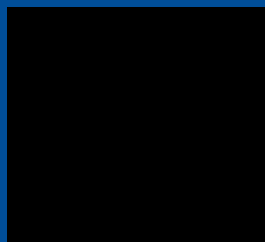
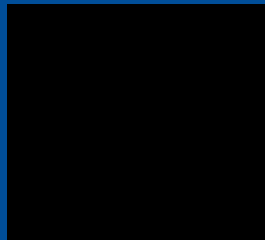
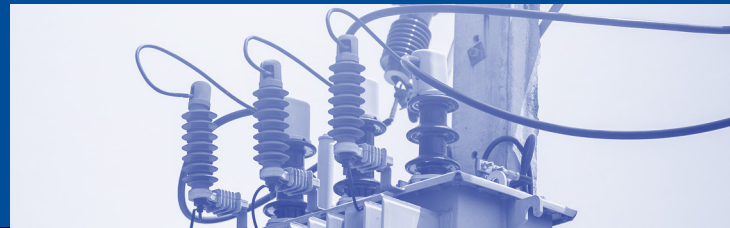


The Polish way to Electrification

How to use the EU Plan to effectively transform the national economy?

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Warsaw 2026



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Abstract

Electrification is becoming one of the key drivers of the transformation of European economy. In the *Electrification Action Plan* presented in July 2026, the European Commission proposed increasing the share of electricity in the EU's final energy consumption to 46% by 2040. Reaching this level would require a significant acceleration in the pace of electrification – the rate of growth would have to be around nine times higher than the average since 1990. The Commission also points out that electrification could reduce the EU's expenditure on fossil fuel imports by as much as €260 billion a year by 2040 and lower the costs of electricity generation by around 20 per cent. From Poland's perspective, these proposals primarily serve to clarify the direction of the energy transition – whilst many of them are not new to us, they accurately identify the areas that will determine the success of electrification in the coming years.

The most important of these include:

- **the expansion and financing of electricity grids** – grid charges already account for 24–29 per cent of household bills in the EU and will rise in line with investments;
- **the high initial costs of electrification** – for households and for businesses, new financing models (social leasing, *Energy-as-a-Service*) and the use of revenue from ETS2 will be key;
- **reform of network charges and tariffs** – in the Polish context, the scope for the tax ratio between gas and electricity is limited, but revenue from ETS2 can be utilised and the methodology for valuing the cost of capital and network assets (WACC, WRA) can be reformed;
- **the industrial potential of electrification** – growing demand for heat pumps, energy storage systems and electric vehicles presents an opportunity for accelerated development of the domestic *cleantech* sector.

It will now be crucial for Poland to translate these directions into specific actions on the national level. In the coming months, Poland should, above all:

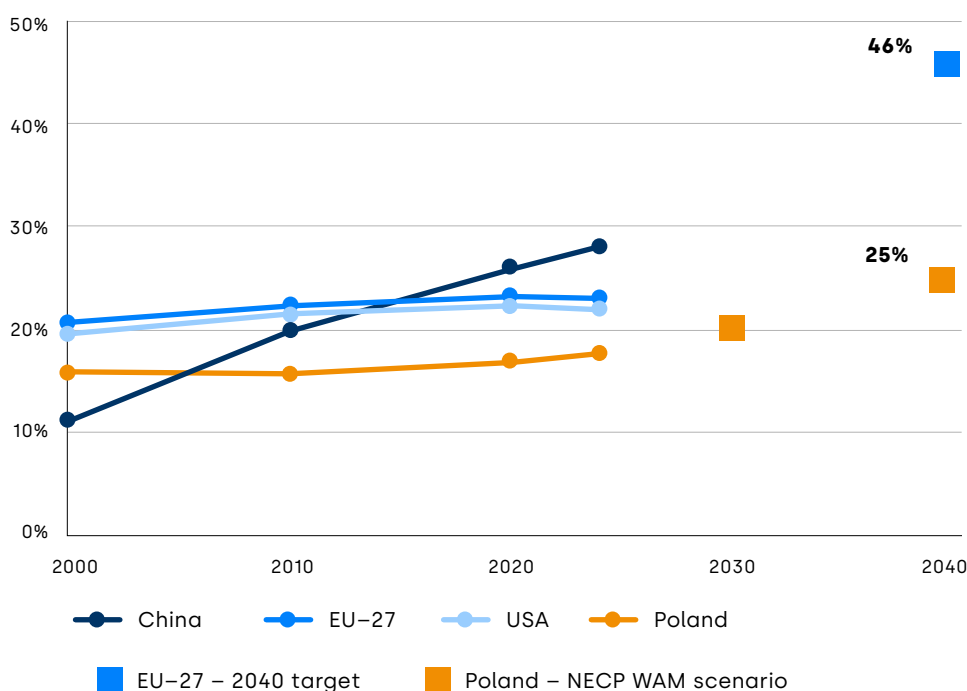
- **draw up proposals regarding support for electrification and targets in the context of the forthcoming 'legal framework for renewable energy after 2030'**, so that they reflect Polish needs and enable the potential of the Polish economy's electrification to be harnessed;
- **analyse and reform the system of network charges and tariffs** so that it supports investment, demand-side flexibility and the development of electrification without an excessive increase in consumers' bills, and make use of available public funds, including revenue from the ETS2;
- **draw up a national electrification roadmap** to coordinate efforts in transport, buildings, industry and the energy sector, and identify sources of funding;
- **create the conditions for the development of the market for electrification technologies**, including new financing models, local incentives for investors and cleantech sector.

The effective translation of the EU's proposed direction into national action will enable Poland not only to prepare for the coming changes, but also to use electrification to reduce energy costs, enhance energy security and build a competitive advantage for the Polish economy.

1. Introduction

Despite the progress in the energy transition, the level of electrification of the economy in the European Union has remained virtually unchanged for over a decade, standing at around 23 per cent of final energy consumption¹ (by comparison, according to data from the International Energy Agency (IEA), in 2024 the share of electricity in final energy consumption in China stood at 28%)². In Poland, this number is even lower – according to IEA data, electricity accounts for around 20 per cent of the country's final energy consumption³.

Figure 1. Share of electricity in final energy consumption – selected regions



Source: Own analysis based on data from the International Energy Agency⁴ and Eurostat⁵.

The package of proposed reforms, including the Electrification Action Plan (EAP), presented by the European Commission in July 2026 sets an indicative target of increasing the share of electricity in the EU's final energy consumption to 46 per cent by 2040. This target is an EU-wide one – the level of ambition will be subject to further discussions and its translation into national targets and the method for monitoring the progress will be determined as part of the revision of the Regulation

¹ European Commission (2026), Electrification Action Plan, eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52026DC0595.

² International Energy Agency (IEA, 2025), *Electricity 2025*.

³ International Energy Agency (IEA, 2026), *Share of electricity in total final energy consumption and weighted average electricity/gas price ratio by country, 2025*.

⁴ International Energy Agency (IEA, 2021), *Share of electricity in total final consumption in selected countries and regions, 2000–2020*; IEA (2026), *World Energy Balances*; IEA (2025), *Electricity 2025*.

⁵ Eurostat (2026), *Energy in Europe – 2026 edition*.

on the Governance of the Energy Union and Climate Action⁶, a proposal for which the Commission is due to present in the Q4 of 2026. Achieving the target proposed by the Commission would require the pace of electrification in the EU to accelerate by a factor of approximately nine compared with the average rate observed since 1990⁷.

The Commission argues that electrification is essential to reduce the EU's dependence on imported fossil fuels and to enhance energy security. Recent geopolitical crises have shown that dependence on oil and gas imports leads to higher and more volatile energy costs. Consequently, electrification is intended to improve the competitiveness of the European economy – Commission estimates that it could reduce expenditure on fossil fuel imports by up to €260 billion a year by 2040 and lower the cost of electricity generation by around 20%⁸. Accelerating electrification is also expected to boost demand for clean technologies, such as heat pumps, electric vehicles and energy storage systems, creating a larger market for European manufacturers and enhancing the profitability of investments in their production.

However, the starting points and barriers to electrification vary between Member States. Therefore, in this paper, we present the European Commission's proposals that are key from the Polish perspective.

⁶ Regulation (EU) 2018/1999 of the European Parliament and of the Council (2018) on the governance of the Energy Union and climate action, is available [here](#).

⁷ Eurostat.

⁸ European Commission (2026), *Electrification Action Plan*, p. 1.

2. Flexible and efficient grids as a prerequisite for effective electrification

In the *Electrification Action Plan*, the European Commission points out that **the further integration of renewable energy sources requires a removal of barriers related to grid planning, locational signals, energy storage and system flexibility development**. These challenges are also clearly present in Poland, where a growing number of grid connection refusals and increasingly frequent curtailments of renewable energy generation highlight the limitations of the current model of the electricity system. In 2025, operators refused to issue connection conditions for projects with a total capacity of 107 GW⁹, and as part of non-market curtailment, approximately 1.4 TWh of renewable energy was curtailed – the highest figure on record. According to analyses based on data from Polskie Sieci Elektroenergetyczne (PSE, Polish TSO), approximately 98% of these reductions were due to insufficient system flexibility¹⁰.

The Commission is responding to these challenges by proposing measures to increase the flexibility of the electricity system and facilitate the integration of renewable energy sources. **The development of a new network code and a review of the existing codes on Requirements for Generators and Demand Connection Code has been announced**, to facilitate the integration of energy storage, DSR services, heat pumps and electric vehicles into the electricity system. Also, **an ambitious target of increasing the capacity of energy storage in the EU from around 55 GW at present to 200 GW by 2030 has been set**, introducing measures to support the development of both short-term and long-term storage technologies. This is in line with the objectives of the Tripartite Agreement on Energy Storage concluded in June 2026, which aims to accelerate the implementation of storage projects in cooperation with Member States and the private sector.

To improve investment planning, the Commission will develop the GeoDep tool, which will provide information on local investment conditions, such as infrastructure availability, proximity to generation sources, and electricity and gas price relationships. These measures will be complemented by the creation of a detailed database on renewable energy auctions and flexibility support mechanisms. It is intended to help Member States design more effective support schemes.

The Electrification Action Plan also encourages the development of vehicle-to-grid (V2G) technology – by the end of 2027, technical requirements are to

⁹ The Energy Regulatory Office, *Accelerator, Digital Twin, an auction for offshore wind energy and the first decisions establishing the hydrogen market – Report on the activities of the President of the Energy Regulatory Office in 2025 now available*, 6 May 2026. It should be borne in mind, however, that these figures include all rejected applications (including multiple submissions of the same projects) and may therefore not correspond to the actual capacity of installations that were ultimately not connected to the grid.

¹⁰ Wójcik, J. (2026), *2025 wrapped. A quick of the most interesting data in the field of the electricity sector from 2025*, Energy Forum, Warsaw.

be defined so that all new electric vehicles brought onto the market from 2030 onwards will enable bidirectional charging. This is important not only for utilising electric vehicles as a source of flexibility, but also for reducing the costs of integrating growing energy consumption in transport – V2G can help reduce the demand for peak capacity¹¹. If the EV market continues to develop too slowly, transport may become the weakest link in electrification and limit the scale of the benefits that V2G can bring to the system.

Figure 1. Solutions proposed by the European Commission to increase the flexibility of the electricity system.

Barrier	Insufficient flexibility of the electricity system and grid infrastructure constraints, hindering the integration of growing amounts of energy from renewable sources.
Proposed solutions	▪ Development of energy storage – increasing storage capacity in the EU to 200 GW by 2030. ▪ Increasing system flexibility – DSR, integration of heat pumps and EVs, and new/amended network codes. ▪ Vehicle-to-grid (V2G) – bidirectional charging of electric vehicles as a source of flexibility and a means of limiting peak load in the system.

¹¹ Janik, K., Niewiata-Rej, M. (2026), *Vehicle to everything. Electric vehicles on the path to increasing system flexibility*, Reform Institute, Warsaw.

3. Affordable electrification – reducing entry costs

Another barrier accurately identified by the Commission in the Electrification Action Plan are the high upfront costs associated with electrification. Although electrification may lead to lower operating costs in the long term, the need to incur high capital expenditure in the beginning remains a significant obstacle for both households and businesses. The Commission notes that several instruments supporting electrification are already available in some Member States; however, their use should be strengthened and better targeted. Moreover, it proposes the development of new financing models.

For households, one of the solutions proposed by the Commission is the social leasing – a mechanism intended to mitigate high upfront costs by enabling people to use electric vehicles, heat pumps or other technologies in exchange for an affordable, predictable monthly fee. Similar solutions have already been implemented in France in relation to electric cars. The French government has also announced plans to extend this model to heat pumps as part of its national electrification strategy. Since the launch of the support scheme for electric cars, over 100,000 households have already benefited from it, prompting the government to continue and expand the scheme. The Electrification Action Plan calls for this model to be adopted in Member States – the Commission intends to monitor its implementation and support countries in channelling EU funds, including from the Social Climate Fund, towards social leasing schemes, whilst also encouraging them to secure long-term national funding for these schemes.

For business, on the other hand, the Commission is promoting **the development of Energy-as-a-Service (EaaS) models**. In such models, the investment is financed by an external supplier and the customer pays for the energy service provided rather than bearing the full cost of the investment at the start of the project. The EaaS model has been operating on the Polish market for several years now, allowing the costs of electrification to be spread over time for the customer and providing the electricity supplier with greater certainty regarding long-term financing. It is worth not only to support its wider adoption, but also to create a clear legal and taxation framework for it, which will increase market predictability and enable EaaS model to be used as a tool to accelerate electrification. At the same time, the EAP envisages **wider use of long-term contracts (PPAs and CfDs), guarantee instruments and EU financial support**, so as to mitigate investment risk and make it easier for businesses to make decisions on electrification.

Figure 2. Solutions proposed by the European Commission to reduce the initial costs of electrification.

Barrier	High initial costs of electrification (high entry cost) – particularly for households and businesses.
Proposed solutions	▪ Social leasing – spreading the cost of the technology into affordable, predictable monthly payments. ▪ Energy-as-a-Service (EaaS) – a model in which customers pay for an energy service or performance over time, while an external provider may finance, own and/or operate the underlying energy assets. ▪ PPAs, CfDs and guarantee instruments – long-term contracts and guarantees that limit investment risk.

4. Cheaper energy, more efficient grids? Regulation on the future of electricity bills

Grid charges currently account for a significant proportion of electricity costs across the EU. According to the European Commission, in recent years they have accounted for an average of 24–29% of household bills¹². At the same time, as the cost of the energy itself falls and investment needs rise, grid costs will become increasingly significant. In Poland, this pressure is already evident: in 2025, the average price of electricity for households, including distribution fees, stood at 0.92 PLN/kWh¹³, which is over 11% higher than the previous year, and for 2026, the Energy Regulatory Office (URE) approved an average increase in distribution tariffs of 9.36%, justifying this, amongst other things, by the need to expand and modernise the grid¹⁴.

The Commission therefore proposes a change to the rules governing the structure of system costs, outlining several ways to reduce the costs of electrification and finance the necessary investments.

Firstly, **reversing the tax incentives that favour gas over electricity** – the minimum level of taxation on electricity would be lower than that on gas, which could support electrification, although it would also mean lower revenue from energy taxes. In the Polish context, however, the scope for such an adjustment is limited, as there is no straightforward ‘tax buffer’ that can be used to reduce the tax burden on electricity relative to gas. According to calculations by the Reform Institute, in 2025 actual taxes and charges other than VAT accounted for approximately 8.4% of a household’s electricity bill, whilst VAT accounted for a further 18.7%¹⁵. Excise duty alone – a tax levied on energy products – offers very little scope for altering the cost ratio between electricity and gas: its rate currently stands at 5 PLN/MWh for electricity (i.e. 0.5 gr/kWh) and 1.38 PLN/GJ for heating gas (i.e. approx. 0.5 gr/kWh)¹⁶. Some scope may be created by using domestic revenue from the ETS2, including to temporarily reduce VAT on electricity, whereby part of the funds could simultaneously support electrification and reduce its costs for consumers¹⁷.

Secondly, implementing **direct fiscal support for the costs of electrification**, e.g. through a temporary reduction in energy costs using public funds. Moreover, the Commission proposes the possibility of using funds from national budgets to finance grid development and reduce the costs borne by grid users, setting out the conditions for such support: it should be non-discriminatory, consistent with the principle of cost reflection, and must not undermine incentives for the efficient development of the grid or its flexible use. Funding is to be temporary in nature and primarily cover the additional costs associated with accelerating electrification and decarbonisation.

¹² European Commission (2026), *Electrification Action Plan*, eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52026DC0595.

¹³ Energy Regulatory Office (2026), *Notice No. 15/2026 of the President of the Energy Regulatory Office on the average price electricity for domestic customers, including a charge for the provision of electricity distribution services, calculated on the basis of the prices set out in comprehensive contracts in 2025*.

¹⁴ Energy Regulatory Office, *The President of the Energy Regulatory Office approved the tariffs for the sale and distribution of electricity for 2026* on 17 December 2025.

¹⁵ Janik, K. (2026), *Poland's electricity taxes are lower than those reported by Eurostat. Why is that?*, Reform Institute, Warsaw. Eurostat reports that in Poland, taxes and charges account for 42.9 per cent of a household's electricity bill, whilst an analysis of the actual G11 tariff carried out by the Reform Institute indicates 27.1 per cent – comprising 18.7 per cent VAT and approximately 8.4 per cent other taxes and charges. This discrepancy stems primarily from Poland's inclusion in the EU ETS emission allowance costs under Eurostat's 'environmental taxes' category, even though these are not a tax but a component of the energy price.

¹⁶ Ministry of Finance (2025), *Tax rates*, 15 December 2025.

¹⁷ Madej, D., Stefańczyk, A., Śniegocki, A. and Wojtyło, M. (2026), *A fair and ambitious modernisation of Poland. How to spend billions from ETS2 effectively?*, Reform Institute, Warsaw.

Thirdly, the appropriate **setting of network tariffs**. The Commission recommends that Member States ensure greater transparency in tariff methodologies and introduce a requirement for public consultation prior to their approval. This is a significant change from the perspective of Poland, where tariffs are approved by the Energy Regulatory Office (URE) through administrative proceedings, without a corresponding requirement for a public consultation regarding draft tariff methodologies. In the context of growing investment needs and the changing role of the grid, it is also worth considering whether the current tariff methodology in Poland is adequately aligned with the objectives set for the system in the light of the ongoing energy transition: to provide consumers with a supply that is affordable, reliable and safe. This requires transparent rules regarding the weighted average cost of capital (WACC), the valuation of the regulatory asset value (RAB) and the inclusion of investment expenditure in tariffs, so as to effectively support necessary network investments whilst limiting the risk of excessive increases in consumers’ bills.

Fourthly, the introduction of **special tariff schemes for selected groups of customers**. The proposal to ensure that all special tariff schemes for specific categories of customers, including energy-intensive industries and data centres, comply with the principle of cost reflection is a positive development. However, this requires a careful design of such schemes – so that, on the one hand, they reduce the total cost of energy, whilst, on the other, they maintain appropriate price signals. Potential solutions worth considering in Poland could include, for example, reducing the fixed components of the bill whilst maintaining a cost-reflective energy price, or applying block tariffs, where a specified level of consumption is charged at a lower rate, and subsequent units are billed at a higher price. At the same time, the Commission points out that when designing such tariffs, factors such as the profile and timing of energy consumption, as well as the consumer’s location, should be taken into account, particularly where the consumer can provide services to the system, for example by providing flexibility or energy storage. As shown by the Reform Institute’s analysis of the capacity fee, appropriately designed tariff signals can encourage industrial customers to manage their consumption flexibly and make better use of surplus energy from renewable sources¹⁸.

Figure 3. Measures proposed by the European Commission to reduce the cost of electricity consumption.

¹⁸ Beyer, E. (2026), *Capacity fee for a flexible grid*, Reform Institute: Warsaw

Barrier	High costs of electricity consumption resulting from rising network charges, which limit the competitiveness of electrification compared to fossil fuels.
Proposed solutions	▪ Changes to tax incentives – lower taxation on electricity compared to gas. ▪ Public support using revenue from the ETS2 – including a temporary reduction in VAT on electricity and the financing of additional costs of electrification and grid development from public funds. ▪ Shaping grid tariffs – greater transparency in methodology and public consultation. ▪ Special tariff arrangements – e.g. block tariffs or changes to fixed components of the bill.

5. Summary: assessment of the EU's proposals from Poland's perspective and next steps

From Poland's perspective, **the Commission's proposals should be seen as clarification of the direction in which the national electrification framework should develop. Many of the proposed solutions are not new to Poland.** Some are already in operation on our market; there have also been changes to the rules governing grid connection (e.g. the amendment to the Energy Act UC84), introducing solutions similar to what Commission has now proposed. At the same time, the EAP and the draft *Regulation on the future of electricity bills* accurately identify areas that will become increasingly important for the success of electrification: the growing significance of network charges, the upfront costs of investment, and the need to increase system flexibility. It is also to be welcomed that the proposals concerning energy bills are taking the form of a legislative initiative, which offers an opportunity to translate some of these guidelines into specific obligations for Member States.

For Poland, the key task now will be to translate the guidelines set out by the Commission into national measures. Their efficient implementation could help to accelerate electrification, reduce energy costs and maintain the competitiveness of the Polish economy. It is therefore worth using the coming months to set in motion processes that will enable Poland to prepare for the upcoming changes and, in some cases, to stay ahead of the European timetable.

Table 1. National measures in response to the Electrification Action Plan

Area	What should be done in Poland as early as 2026?	Entity responsible for implementation
Objectives and framework for electrification in Poland	To draw up Polish proposals regarding support for electrification and related targets in the context of the forthcoming ' <u>legal framework for renewable energy post 2030</u> ' and the amendment to the Regulation on the governance of the Energy Union and climate action, so that they reflect Poland's needs and enable the potential of the Polish economy's electrification to be realised.	Ministry of Energy, Ministry of Climate and Environment, Ministry of Foreign Affairs (Permanent Representation of the Republic of Poland to the EU)
Transparency and the development of a system of network charges	To analyse how the current charging structure and tariff calculation methodology can be adapted to the growing electrification and investment needs of the grid, and to propose options for fiscal support for grid expansion (e.g. a plan for spending funds from ETS2), which would help to limit the pressure for tariff increases without distorting incentives for grid development and its efficient use. Electrification should also be one of the key elements of the National and Regional Partnership Plan (PPKR) currently being prepared.	Energy Regulatory Office (URE)

Area	What should be done in Poland as early as 2026?	The body responsible for implementing in Poland
Better alignment of charges and consumers' obligations with their impact on the system	To analyse whether the current mechanisms relating to specific consumer groups – in particular energy-intensive industries – provide sufficient incentives for behaviour that benefits the system, such as reducing consumption during peak periods and increasing flexibility.	Energy Regulatory Office (URE), Ministry of Energy – the process requires inter-institutional cooperation
National electrification roadmap	Start the preparation of a <i>National Electrification Roadmap</i> to organise and coordinate cross-cutting and sector-specific actions. The <i>Roadmap</i> should also identify the necessary funding mechanisms for individual actions and be developed in collaboration with the energy sector and consumer sectors.	Ministry of Energy
Contracting models and financing models for electricity	Begin developing a legal framework for <i>Energy-as-a-Service</i> and related models and analyse the possibility of combining PPAs with CfD mechanisms, so as to enhance the attractiveness of the support scheme and the predictability of revenue from new investments.	Ministry of Energy – the process requires extensive consultation with the industry, involving both renewable energy producers and consumers
Location signals	Develop local signals for investors – utilise existing data on grid constraints and available capacity, to provide better information on preferred locations for new generation sources and consumption points. Preparations for the use of the <i>GeoDep</i> tool.	The Ministry of Energy, in collaboration with DSO and the administration responsible for spatial data
Development of the cleantech sector	Adopt a broad approach to the development of the cleantech sector, covering not only renewable energy sources and energy storage but also modern solutions supporting system flexibility (e.g. <i>smart grids</i>). Poland should also ensure active involvement of domestic enterprises and institutions in EU platforms and partnerships focusing on the electrification of specific sectors.	Ministry of Development and Technology in cooperation with the Ministry of Energy

Source: Own analysis.

