



Poland's Manufacturing Might

How Poland is Building Europe's Battery Future

Key Figures

€7.4bn

Investment in specific projects

3 copper mines, 2 refineries, 2 precursor plants, 3 cathode/anode plants, 3 gigafactories, 1 recycling plant.

Projects

28,435

Direct jobs

122 GWh

Spain's projected battery manufacturing output in 2027

About this Report

This report is part of a series of looking at Europe's emerging battery supply sector clusters. The series will aim to highlight the opportunities from this sector for Europe's regions, and the benefits that this developing industry is bringing to Europe's economy. The reports give an overview of the hubs, key projects as well as the policies that are key to continuing to drive progress.

Authors

Ciara Cook & Ben Nelmes

Contact

general@newautomotive.org

Regional Profile



Figure 1: A Map of Poland's Battery Supply Chain Projects

Today, Poland plays a pivotal role in the European and global battery supply chain. This was not inevitable. Poland's emergence as a battery hub is a story of leveraging its industrial strengths to ride the tide of strong EU policy.

Poland's role in vehicle manufacturing paved the way. After joining the EU in 2004, Poland became a magnet for international carmakers such as Stellantis, Volkswagen, and Toyota, all of whom ramped up local production. The car industry accounts for over 8% of Polish GDP, and approximately 13.5% of its total exports by value¹.

¹ The AutoMotive & Electromobility Sector, Poland Investment and Trade Agency. Accessed: August 2025

A key enabler of this manufacturing strength is Poland's substantial and skilled workforce, comprising nearly 1.5 million individuals with technical education, including over 300,000 engineers². This readily available and competent labour force, combined with lower operational costs compared to Western Europe, makes Poland an attractive alternative for manufacturers seeking to diversify their supply chains. In addition, Poland's location in central Europe, with good transport and logistics networks helps to bolster its attractiveness.

Poland is also resource rich. The nation possesses significant copper ore deposits, ranking seventh globally in terms of reserves³. This is particularly valuable for electric vehicle manufacturing since copper is a key component of electric vehicles. It is estimated that for every EV produced 83kg of copper is needed⁴.

However key issues remained. For most of the past decade the political leadership has been lukewarm on green transition narratives, mistakenly perceiving the energy transition as a barrier to economic growth and prioritising short-term energy security over decarbonisation. The country's continued reliance on coal, which still accounts for a substantial share of electricity generation, has long been at odds with the clean energy ambitions underpinning battery value chains⁵.

Poland's success in developing a battery industry comes down to sensible industrial policy shaped by external factors. The EU's green deal, Fit for 55 package and battery regulation made it clear that fossil fueled vehicle production was time limited. This created a pull effect with companies and regional actors responding first, and national politics following. The government responded with tax incentives and special economic zones. Poland's transformation into a battery and automotive powerhouse has not been driven by political will in the traditional sense, rather than a top-down vision, it's been shaped by pragmatic responses to the changing nature of industry and EU policy.

And we can clearly see this has worked. Poland ranks second worldwide in lithium-ion battery cell manufacturing capacity, accounting for 6% of global

2 The Automotive & Electromobility Sector – a PAIH report, Poland Trade. Accessed: August 2025

3 The AutoMotive & Electromobility Sector, Poland Investment and Trade Agency. Accessed: August 2025

4 E-mobility Factsheet, International Copper. Accessed: August 2025

5 Poland, Ember. Accessed: August 2025

capacity⁶. It is Europe's largest exporter of EV batteries, and electric buses, with 60% of Europe's batteries coming from there as of 2023.

6 Poland Battery Market Size & Outlook, 2023-2030. Grand View Research. Accessed August 2025,

Anatomy of the Hub: Projects and Pull Factors

Poland's battery supply chain ecosystem is anchored by major gigafactories, including Europe's largest. And supported by a network of mines, processing plants and recycling projects that form a cohesive battery supply chain linked with the rest of Europe's.

The Projects

The region is home to 14+ projects that form parts of the battery supply chain.

LG Energy Solution Wrocław: LGES Wrocław is Europe's largest and one of the world's best known manufacturers of EV batteries. Its production capacity reached 73 GWh in 2022 and was expanded to 90 GWh by the end of 2023. The European Investment Bank (EIB) provided a €480 million loan to support the construction and operation of highly automated facilities, covering approximately one-third of the total €1.5 billion project costs. The facility employs over 7,000 people and is crucial for Europe to build critical mass in EV battery production⁷.

Umicore Nysa: Umicore's plant in Nysa is Europe's first cathode materials plant, commissioned in 2021. Its annual production capacity was set to reach 40 GWh in 2024, with potential to scale to over 200 GWh. The plant is powered entirely by 100% green electricity from a nearby wind farm⁸.

IONWAY Nysa (Umicore & PowerCo Joint Venture): IONWAY, a joint venture between Umicore and Volkswagen Group's PowerCo, has chosen Nysa for its first CAM production facility, adjacent to Umicore's existing plant. IONWAY aims to expand its annual production capacity to 160 GWh by the end of the decade. The Polish government has offered €350

⁷ LG Energy Solution Wrocław Shows No Signs of Slowing Down, LG Energy Solutions. Accessed August 2025,

⁸ Revitalising industry in the European Union: The role of Poland and the wider Central and Eastern European region, Clean Air Task Force. Accessed August 2025

million in cash grants for this project, which represents a total investment of up to €1.7 billion. The project is expected to create approximately 900 jobs⁹.

Table 1: Battery supply chain projects in Poland

Area	Key Projects	Capacity / Details
Mining	KGHM Polska Miedź (Rudna Mine)	Copper. Annual production of 231,000 tonnes.
Mining	KGHM Polska Miedź (Lubin Mine)	Copper. Annual production of 92,000 tonnes.
Mining	KGHM Polska Miedź (Polkowice-Sieroszowice Mine)	Copper. Annual production of 196,000 tonnes.
Refining	KGHM Polska Miedź S.A.	Copper. One of the world's largest producers of copper and silver.
Refining	KGHM Polska Miedź S.A.	Copper. Processes copper concentrates and scrap.
Gigafactory	LG Energy Solutions	Capacity: 100 GWh (Current), 115 GWh (Target). Produces batteries for Audi, BMW, Fiat, Ford, Porsche, Volkswagen.
Gigafactory	Impact Clean Power Technology S.A.	Capacity: 1.2 GWh (Current), 4 GWh (Target). Battery systems for heavy-duty vehicles.
Gigafactory	Forsee Power	Capacity: 1 GWh (Current), 2 GWh (Target). Battery production for light mobility and medical equipment.
Cathode/ Anode Plant	Umicore	Type: Cathode Batteries. Capacity of 40 GWh.
Cathode/ Anode Plant	Ionway	Type: Cathode Batteries.

⁹ IONWAY – the PowerCo/Umicore JV –to locate its first production plant in Nysa, Poland, IONWAY accessed August 1, 2025,

Cathode/ Anode Plant	Ringbo Ronbay	Type: Cathode Batteries. Capacity of approx 40 GWh.
Precursor Plant	IONWAY	Cathode Active Material (CAM) and Precursor (pCAM) plant. Site capacity of 160 GWh by 2030.
Precursor Plant	EGE Kimya	Will produce cathode active precursors and cobalt-based dyes.
Recycling	AE Elemental	Black mass production. Recycles 12,000 metric tons of used batteries annually.

Table 1: List of projects associated with the battery supply chain.

Note: There are other projects not listed associated with battery storage. Such as Lyten's battery storage facility bought from Northvolt with a capacity of 6 GWh.

The Recipe for Success: Why Poland?

The concentration of investment in this region is the result of a powerful combination of natural advantages and strategic policy.

Geography and Infrastructure: Poland's central European position allows for streamlined logistics across Germany, the Czech Republic, and further into Western and Southern Europe. This geographic advantage is reinforced by targeted infrastructure investment: major sites like LGES Wrocław and Umicore Nysa benefit from proximity to road, rail, and freight hubs, enabling supply for European OEMs. Poland is also Europe's leading provider of international road freight services, with a dominant TIR lorry sector that is expected to undergo rapid electrification, driving increased demand for batteries. The Polish government's National Road Construction Programme (2023–2030) and access to EU structural funds are set to further strengthen these supply routes, while growing demand for large-scale energy storage presents an additional market opportunity for battery producers.

Workforce & Expertise: Poland offers not just a skilled workforce, but a system for industrial talent development. Initiatives such as the Sectoral Skills Council for the Automotive Industry support retraining efforts¹⁰. Universities such as Wrocław University

¹⁰ Sectoral Council for Automotive and Electromobility Competencies, PIM. Accessed: August 2025

of Science and Technology, contribute electrochemistry and energy storage expertise through dedicated labs and industry-linked research programmes¹¹.

Policy and Investment Climate: While early investor interest was driven by cost competitiveness, Poland has become increasingly proactive in using tailored state aid, cash grants, and EU-backed financing instruments for gigafactory investments. Projects such as IONWAY's €1.7 billion cathode plant have received substantial national support, including €350 million in grants¹². At the EU level, Poland is a top recipient of Modernisation Fund and Innovation Fund money, helping bridge gaps in grid readiness, R&D, and clean energy integration for industrial sites¹³.

Existing industry ecosystems: Unlike some locations that attract standalone battery projects, Poland's strength lies in its growing integrated supply chain. Cathode production (Umicore, IONWAY), cell assembly (LGES), and recycling (Elemental Strategic Metals, TME) are co-located within functional industrial clusters. These clusters benefit from regional government coordination, shared services, and increasingly, closed-loop supply partnerships that improve resource efficiency and traceability.

11 LG Energy Solution Wrocław starts cooperation with Wrocław University of Technology. LG ENergy Solution. Accessed: August 2025

12 IONWAY – the Umicore/PowerCo JV – to locate its first production plant in Nysa, Poland. IONWAY. Accessed: August 2025

13 Poland receives largest ever tranche of EU money as first unfrozen funds transferred. Notes from Poland. Accessed: August 2025

The Road Ahead

The Road Ahead

While Poland has made remarkable strides, several significant challenges must be addressed to ensure sustained growth and to fully realise its ambition of becoming a leading clean industry country.

Navigating Challenges

Despite recent efforts to increase renewable energy adoption, Poland remains heavily reliant on coal for electricity generation, with coal accounting for 56.7% of its power production in 2024 and 63.8% in 2023¹⁴. The UK has recently announced a new EV subsidy which is contingent on the embedded carbon found in the car and batteries. It is thought that as well as cars and batteries made in countries like China missing out, those made in Poland are thought to miss out as well. France also has a grant contingent on embedded carbon. Although the main focus is against China, it may be that Poland gets caught in the cross fire.

As countries start to limit or reduce direct subsidies, Poland may start to miss out if other countries follow the policy mechanism of the UK and France. The EU is considering new delegated acts under the Battery Regulation that would require battery carbon footprints to be calculated using the emission intensity of the local electricity grid. Under the draft methodology, factories in coal-heavy grids like Poland's could be penalised as renewable power purchase agreements, currently recognised in voluntary reporting, would no longer count. This makes it crucial for Poland to reduce its reliance on coal and secure the investment needed to remain a leader in the sector.

Recent setbacks, including CATL's decision not to proceed with a planned factory, have contributed to the perception that Poland's battery sector has faced challenges in meeting expectations. Continued, consistent support from policymakers will be essential to

¹⁴ Global Electric Vehicle Tracker, New AutoMotive. Accessed August 2025

maintain Poland's position as a competitive player in Europe's battery industry. Otherwise it risks failing to capitalise on its early lead.

The Policy Imperative: Driving Domestic Demand

For the first five months of 2025 EVs accounted for 4.4% of new cars registered in Poland, up from 3.2% over the same period last year¹⁵. This steady but modest increase highlights the early stage of Poland's electrification journey compared to many of its European peers. While the majority of Poland's electric vehicle battery production feeds overseas markets, a healthy and vibrant domestic electric vehicle market is crucial to attracting investment into Poland. Failure to accelerate EV adoption risks leaving domestic demand far behind production capacity, potentially undermining the long-term viability of these investments.

Poland's growing battery industry depends on a strong and predictable trajectory of EV uptake across Europe, including at home. Any weakening of EU-level targets or hesitation in national policy could erode confidence in the market and allow agile competitors to capture future growth. As one of Europe's industrial hubs for batteries and EV components, Poland stands to benefit significantly from the transition, provided that policies and incentives are strengthened to support a faster shift in consumer adoption. Sustained momentum will be essential to securing the economic and industrial benefits already in motion.

¹⁵ Global Electric Car Tracker, New AutoMotive, Accessed: August 2025

Conclusion

Poland's emergence as a key player in the EV battery supply chain underscores its strategic importance in Europe's transition. With major investments from companies like LG Energy Solution and Umicore, as well as a growing focus on recycling and component manufacturing, Poland is well-positioned to support the continent's decarbonisation goals. While challenges such as coal reliance remain, Poland's proactive approach to industrial development and integration into the global EV ecosystem highlights its pivotal role in shaping the future of the battery supply chain.

