



Міністерство  
енергетики  
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# Strategic Plans for Biomethane and Hydrogen, Overview of the UA Legal Framework





## The Potential for Biomethane Production in Ukraine.

Ukraine has the largest area of agricultural land in Europe, and the feedstock for biomethane is agricultural waste, that is why the potential for biomethane production in Ukraine.

**First projects:** about 30 agricultural holdings are considering entering the biomethane market. On 13/04/2023, the first biomethane plant in Ukraine with a capacity of 3 million m<sup>3</sup>/year was launched. Currently, four biomethane plant projects are at the stage of implementation.

In February 2023, in the framework of the 24th EU-Ukraine Summit, the Government of Ukraine and the European Commission signed a Memorandum of Understanding between Ukraine and the European Union on a strategic partnership in the field of biomethane, hydrogen, and other synthetic gases.

The number of measures have already been taken to develop this area, namely:

- "biomethane" has been defined at the legislative level;
- the issue of technical requirements for biomethane loading into the GTS and GDS has been resolved;
- developed legislative frameworks to address the issue of customs processing of biomethane;
- creation of an electronic platform for the Biomethane Register, which will greatly simplify and unify access to the domestic and foreign markets for producers and consumers.

## Amendments to Legislation Regarding the Connection of Biomethane Plants and Customs Processing.



At present, a legislative framework for the development of the biomethane market is implemented in Ukraine.




In November 2021, the Law of Ukraine "On Amendments to Certain Laws of Ukraine on the Development of Biomethane Production" came into force, which, among other things, provides for implementing guarantees of biomethane origin.

After joint consultations NEURC resolutions were amended. Amendments were made to the Gas Transmission System Code and the Gas Distribution Systems Code in the following areas:

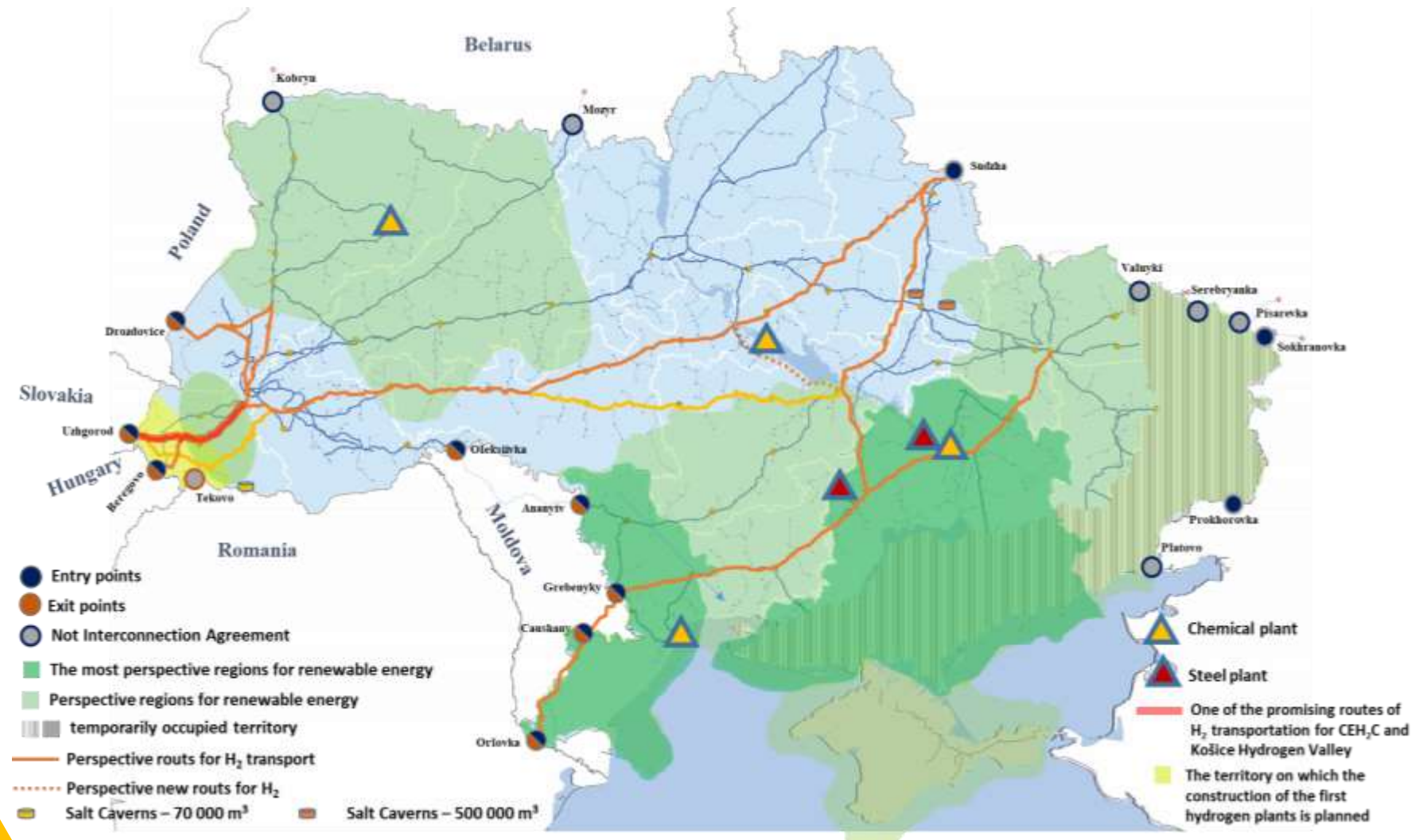
- ❖ implementing a mechanism for connecting biomethane producers to gas networks;
- ❖ requirements for physical and chemical parameters of biomethane;
- ❖ measures to install reverse compressor stations;
- ❖ installation of metrological equipment;
- ❖ installation of flow chromatographs

# DEVELOPING HYDROGEN SUPPLY ROUTS TO THE EU

- Ukraine's contribution to the EU's new energy security in the framework of RePOWEREU
- Development of a European infrastructure for hydrogen transport

| The Project Name   |  | Project information (Investment, timing, Description, Readiness)   |
|--|--|--|
|   | Undertake technical studies on the readiness of Ukraine's GTS for hydrogen | <p>Project objective: to conduct a full range of studies to determine the level of readiness and tolerance of existing main gas pipelines, compressor station equipment, gas metering equipment and gas distribution stations for hydrogen transportation. The further realisation of this project requires the involvement of grant funds and specialised research and engineering organisations and companies with experience in similar work.</p> <p>The project is going to be implemented in two stages: Stage I - study of pilot hydrogen transportation routes; Stage II - laboratory testing of the main equipment for hydrogen tolerance. Funding is required for Stage I: ≥ €3 million (2023-2025).</p>  |
|   | Hydrogen valley in the Kosice region (Slovakia)                            | <p>The goal of the project is to build a hydrogen industrial cluster that will connect Ukraine and an important industrial consumer in Slovakia - US Steel Košice. On the Ukrainian side, the project involves the construction of renewable energy sources along with a 100 MW electrolyser. The produced hydrogen will be supplied to a modified gas pipeline for transportation to Slovakia. The project does not involve the building of a new or reconstruction of an existing compressor station. The main consumption of hydrogen is expected to be at the US Steel Košice steel plant, where it is planned to replace one blast furnace with a DRI system, in which iron ore is reduced with hydrogen. The investment part should be considered as the first stage of investment in the CEN2C project (Stage I in 2023-2027, Stage II in 2027-2030).</p> |
|  | CEH <sub>2</sub> C (HyCentral)   | <p>The gas transmission system operators (GTSOs) of Ukraine, Germany, the Czech Republic and Slovakia - GTSOU, OGE, NET4GAS and EUSTREAM - have been working together since 2021 to create the Central European Hydrogen Corridor. The goal of the project is to create a hydrogen pipeline "highway" in Central Europe to transport hydrogen from the perspective production areas in Ukraine through Slovakia and the Czech Republic to the areas of high demand in the EU. Project description: starting in 2030, it is planned to provide the technical capability to transport up to 144 GWh of hydrogen per day or 1.5 million tonnes per year through a dedicated hydrogen pipeline.</p> <p>The investment requirements for the Ukrainian part of the corridor will be determined after the location of hydrogen production locations in Ukraine.</p>     |

# H<sub>2</sub> GEOGRAPHY OF UKRAINE



In 2022, Ukraine has produced 109 TWh of electricity.

According to expectations, the volume of electricity production in Ukraine will increase to 700 TWh/y by 2050, of which 393 TWh/y are for hydrogen production.

Ukraine's H<sub>2</sub> potential is estimated at 393 TWh/y in next areas:

- Green hydrogen to replace coking coal in Iron & Steel Industry
- Green hydrogen in Chemical Industry – Green Amonia;
- Green hydrogen for export to the EU.

**Additional opportunities of Ukraine's H<sub>2</sub> potential:**

- There is a developed (widely branched) gas and electricity TSOs infrastructure, which is well integrated into the EU energy system;
- There are salt caverns for hydrogen storages;
- The availability of promising sites for the installation of small modular reactors (SMR), which can become the main factor in the growth of electricity production in Ukraine