

HYDROGEN UKRAINE LLC



RENEWABLE POWER-TO-HYDROGEN PRODUCTION

Zakarpattia and Odesa Regions

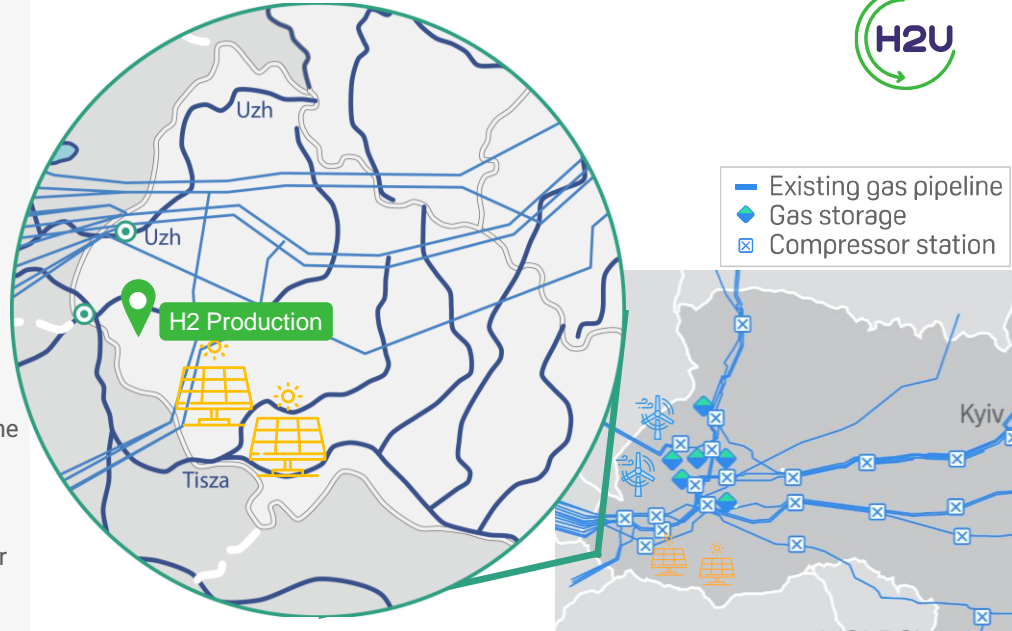
H2U'S RENEWABLE HYDROGEN PROJECT

Zakarpattia

Electrolysis: 100MW
Solar: 120MW

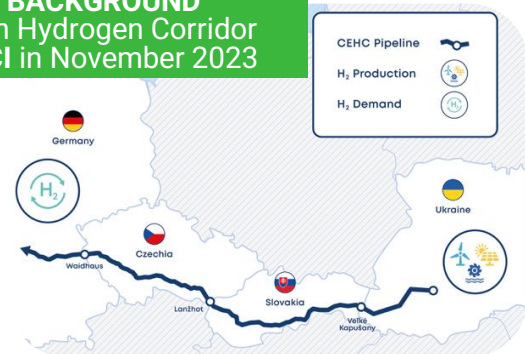


Lead developer	Hydrogen Ukraine, LLC
Location	Uzhhorod District
Description	Construction of a renewable hydrogen production plant with an initial phase electrolyzer capacity of 100 MW
Transportation	By pipeline to the metallurgical plant in Košice, Slovakia
Advantages	Location near EU borders Existing energy infrastructure nearby: <ul style="list-style-type: none">- The "SOYUZ" gas pipeline under the operation of the Gas Transmission System Operator of Ukraine- 400 kV and 200 kV power transmission lines
Water Supply	The Institute of Geological Sciences of the National Academy of Sciences of Ukraine has assessed the water resources of Zakarpattia for the development of "green" hydrogen production
Scaling	Up to 1500 MW of electrolyzer capacity Connection to the Central European Hydrogen Corridor
Infrastructure Development	Construction of a hydrogen refuelling station network Connection to the TEN-T Corridor



STRATEGIC BACKGROUND

Central European Hydrogen Corridor selected as a PCI in November 2023

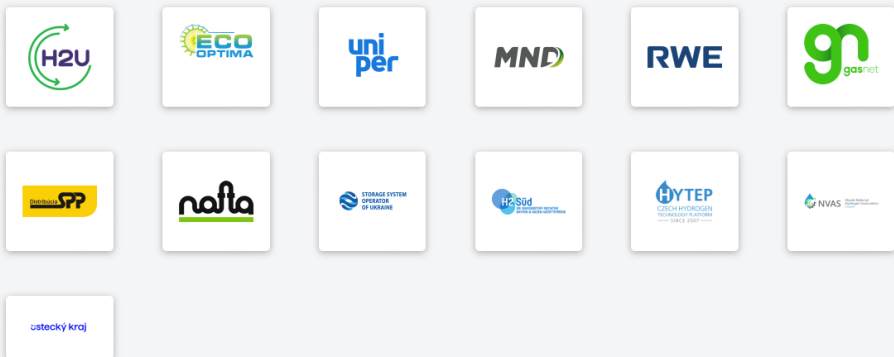


CERTIFIED
by the Mission Innovation and
Clean Hydrogen Partnership
in November 2023

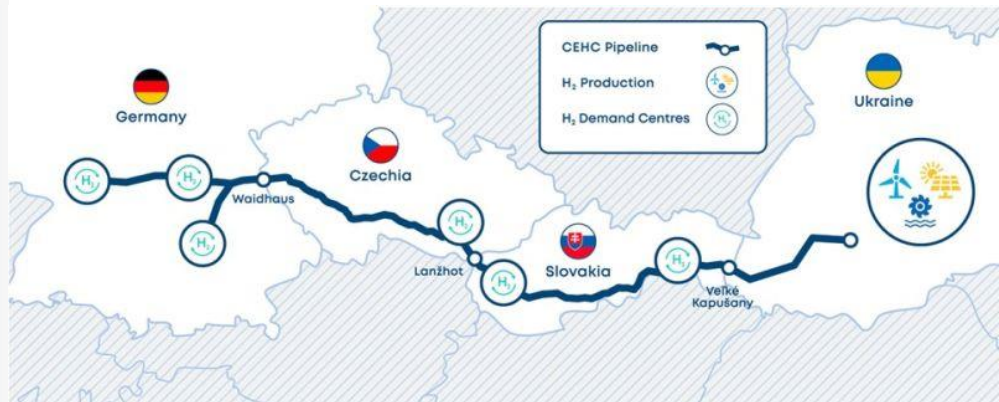
Central European Hydrogen Corridor



Project supporters



Hydrogen Ukraine became a project supporter of CEHC in May 2024



Partners



H2U'S RENEWABLE HYDROGEN PROJECT

Reni, Odesa Region

Electrolysis: 100MW
Solar: 120MW
Wind: 80MW

Lead develop

Hydrogen Ukraine, LLC

Location

Reni, Odesa region, Ukraine

Description

Construction of a green hydrogen production plant with a first-phase electrolyzer capacity of 100 MW, in combination with solar (120 MW) and wind (80 MW) generation facilities for internal needs and export to EU countries

Advantages

Abundant water resources,
optimal PV and wind power configuration
H2 production is strategically located near the EU border

Scalability

100 MW of electrolysis	by 2027
200 MW of electrolysis	by 2029
3,000 MW of electrolysis	by 2035



[The 1st Ukrainian hydrogen project on the Global Hydrogen Valley Platform](#)

CERTIFIED
by the Mission Innovation and Clean Hydrogen Partnership
on May 8, 2023

Consortium

Innovate Ukraine – Supporting Ukraine's Energy Recovery
Project number: 10089747

AB⁵consulting

UK-registered
administrative lead

AB5 Consulting Ltd is an SME based in London, UK. AB5 fosters innovation to empower other organizations to achieve their full potential. With sound competencies in advisory and management activities, AB5 carries out business development studies, systems evaluation, project management and interface, bid organization and management, regulatory support activities. Clients include energy and high-tech companies, satellite operators and international organizations. AB5 develops its own projects too, focusing on innovation, IoT and AI. AB5 is a B Corp certified company.



Ukrainian partner

Hydrogen Ukraine LLC headquartered in Kyiv, is a leading company pioneering hydrogen-based renewable energy solutions in Ukraine. H2U's mission spans large-scale hydrogen production, establishing an end-to-end supply chain, and decentralizing the country's energy portfolio.

Development of a Comprehensive Feasibility Study

Main Components

Electrolyzer Capacity: 100 MW
Hydrogen Production: 6,985 tons/year
Oxygen Production: 55,880 tons/year

Additional Options

Green Ammonia Production: 39,582 tons/year
Green Methanol Production: 37,253 tons/year

Hydrogen Pipeline: Reni-Galati
Connection to the European Hydrogen Backbone

Renewables:

Wind Power Plant (WPP): 160 MW (2 phases of 80 MW each)
Solar Power Plant (SPP): 240 MW (2 phases of 120 MW each)

Geological Exploration: Geological substantiation of sites for the construction of underground hydrogen storage facilities in saline formations of the Odesa region, Ukraine



2021

- Preliminary FS for Hydrogen production
- Assessment of water resources
- Assessment of the energy infrastructure of the region
- Calculation of hydrogen transportation options and routes

2022 – 2023

- Wind measurement campaign before the construction of the WPP
- Energy Yield Assessment
- Layout design of 2 phases of the WPP with a total capacity of 160 MW

2024

- Feasibility study of hydrogen production (electrolysis plant)
- Feasibility study of the construction of WPP and SPP, their integration into the energy system of Ukraine and connection to hydrogen production

2025

- Techno-economic study for hydrogen transmission pipeline Reni-Galati
- Geological substantiation of sites for the construction of underground hydrogen storage facilities in saline formations of the Odesa region, Ukraine

HYDROGEN UKRAINE

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