Polenergia

POLENERGIA GREEN HYDROGEN PROJECT

Non-Technical Summary

Prepared in cooperation with:

Sotis Advisors

October 2024

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1. Introduction

Polenergia intends to implement the first green hydrogen production and distribution project based on energy from a local solar power plant, which will ensure supplies of green hydrogen. The Project is developed by H2Hub Nowa Sarzyna sp. z o.o. – a subsidiary of Polenergia S.A.

The Project will potentially be co-financed by consortium of Lenders, including European Bank for Reconstruction and Development (EBRD), therefore compliance with EBRD Performance Requirements and applicable Polish regulations was confirmed by independent consultants.

Polenergia is a well known Polish privately owned energy group, consisting of companies involved in the generation of energy from renewable and gas sources, distribution and trading, and the sale of electricity to retail and business customers. Polenergia is the first Polish company to subordinate its development vision to building a zero-carbon economy.

Polenergia considers biodiversity and climate protection activities, as well as community engagement, as fundamental support for the implementation of its long-term development strategy and as an important element of the ESG Strategy adopted for 2023-2030: ESG Strategy - ESG Service (polenergia.pl) and Biodiversity Strategy of Polenergia Group.

The Polenergia Group attitude to environment and stakeholders relations is clearly set out in a number of policies and procedures that have been created for the entire Group and are followed by all Polenergia member companies. The H2Hub Nowa Sarzyna project is also implemented in accordance with Group-wide policies and procedures. The documents are publicly available on the Policies and Procedures - ESG Service (polenergia.pl) website.

Following the ESG Strategy, Polenergia Group's Environmental and Social Policy was adopted. Its objectives include:

- to formulate, implement and communicate a coherent approach to managing environmental and social impacts within the Polenergia Group (understood as Polenergia S.A., subsidiaries and jointly owned companies),
- to implement and ensure the effective functioning of processes and organizational structures to identify, evaluate, manage and report, as well as to establish, improve and monitor the effectiveness of environmental and social impact management,
- to develop a sustainable supply chain in which the selection of partners and subcontractors is based on guarantees that the work will be carried out in accordance with applicable Polish and EU law and the standards of the financing institutions.

As part of the implementation of the environmental and social management system at Polenergia Group, appropriate procedures related to ensuring proper conduct in the environmental area, including social issues have been developed based on the international ISO 14001:2015 standard. The implementation of the procedures is planned for end of 2025.

Therefore, there is no environmental management system implemented in the H2Hub Company yet, but the corporate system will cover the H2Hub operations in due course.

The management systems and environmental, health and safety and social issues management will be developed in cooperation with EBRD to agree a system that is practical and proportional to the environmental impact. Currently, operational management of all environmental and social issues at the development stage lies with Paweł Zdziebko, providing environmental supervision of the development process. Nevertheless, a dedicated person for EHS issues management will be assigned to ensure on-going compliance with respective requirements during construction

and operational phase. The EHS management system will include periodic audits of current operations and reporting to the Lenders and stakeholders.

The environmental and social impacts associated with the Project had been identified and addressed through standard mitigation measures.

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2. Short description of the Project

The project consists of **3 investments**:

1. **H2Hub Nowa Sarzyna** - Construction of a green hydrogen production facility based on the electrolysis process together with a hydrogen refuelling station;
2. **PV Nowa Sarzyna** - Construction of a photovoltaic farm with a capacity of up to 7 MW, located within Jelna, commune of Nowa Sarzyna, associated with medium voltage underground power line supplying electricity to the H2Hub;
3. construction of a **public hydrogen refuelling station in Rzeszów**. The station will be supplied with hydrogen from H2Hub Nowa Sarzyna installation using mobile MEGC (multi-element gas containers) trailers.

In short, the photovoltaic plant will supply energy to electrolysis installation for production of "green" hydrogen. The hydrogen will be used mainly to fuel cars and buses in Nowa Sarzyna and Rzeszów. For this purpose two refuelling stations will be constructed in both cities. Excess hydrogen will be used at Nowa Sarzyna CHP to replace some natural gas consumption and the rest will be supplied to external clients.

The aim of the Project is to produce green hydrogen in compliance with the RED II directive, allowing the production of hydrogen with minimal environmental impact. The hydrogen production facility will be powered primarily by energy from a local photovoltaic farm. There is also the possibility of purchasing green energy from external suppliers from the market. The hydrogen production installation will therefore in practice only be powered by green electricity sources. The product produced will be made available to contractors via distribution infrastructure, including a publicly accessible hydrogen refuelling station in Nowa Sarzyna and Rzeszów to support the local development of hydrogen technology. The station in Rzeszów will be used, among other things, to refuel city buses owned by MPK Rzeszów, contributing to the reduction of emissions and decarbonisation of the city's public transport system.

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3. Where the Project will be located?

The H2Hub and photovoltaic plants are located in Nowa Sarzyna. The electrolysis installation will be located within Elektrociepłownia Nowa Sarzyna premises. The photovoltaic plant will be located ca. 4 km away, in Jelna commune. The hydrogen refuelling station in Rzeszów will be constructed next to the petrol and CNG filling station of Rzeszów Municipal Bus Transport company (Pol. Miejskie Przedsiębiorstwo Komunikacyjne in Rzeszów).

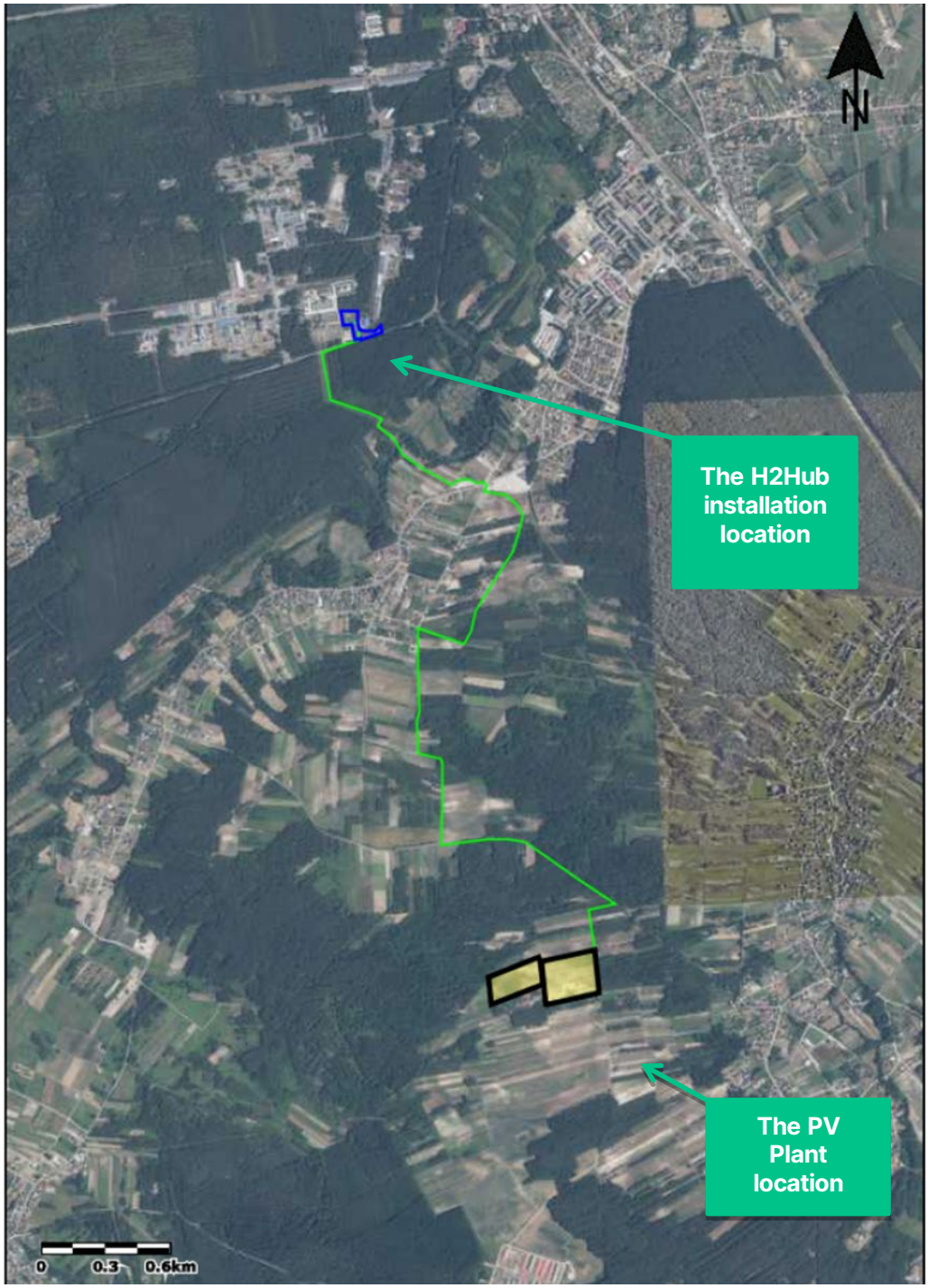


Figure 1 Location of the H2Hub and photovoltaic farm with cable connecting both installations

3.1 What is the scale of the Project and how will it impact protected areas?

The Project includes construction of a photovoltaic farm covering an area of ca 5,7 ha. Part of the site is excluded from the development, as the local development plan designates part of the plot as agricultural land only. Currently the plots of land are used by Jelna fire brigade. The location was selected keeping in mind the site setting, access to public road and distance from H2Hub installation.

The electrolysis installation occupies an area of less than 1 ha leased from Elektrociepłownia Nowa Sarzyna and located within its premises.

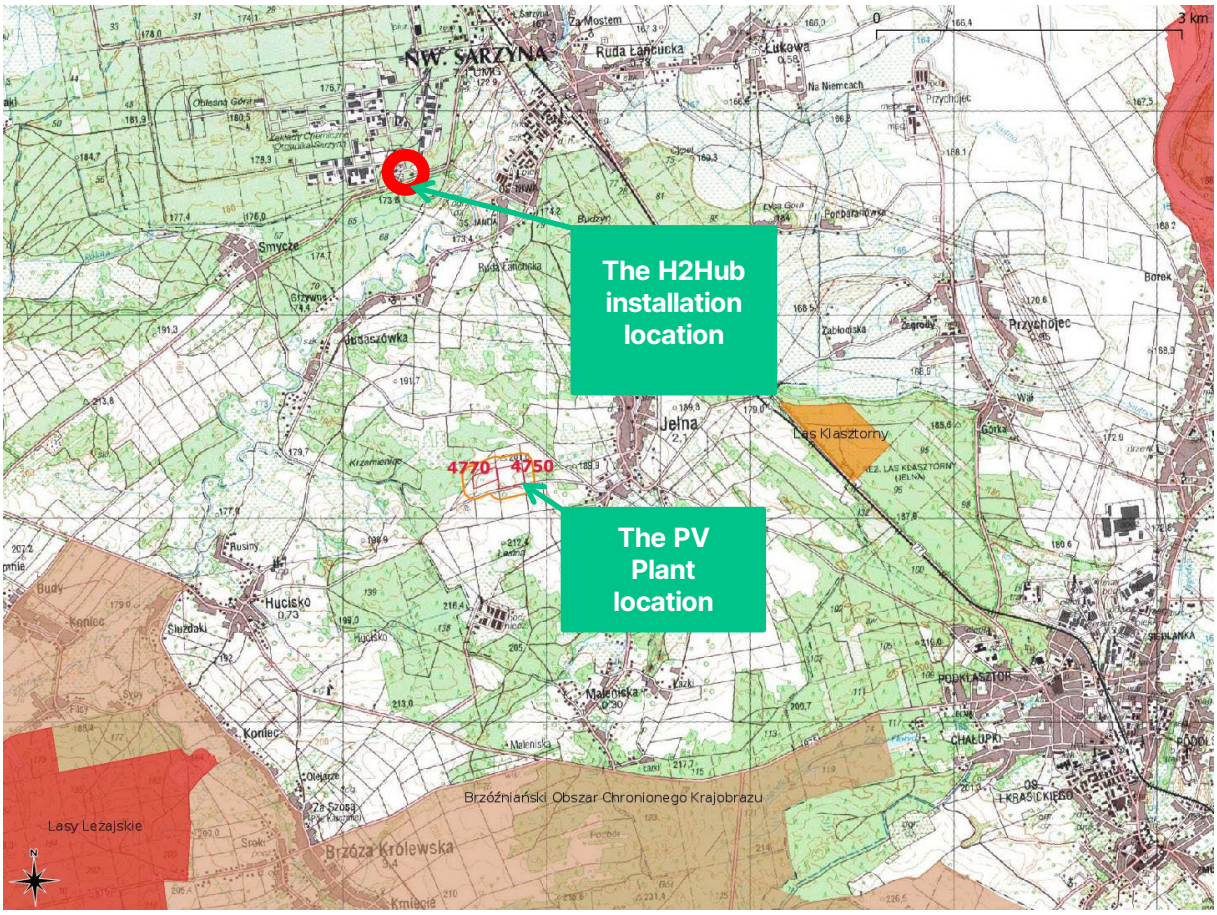


Figure 2. Nature protection areas in vicinity of the Project installations

The area of the Project is located outside forest complexes, marshy areas, areas identified as valuable for scientific interest.

The Project is still in development phase (no construction works have been started). However at the moment all necessary permits for the Project are in place, including construction permit for electrolyser plant, containing all requirements specified in preceding environmental consent decision (issued by the competent authorities). The photovoltaic plant and refuelling station in Rzeszów have obtained environmental permits based on screening procedures.

3.2 What are the Environmental and Social impacts of the Project?

The key risk associated with the **hydrogen production and distribution** is associated with so called "other than normal operating conditions" (otnoc).

As part of the operation of the hydrogen installations, the greatest risks will be explosion and fire hazards. Hydrogen is capable of forming an explosive mixture with air. It will be stored in equipment and technological installations in compressed form. When an explosion occurs, the destruction of technological and building structures within the blast radius, the occurrence of fire and excessive emissions of stored or used substances, technological components and their decomposition products should be expected. The occurrence of fire or explosion will cause the release of excessive heat energy, excessive evaporation of substances used in technological processes, as well as the release of uncontrolled amounts of substances into the atmospheric air.

The Project will be implemented using modern technologies, equipment, materials and systems. The employee training will be provided, including occupational health and safety. The operations will be held in line with current standards and regulations, as well as good practices. As part of the project, technical solutions will be applied to reduce the probability of otnoc emergencies and to secure means for removing potential consequences of emergencies.

Avoiding the creation of an explosive atmosphere in the area of the hydrogen system is possible with the following measures: construction of the hydrogen system in a well-ventilated place, ensuring the integrity of the system, appropriate monitoring of the hydrogen system, and maintaining safe operation in accordance with procedures adapted to the chemical and physical properties of hydrogen.

All elements of the hydrogen installation are designed and will be constructed in accordance with current standards. The distances of elements of the planned project from other facilities have been determined on the basis of NFPA 2, Hydrogen Technologies Code.

For the **photovoltaic plant**, the risks associated with the installation are relatively minor.

During construction, the key impacts are associated with transport and installation of supporting structures.

The heaviest and the noisiest equipment is the pile driver nailing the metal poles into the ground (support construction for the panels). Construction works and increased heavy traffic include heavy machinery operations during earthworks, increased noise and vibration.

No significant environmental impacts are associated with the operation of the PV plant.

The photovoltaic plants are usually constructed to the maximum level of 4 metres above the ground and will not influence the landscape of the agricultural areas. The plant may be regarded as visually intrusive to current rural landscape. Nevertheless, it should be stressed that the evaluation of the influence of the photovoltaic farm on the landscape is difficult and depends on the individual approach.

The positive impact of PV plant is the production of green energy, that allows for reduction in fossil fuel consumption. Given the average electricity production of the Project of in the region of 7 GWh per year, the cumulative emission reduction will amount to:

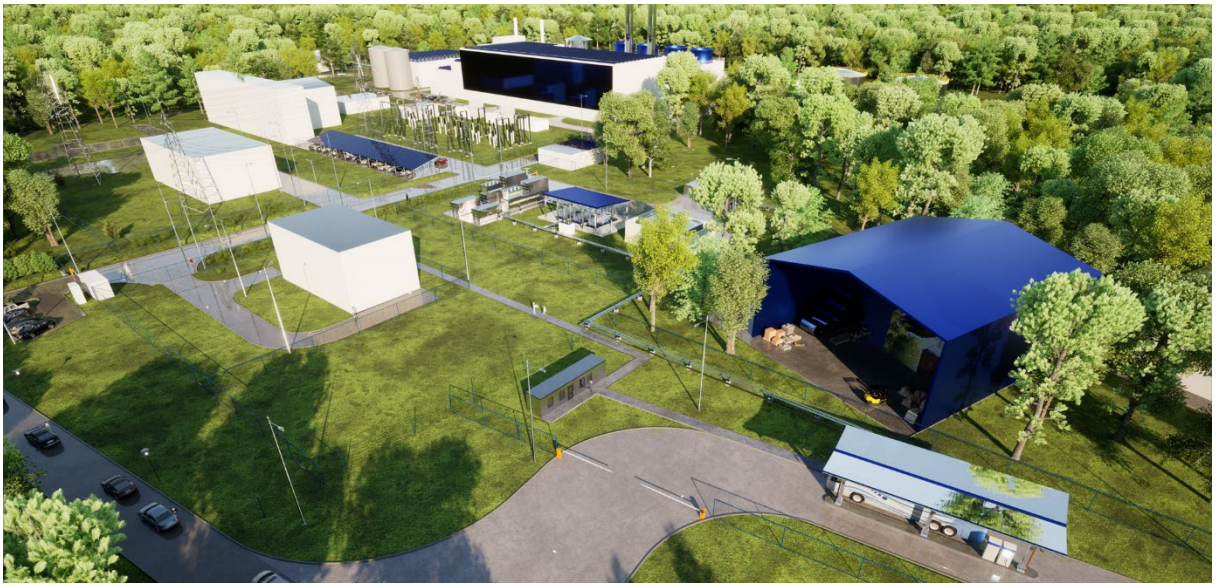
- Sulphur dioxide (SO2) –3,51 tonnes per year,
- Nitrogen oxides (NOx) – 3,67 tonnes per year,
- Dust – 0,15 tonnes per year,
- Carbon dioxide (CO2) – 5 516 tonnes per year.

As presented above, the Project will allow for notable air emission reduction. Moreover, solar farms allow to advance local communities, providing financing to communal budgets.

The following social impacts of the project were identified:

1. direct socio-economic impacts on the development of communities and local residents:
   a. increased municipal income through taxes paid by the operator for business activities in the area;
   b. use of environmentally friendly hydrogen technology for refuelling city buses in Rzeszów;
   c. opportunities for private entities to use the public refuelling station in Rzeszów and Nowa Sarzyna.
2. an increase in annual income for the municipality (lease agreement) and one-off payments to landowners (transmission easement) along the route for underground installations and cables;
3. direct social and educational impact related to the involvement of the Company and Polenergia S.A. Group in the life of local communities
   a. Implementation of activities related to educational project 'Play Green with Us!' implemented in primary schools and kindergartens
   b. Cooperation with the Secondary School no. 1 in Nowa Sarzyna
   c. Participation in business conferences
   d. Support of local communities through the implementation of Polenergia Group's Community Involvement Policy
4. Direct impact on the increase of biodiversity in the region

A potential negative social impact is the reduction of the area of land used for agricultural purposes, but this is compensated by the land rent paid to the owners. It should be noted that only low quality land (class RV, RVI) is used for photovoltaic farms. The area occupied by photovoltaic panels and infrastructure is limited and agricultural activities can continue around the installations. Other elements of the Project are located on land currently in industrial use. As a result of the Project, trees will need to be removed from the ENS and MPK sites. For this reason, greenery planting is planned.



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4. What is the rationale of the Project?

In line with the European Climate Change Program, many European countries, including Poland, have adopted national programs aimed at reduction of greenhouse gases emissions. These cover various policies, adopted at the European level as well as national levels, includes among others:

- Directive 2014/94/EU of the European Parliament and of the Council of 22 October 2014 on the development of alternative fuel infrastructure. The Directive aims to promote the use of alternative fuels in transport. It establishes a common framework for the development of alternative fuel infrastructure in the European Union to minimise dependence on oil and reduce the environmental impact of transport.
- EU climate change adaptation strategy.
- The objective of the EU Climate Change Adaptation Strategy is to contribute to making Europe more resilient to climate change. This means enhancing preparedness and capacity to respond to the impacts of climate change at local, national and EU level, developing a coherent approach and improving the coordination of actions through the following environmental objectives: integrating climate change adaptation into the implementation of regional and other development projects and ensuring resilient infrastructure.
- Polish Hydrogen Strategy to 2030 with an Outlook to 2040.
- This document was developed by the Ministry of Climate and Environment in 2021 and adopted by a Resolution of the Council of Ministers of 2 November 2021 on the adoption of the 'Polish Hydrogen Strategy to 2030 with an Outlook to 2040'. It defines the main objectives of the development of the hydrogen economy in Poland and the directions of necessary actions to achieve these objectives. The overarching objective of the above-mentioned document is to create and develop a Polish hydrogen economy sector, which will enable the achievement of climate neutrality and increase the competitiveness of the national economy in the international arena.

The document assumes that the indicators for achieving the adopted goals by 2030 will be:

- 2 GW of installation capacity for the production of hydrogen and its derivatives from low-carbon sources, processes and technologies, including in particular the installation of electrolysers;
- 800-1000 new hydrogen buses, including those produced in Poland;
- construction of a minimum of 32 hydrogen refuelling and bunkering stations;
- construction of at least 5 hydrogen valleys.

The Project is in line with the above goals.

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5. What is the legislative context of the project and were there any public consultations?

According to environmental regulations on disclosure on environmental information, public participation in environment protection and on environmental impact assessments, an Environmental Impact Assessment (EIA) procedure must be performed for projects which can always significantly impact the environment (group I projects) or may be conducted upon discretion of the authorities in charge for particular investments, which can potentially impact the environment (group II projects), or may impact area of 'Natura 2000'. EIA's are carried out to obtain a Decision on Environmental Conditions (environmental permit) for group I and group II projects.

In line with Polish regulations, the H2Hub installation classifies as group I project, while photovoltaic plant and refuelling stations are investments, which could potentially impact the environment.

H2Hub Nowa Sarzyna

On 8 December 2022, proceedings were commenced with a view to issuing a decision on environmental conditions for the undertaking entitled: 'H2Hub Nowa Sarzyna - construction of a green hydrogen production facility based on electrolysis together with a hydrogen filling station'. The project is an investment which may always have a significant impact on the environment, for which an environmental impact assessment is obligatory. The application for the issuance of a decision on environmental conditions for the project was placed on the publicly available data list at http://www.bip.nowasarzyna.eu/, tab Environmental protection, Environmental information (card no. 13/2022), information on the report on the environmental impact of the project for the project in question was placed on the publicly available data list (card no. 14/2022).

On 12 May 2023. On 12 May 2023, the Mayor of the Town and Municipality of Nowa Sarzyna made public information on the proceedings conducted with the participation of the public. The consultation lasted 30 days. No comments and applications to the project were submitted. On 19.06.2023. The Mayor of the Town and Municipality of Nowa Sarzyna issued a notice on completion of administrative proceedings. The notices were made available through the website of the Town and Municipality of Nowa Sarzyna, the notice board at the Town and Municipality Office and the Applicant's notice board.

On the 2nd of August 2023. The Mayor of the Town and Municipality of Nowa Sarzyna, having carried out an environmental impact assessment and consulted the relevant authorities, as well as having obtained an agreement on the conditions of implementation with the Regional Director of Environmental Protection in Rzeszów, issued a decision on environmental conditions (sign: RIG.6220.8.2022).

Refuelling station in Rzeszów

On 15 September 2023, proceedings were commenced for the issuing of a decision on environmental conditions for the 'Construction of a public hydrogen refuelling station in Rzeszów'. Relevant information on the application in question was placed in the publicly available register of data on documents containing information on the environment and its protection - 557/2023. No comments or objections were filed during the period when the application was made available.

On 8 December 2023. On 8 December 2023, the Mayor of the City of Rzeszów notified the parties to the proceedings on completion of the collection of evidence in the case in question and on the opportunity to comment on the collected evidence and materials. Within the statutory period of 7 days from the date of delivery of the aforementioned notice, no comments or motions were filed.

On 5 February 2024. On 5 February 2024 the Mayor of the City of Rzeszów, having consulted the relevant authorities, indicated that there was no need to carry out an environmental impact assessment and in his letter no: KŚ-K-O.6220.43.2023 issued the environmental permit for the investment.

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6. Is additional information available?

H2Hub will maintain a sub-webpage on Polenergia portal (Polenergia.pl), where all achievements associated with the project will be announced and requests for additional information related to the Project could be addressed.

The mechanism for the claim procedure has already been implemented by the company as part of the Project management system. It is active since 2022, but no comments were received so far.

Direct requests can be addressed to:

H2Hub and refuelling station in Rzeszów - jakub.niestryjewski@polenergia.pl;

PV Nowa Sarzyna - jakub.ostrowski@polenergia.pl;

General contact - marta.porzuczek@polenergia.pl