATION INVESTMENTS

Further financing measures are needed to lower the investment gap and kick-start electrification at scale. As public funding cannot cover the entire investment needed for electrification, **financing** measures should be focused on derisking private investments to reach an electrification at scale.

Investments in electrification and flexibility often come with high CAPEX costs for the individual enterprise. In light of these barriers, an adequate part of the upcoming Industrial Decarbonisation Bank should be allocated to electrification projects, as it can effectively finance and support the derisking of investments by bridging the high CAPEX costs and, in limited cases, the OPEX costs related to the electrification of end-uses in energy-intensive sectors.

As further described in the Annex, the European Investment Bank's PPAs pilot scheme is a useful mechanism to derisk investments in generation projects by reducing the financial risks associated to the offtaker payment default and improving access to PPAs. The announced €500 million budget of the scheme is not big enough to cover the needs and should be enlarged by the end of the year.

INCREASE EU FUNDING FOR GRIDS AND IMPLEMENT COST SHARING SCHEMES

Increased EU funding will be especially crucial to **support the development of the energy infra-structure** for electricity and hydrogen and to lower costs for final consumers, based on a coordinated long-term planning (i.e., common scenarios aligned with the carbon neutrality objective, harmonised cost benefit analysis etc.). According to the Commission, €584 billion in investments are necessary to support EU's electricity infrastructure¹¹.

With over 30% of EU's electricity distribution grids being more than 40 years old and cross-border transmission capacity due to double by 2030, the **investments must be scaled drastically** to support

¹¹ European Commission (2023). EU Action Plan for Grids.

the electrification and lower energy prices for European industries and consumers. At the same time, a more efficient use of the existing grid infrastructure must be prioritised to ensure that it is used to its maximum potential.

The Connecting Europe Facility for Energy (CEF-E) already funds cross-border energy infrastructure but has had a limited budget of €5.44 billion (in 2025 prices) in the current MFF. Given the massive investment needs, it is positive that the Commission proposed to significantly extend the fund under the EU's next MFF to €26.5 billion.

As the CEF-E funds will not be able to cover the entire investment gap for energy infrastructure deployment since it is focusing mostly on cross-border projects under the TEN-E, it is key that the CEF-E funds will be targeted to derisk investments of benefits for the European energy system integration.

To harvest the full potential of highly concentrated renewable resources (e.g. the offshore wind in the north, solar PV in the south) there is a need to consider on a regional level a fair sharing of the costs according to how the energy production benefits and costs Member States both directly and indirectly. A multilateral cost-sharing mechanism for infrastructure could be considered which distributes risks and costs between Member States, not just those physically hosting the project.

At the same time, a prerequisite for a strengthened internal market for electricity going forward is that each Member State has a responsibility to ensure a resilient and reliable electricity system. The ambition to strengthen electricity system through interconnectors should therefore also include incentives for individual Member States to assume responsibility for building electricity systems that contribute to wider system benefits. Such incentives or requirements at the national level should include ensuring sufficient dispatchable power generation in connected bidding zones to always be able to meet expected demand.

IMPROVE PERMITTING FOR ENERGY INFRASTRUCTURE

Many critical energy infrastructure projects face substantial delays due to lengthy and bureaucratic permitting procedures. The lead times for new projects can be up to 8-10 years for high-voltage distribution line projects and at times even up to 17 years for transmission line projects. The complexity of permitting regulations and the differences in their application across Member States cause delays, uncertainty, and challenges, especially for projects involving multiple countries or large industrial operators.

To strengthen investment conditions in the energy sector and accelerate the deployment of critical infrastructure, it is essential to establish a more harmonised and predictable permitting framework across the EU. The current fragmentation of national procedures creates delays and uncertainty, hindering the timely realisation of strategic projects and slowing progress towards the EU's energy objectives.

REDIII provides that Member States should presume renewable energy plants and their related infrastructure and storage assets to be of overriding public interest and serving public health and safety. This is step in the right direction to make sure that permitting is as swift as possible with due regard to environmental concerns. As the REDIII implementation has been uneven and insufficient, ensuring the transposition and implementation of REDIII provisions is a good first step to accelerate permitting.

At the same time, beyond infrastructure related to renewable energy plants, connections and grid infrastructure in general must also be recognised as a matter of overriding public interest given its critical role. Similarly to the REDIII rules for renewables acceleration areas, a fast-track procedure

could be made for projects that are included in the NECPs as critical infrastructure projects, including PCI projects and infrastructure that is necessary for the realization of TEN-T projects. To ensure transparency and credibility, **objective and consistent criteria should be established at EU level** to determine which projects qualify for fast-track permitting status and associated exemptions. This would prevent arbitrary decisions and provide greater certainty to investors. Furthermore, the introduction of a **time limit on environmental impact assessments** will reduce the risk of lengthy permitting procedures, without lowering the environmental standards.

In parallel, Member States should be required to establish or strengthen dedicated permitting authorities with efficient resources and knowledge to coordinate and accelerate permitting procedures. These bodies can play a vital role in reducing administrative burden, improving predictability and serving as a single interface for project developers navigating complex regulatory landscapes.

Moreover, early and structured engagement with local communities and stakeholders should be embedded in fast-track permitting processes. This can significantly reduce opposition and the likelihood of legal challenges, while improving the social acceptance of projects that are critical to the energy transition.

OPTIMISE PLANNING AND CONNECTION DECISIONS

In some Member States it can take several years for industrial consumers, generation or storage projects to obtain or expand the grid connection which further delays the electrification investments. In general, the root cause of such delays is the **scarcity of grid connection capacities** which has increasingly led to problems in the management of connection queues. When it comes to connection queues, currently projects are being assessed based on "first come, first served" queuing principle which can indeed lead to speculative requests 'blocking' the queue.

There is a need to optimise the grid connection queues to improve investments visibility and address the drawbacks of the current "first come, first served" system. This is why it could be relevant to **identify priority connection areas**, in coordination with regulators, based on industrial maturity and planning visibility, which would allow for better synchronisation between grid investments and industrial developments. Other solutions could also include **preventive measures** to discourage speculative projects (e.g. milestone-based monitoring, financial guarantees etc.).

In any case, any revision of the scheme and respective regulation **must be transparent in its criteria**, ensure grid operator independence, and protect projects from delays they are not responsible for. Stakeholder involvement, both industrial and local, will be essential to implementation. Importantly, this must also ensure a fair balance between different user categories.

ANNEX: BARRIERS TO LONG-TERM CONTRACTS

Building on the BusinessEurope position on Power Purchase Agreements¹², we would like to point out the following barriers to long-term contracting which should be swiftly addressed:

- managing counterparty risk: the EMD reform rightly requires Member States to put in place financial instruments to mitigate the financial risks associated with the non-payment of offtakers, such as guarantee schemes at market prices. This is crucial in extending the duration of PPA contracts and to allow smaller entities to access such instruments. At the same time, the schemes set up in the context of EMD will depend on the country's willingness to finance them. This is why a European approach is necessary, and good steps were made in this regard with the announcement of EIB-backed guarantee scheme. Its €500 million budget will likely be too small to cover the needs and should be expanded by the end of the year.
- reducing shaping/firming costs: addressing this requires a broader set of contractual and policy solutions, including the Commission's still-to-be-defined clean flexibility instrument, the exploration of tripartite contracts between governments, producers, flexibility providers and consumers, aggregating (pooling) demand for PPAs by a third party such as an aggregator or an energy service provider, or other targeted measures including State aid all of which must be carefully designed to mitigate PPA premia and cover associated flexibility costs while avoiding undue market interventions and competition distortions. The Commission should now follow through on its commitment in the Affordable Energy Action Plan to seek Member States' views and come forward with concrete proposals. These instruments must complement broader EU initiatives to ultimately accelerate the deployment of non-fossil flexibility assets such as storage, demand response and flexible generation which are needed to structurally reduce shaping costs and deliver competitive long-term prices.
- barriers to signing cross-border PPAs: the ability to secure cross-border capacity reservations
 with a horizon of more than one year is important for the stimulation of a pan-European PPA
 market. It is currently only possible to acquire transmission rights for the following calendar
 year. Extending the maturities of Long-Term Transmission Rights (LTTRs) on interconnections
 should be further explored to facilitate the development of a cross-border PPA market in order
 to limit the risks for the contractual parties.
- lack of clarity for projects combining CfDs and PPAs: it is essential to maintain complementarity between the two instruments to ensure small and medium industries unable to contract the full production of a (large) renewable facility can also have access to PPAs. As defined in the EMD reform, support schemes for electricity from renewable sources shall allow the participation of projects which reserve part of the electricity for sale through a renewable PPA or other market-based arrangements. Auction rules should allow for such carve-outs enabling partial contracting under PPAs alongside CfDs without imposing contractual conditions on the PPA.
- regulation of physical vs financial PPAs: financial PPAs are required to be reported as derivatives
 that are revalued according to the market. Such revaluation can lead to movements in profit and
 loss statement for energy intensive companies. Assessing accounting obligations on PPAs is
 recommended to make sure these are not a barrier for companies to enter PPAs, together with
 simplifying reporting for financial PPAs and providing additional guidance. In general, further
 clarity is needed to understand the rules distinguishing physical vs financial PPAs, which are
 governed by different sets of legislations.

¹² BusinessEurope (2022). Response to the public consultation on permit-granting processes for renewable energy projects & Power Purchase Agreements.

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Avenue de Cortenbergh 168 B - 1000 Brussels, Belgium Tel: +32(0)22376511 / Fax: +32(0)22311445

E-mail: main@businesseurope.eu

WWW.BUSINESSEUROPE.EU

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