

---

# National policies and site demo Ukraine

Georgy Geletukha  
Yuri Matveev  
UABIO



Co-funded by  
the European Union

innovations in the  
**BIOMETHA**<sup>ne</sup>  
uni**VERSE**

# UABIO

**Bioenergy Association of Ukraine** – non-profit civic union, that unites business and experts for sustainable bioenergy development in Ukraine

9

years

20+

experts

37

companies

11

individuals



# Biogas/biomethane in Ukraine

Parameter	Biogas	Biomethane
Installed capacity, MW e (2021)	<b>135</b> (32.4 MW for LFG)	3 mill m3/year
Number of plants	<b>77</b> (31 for LFG)	<b>1</b>
Gas networks (km)	33 400	
Gas refilling stations for CNG	~ 300	

- The individual projects ranged from **125 kW<sub>e</sub>** to **26 MW<sub>e</sub>** installed capacity.
- Despite the limited number of implemented agricultural biogas plants their technical scope covers **a wide range** of industries and different types of **feedstock**
- **First biomethane project** has started operation in April 2023 on the base of existing biogas plant



# Why biomethane and why in Ukraine?

---

- Biomethane is absolutely ready for injection into the gas network today. No investment is required in the modernization of gas networks (GTS and GDS) and gas equipment (gas burners, engines, turbines,...).
- Ukraine can really compete with any country in the production of biomethane. Ukraine can offer the cheapest raw materials for biomethane production. Ukraine has the largest area of agricultural land in Europe, and, accordingly, one of the world's best potentials of agricultural raw materials for biomethane production.
- Today it is the cheapest of the possible renewable gases
- Biomethane plants, in addition to biomethane, generate digestate, which can become the main organic fertilizer needed for the revival of Ukrainian soils.
- The EU adopted ambitious plans for the production of biomethane (REPowerEU): 35 bcm/year in 2030. Ukraine can potentially provide up to 20% of this need.

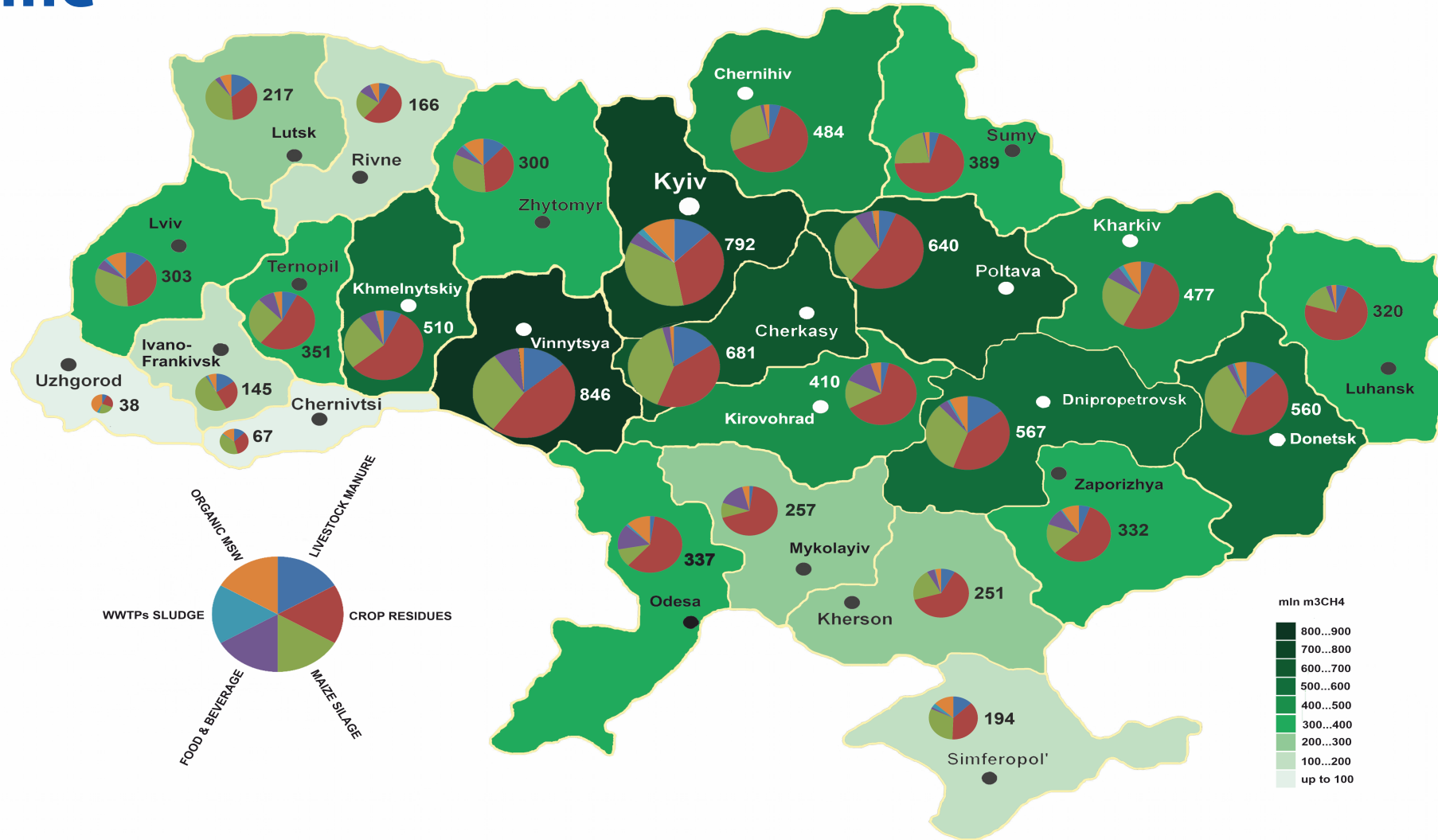


# Biogas/biomethane production potential in Ukraine

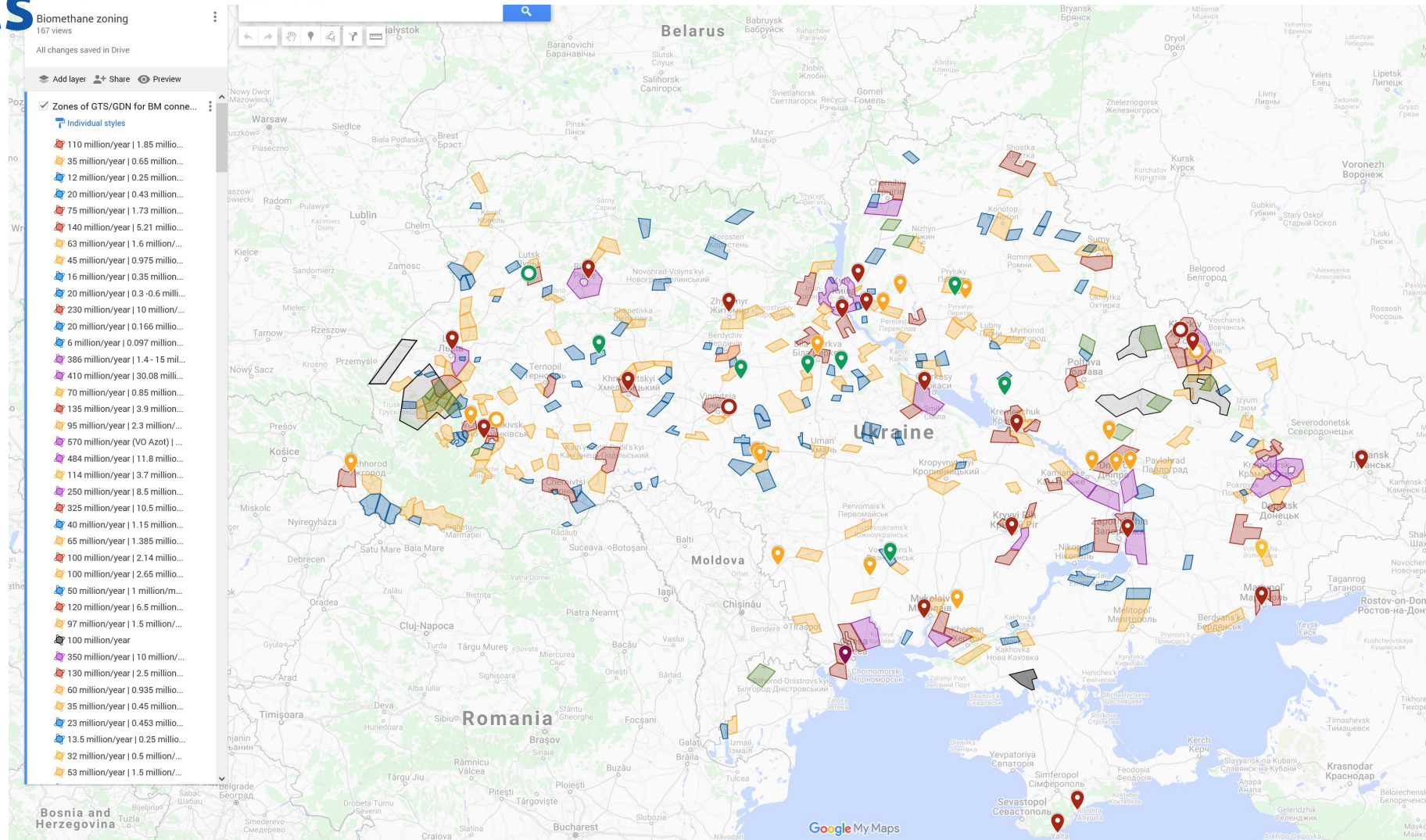
BIOGAS/BIOMETHANE, bcm CH <sub>4</sub> /year	
Biogas from animal waste	0,9
Biogas from harvest residues of agricultural crops	5,2
Biogas from by-products of the food processing industry	0,7
Biogas from solid household waste	0,5
Biogas from sewage sludge (municipal treatment plants)	0,1
Energy plants: biogas from corn silage (from 1 million hectares)	3,8
<b>Biogas from cover crops (20% of arable land)</b>	<b>9,8</b>
Biogas from BM obtained by thermal gasification (10%)	1,0
<b>BIOGAS/BIOMETHAN, total, billion m<sup>3</sup> CH<sub>4</sub>/year</b>	<b>21,8</b>



# Regional structure of biomethane potential in Ukraine



# Interactive map of optimal zones for location of BM plants



Link to the map:  
[https://www.google.com/maps/d/u/0/edit?mid=1ttZ12uWid2NxxH-xc3Lin61fN\\_4JrE1D&usp=sharing](https://www.google.com/maps/d/u/0/edit?mid=1ttZ12uWid2NxxH-xc3Lin61fN_4JrE1D&usp=sharing)



Co-funded by  
the European Union

# First biomethane Law of Ukraine

---

## On Amendments of some Laws of Ukraine regarding the development of biomethane production"" № 1820-IX from 21.10.2021 p.

### Amendments to the Law of Ukraine "On alternative fuels":

- 1) **Definition of the term "biomethane"** – biogas with physical and technical characteristics that meet the requirements as for natural gas for supply to the gas transmission and gas distribution system or as for the motor fuel.
- 2) **Establishment of the biomethane register** – to record biomethane submitted to or taken from the gas transmission or gas distribution system.
- 3) **Development of issuance system for guarantees of biomethane origin** - documents generated by the biomethane register that confirms that biomethane **is produced from biomass** and contains information **about the amount** of biomethane submitted to the gas transmission or gas distribution system.

### Amendments to the Law of Ukraine "On the Natural Gas Market":

**The provisions of this Law on natural gas shall apply on a non-discriminatory basis to biogas** or other types of gas from alternative sources, if biogas or other gas from alternative sources meets the requirements for access to gas transmission and distribution systems, gas storage facilities, LNG installations.

The Procedure of the functioning of the **Register of biomethane** production and consumption was adopted by the Resolution of the Cabinet of Ministers of Ukraine in July 2022 (Decree #823). Expected result is a launch of the Register of biomethane production and consumption in 2023.





# Resolution of NEURC on June 2023

---

On 8 June 2023, the National Energy and Utilities Regulatory Commission (**NEURC, the Regulator**) approved amendments to a number of its resolutions aimed at supporting the development of the biomethane sector in Ukraine. The amendments were made to:

- Gas transmission and gas distribution system codes;
- The Methodology for Determining and Calculating Tariffs for Natural Gas Transportation Services for Entry and Exit Points Based on Multi-Year Incentive Regulation (**Methodology**).

The relevant codes introduce the concept of a **Reverse Compressor Station**, which is a facility designed to process, compress, and transport natural gas or biomethane from the gas distribution system to the gas transmission system.

The requirement to install flow chromatographs for gas transmission points with a capacity of less than **3000 cubic meters per hour** will be excluded from the Gas Distribution Systems Code.



# First Ukrainian Biomethane Plant

Location: biogas plant of Gals Agro company (Chernihiv reg.) Start of operation: April 2023

Production of **3 bcm of biomethane/year** (eq. 1,3 MW<sub>el</sub>) on the base of existing biogas plant of 6,9 MW<sub>el</sub>.

Feedstock: manure, sugar beet pulp, corn silage

Upgrading: membrane technology



# Site Demo (Ladyzhin, Vinnitsa region)

The biogas plant in **Ladyzhin, Vinnytsia region**, has an installed electric capacity of 12 MW, producing biogas from 330 t d<sup>-1</sup> of chicken manure and other agricultural residues, producing 85,000,000 kW of electricity per year.

Plant configuration consists of twelve reactors (9 main reactors and 3 post digesters) with 90,000 m<sup>3</sup> volume each.

Also, the complex has its own biogas pipeline that transfers biogas to the cogeneration unit located near the slaughter complex, in order to use heat to supply steam to the latter.

**Injecting hydrogen directly into an AD reactor and increasing of the activity of the hydrogenotrophic methane formers. This results both in an overall increase of the biomethane yield per given amount of feedstock, and in a higher methane concentration in the final biogas produced.**



#Biomethaverse

# Thank you!

## Follow Biomethaverse:

[www.biomethaverse.eu](http://www.biomethaverse.eu) 

[@European\\_Biogas](https://twitter.com/European_Biogas) 

[@European Biogas Association](https://www.linkedin.com/company/european-biogas-association/) 

Coordinator: Stefano Proietti, **ISINNOVA**

Email: [sproietti@isinnova.org](mailto:sproietti@isinnova.org)

**UABIO**

[geletukha@uabio.org](mailto:geletukha@uabio.org)

[matveev@uabio.org](mailto:matveev@uabio.org)

*Co-funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or CINEA. Neither the European Union nor the granting authority can be held responsible for them.*



Co-funded by  
the European Union