

Greening in the Polish metal industry  
the case of the steel industry  
the case of the automotive industry  
**Introductory remarks**

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# steel production

Total crude steel production in Poland in 2022 was 7.73 million tonnes, 8.5 per cent lower than in 2021.

In the first half of 2023, Polish steel production declined by around 20 per cent compared to the first half of 2022, and domestic consumption of steel products fell by 19 per cent.

The decline in steel production in Poland in the first half of 2023 was one of the deepest in Europe - after France, where a 29 per cent drop in production was recorded. On average in the European Union, production fell by 11 per cent during this period, to 66 million tonnes.

Capacity utilisation in the EU steel industry was at 62 per cent. Only Finland recorded an increase in steel production among European countries (by 12 per cent).





### Pros

The European Union is pushing for accelerated investment in renewable energy sources. Their implementation will entail a significant increase in the consumption of steel products.

### Cons

Lack of access to energy



# Social partners actions

Joint appeal of representatives of unions and employers of the steel industry from the Czech Republic, Poland and Slovakia (21 September 2023)

- reduction of electricity costs for industry
- market protection, sealing of the CMBA mechanism
- development of CCS/CC technologies in the steel industry
- introduction of derogations for the industry within the framework of the IED 2.0 Directive (legislation requiring large investments in existing assets to be phased out should be prevented, as the transformation would be extremely capital-intensive)
- preventing the export of scrap from the EU (the most frequently exported waste from the EU to third countries)

Summary: Poland's steel industry is heavily dependent on the external factor of the construction of 2 large nuclear reactors in PL and SMRs

The first small nuclear reactors (SMRs) that Orlen Synthos Green Energy (OSGE), a company owned by Orlen and Synthos, wants to launch in our country are to be built in seven locations. They have been preliminarily designated in Włocławek, Ostrołęka, Kraków Nowa Huta, Dąbrowa Górnicza, the Tarnobrzeg - Stalowa Wola SEZ, Stawy Monowskie (near Oświęcim) and the vicinity of Warsaw - These are areas where there are, among other things, production plants with a high level of energy intensity and which are optimal for the needs of the heating industry.

As a rule, they are to replace coal-fired power units and be built near industrial zones and cities. Ultimately, they will also support the production of green hydrogen.

BWRX-300 reactors from GE-Hitachi Nuclear Energy.







# Energy

If the corporations owning steelworks in Poland decide to invest in electric furnaces and CO<sub>2</sub> capture, storage and conversion technologies (CCU/CCS), the industry's demand for electricity **will increase significantly, possibly even doubling.**

There are also plans to implement other technologies that will increase electricity demand, such as DRI iron reduction technology and the use of hydrogen in the production process, which European integrated steel mills (i.e. those with a full production chain: ore sintering plants, lump mills, coking plants, blast furnaces and converter steel plants with steel casting) intend to implement. It can be forecast that this will happen on a large scale no earlier than 2035, **at which point the energy consumption of the steel industry will skyrocket by a factor of five or six.** Electricity will be needed primarily for the production of green hydrogen.

# automotive industry

In 2022, the value of the automotive industry's exports increased by 21.6% and reached a record value of over €39.7 billion - a new record for Polish automotive exports.

The largest groups of export products are parts and accessories (36% of exports), lithium-ion batteries (21.36% of exports) and passenger and cargo cars (13.75% of exports). It is worth noting that all groups recorded significant export growth of 18.7%, 25.5% and 12.4% respectively.





According to a survey conducted by ABB's Robotics business and Automotive Manufacturing Solutions, 59 per cent of respondents believe that the transition to all-electric car production according to the timetable presented by legislators is impossible. Only 11 per cent believe that all-electric vehicle regional adoption targets for 2030-2040, are realistic. 18 per cent believe that these targets will never be met. And while just over a quarter (28 per cent) of respondents remain optimistic about making the necessary changes on time, they also cite significant challenges to be faced: adapting to new, supply chains, the need for high investment, raw material shortages, ensuring adequate infrastructure and an insufficiently efficient energy grid.

<https://new.abb.com/products/robotics/initiatives/abb-ams-automotive-manufacturing-outlook-survey>





Almost all interviewees from the automotive industry fear that efforts and investments in climate-neutral mobility will be undermined by insufficient charging and refuelling infrastructure. The provision of **a sufficient number of public charging points for electric vehicles and refuelling stations for hydrogen-powered vehicles** is a prerequisite for transforming current industry efforts into a successful transition.