

# UABIO



## **State of the Art and Prospects of biomethane Development in Ukraine**

Danish-Ukrainian Agrotechnology Business  
Conference  
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(UABIO), Head of the Board



# UABIO members

We thank the powerful companies and experts who joined the Association!

12

years

8

individuals

60

companies

20+

experts





# Biogas/biomethane development in Ukraine (2024/2025)

Parameter	Biogas	Biomethane
Installed capacity, MWe	140 (33 MW for LFG)	17 mill m <sup>3</sup> /year
Number of plants	~ 85 (33 for LFG)	3
Natural gas grid (GTS)	33 400 km, 1390 gas distribution stations	
Gas refilling stations for CNG	~ 300 units (90,000 vehicles were running on CNG in 2005)	

- The individual projects ranged from **125 kW<sub>e</sub>** to **26 MW<sub>e</sub>** installed capacity.
- **The first biomethane project** was constructed in April 2023 on the basis of an existing biogas plant
- **First biomethane** is imported in EU in February 2025
- **A wide range** of industries and different types of **feedstock**





## Biomethane projects planned for launch in Ukraine in 2024/2025

N	Company	Location region	Capacity, Mm <sup>3</sup> /year	Connection	Sustainability certificate	Start up, year
1	Hals Agro LLC	Chernihiv	3.0	GDS	ISCC	2023
2	VITAGRO group of companies	Khmelnytskyi	3.0	GDS	ISCC	2024
3	MHP	Dnipropetrovsk	11.0	GDS	ISCC	2025
4	Theofipol Energy Company LLC	Khmelnytskyi	56.0	GTS	ISCC	2025
5	Hals Agro LLC	Kyiv	3.0	GDS		2025
6	"YUM LIQUID GAS" LLC	Vinnytsia	11.0	Bio-LNG		2025
7	MHP	Vinnytsia	24.0	Bio-LNG	ISCC	2025
	TOTAL		111.0			

GDS – Gas Distribution System  
GTS – Gas Transmission System



# Why in Ukraine?

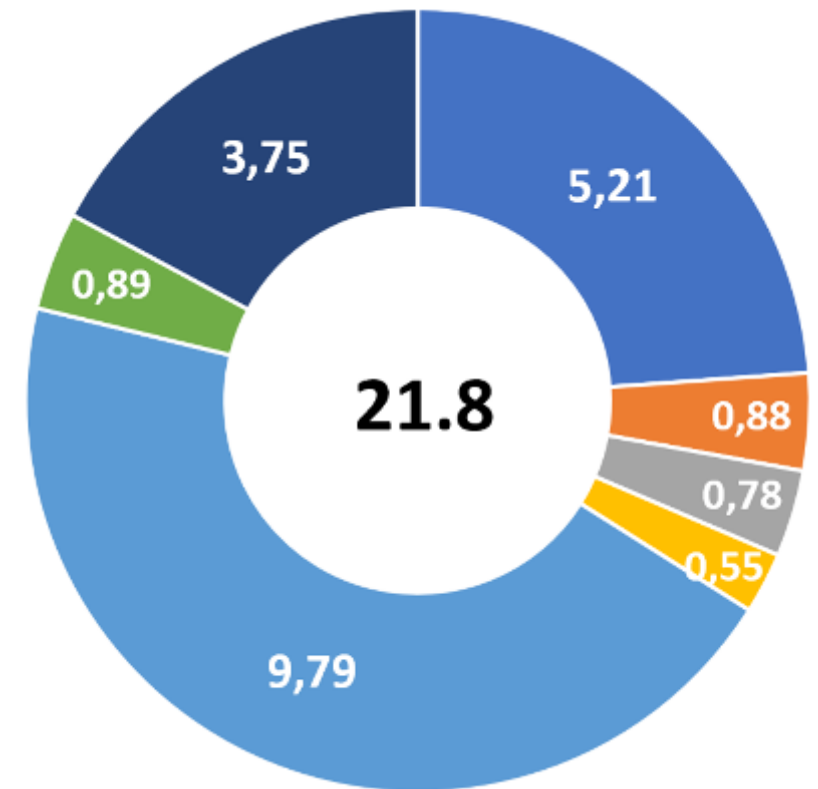


- Ukraine has the **largest area of agricultural land** in Europe and, accordingly, one of the best agricultural feedstock potential for biomethane production
- Ukraine can offer **the cheapest raw materials** for biomethane production and compete with any country in the biomethane market.
- Ukraine has a **developed system of gas networks** (GTS and GDS).
- The **structure of agricultural enterprises** is favorable for producing biomethane (big share of large and medium-sized enterprises).
- The possibility of exporting biomethane to the premium EU market, which has adopted ambitious plans for producing biomethane (REPowerEU): **35 bcm/year in 2030**.
- Potentially, in mid-term prospect, Ukraine can **provide up to 20%** of EU needs.



# Biogas/biomethane production potential in Ukraine

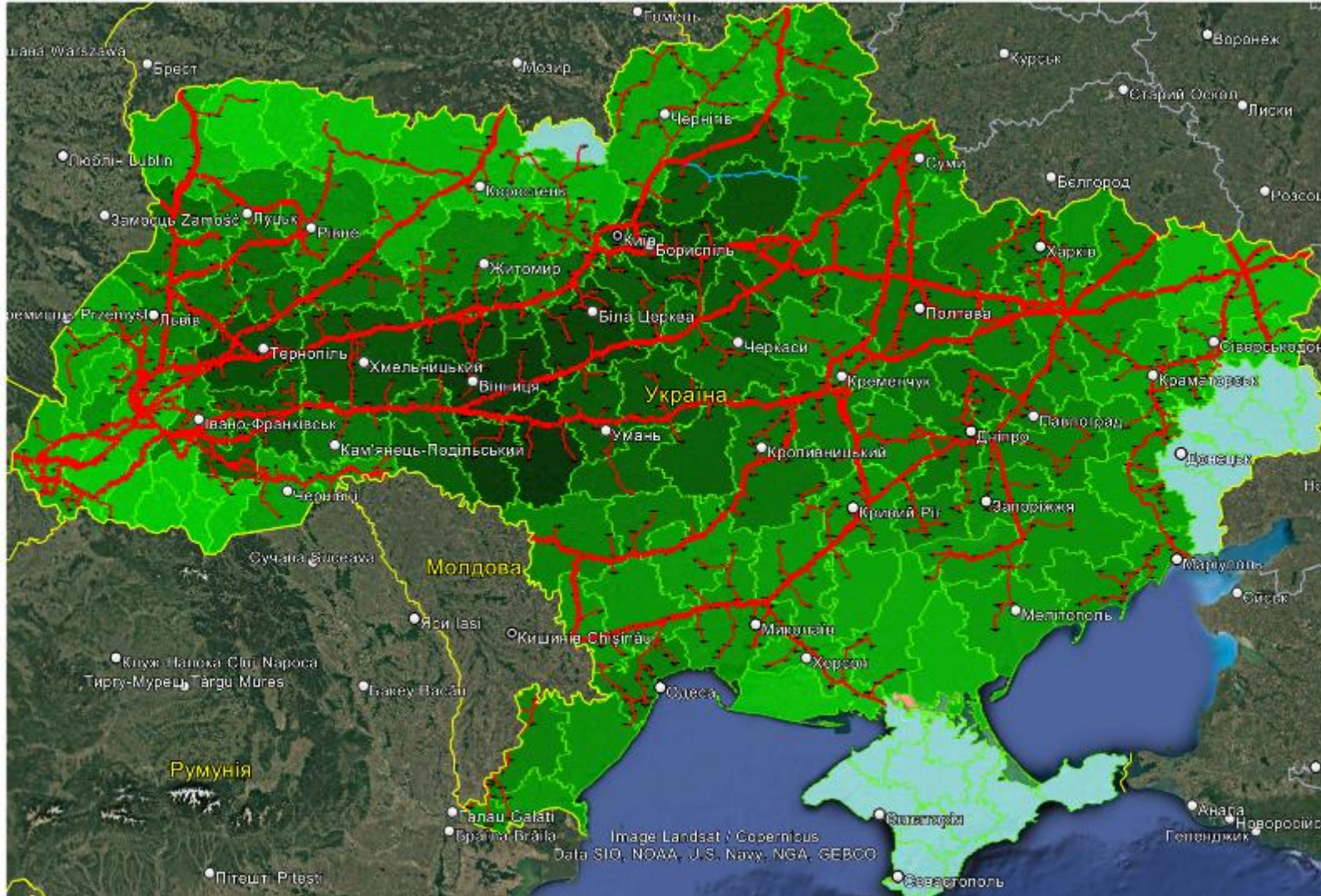
BIOGAS/BIOMETHANE, billion m <sup>3</sup> CH <sub>4</sub> /year20	
Biogas from animal waste	0,9
Biogas from harvest residues of agricultural crops	5,2
Biogas from by-products of the food processing industry	0,7
Biogas from municipal solid waste (MSW)	0,5
Biogas from municipal waste water treatment plants	0,1
Energy crops: biogas from corn silage (from 1 million hectares)	3,8
Biogas from cover crops (20% of arable land)	9,8
Biogas from biomass obtained by thermal gasification (10%)	1,0
<b>TOTAL BIOGAS/BIOMETHANE, billion m<sup>3</sup> CH<sub>4</sub>/year</b>	<b>21,8</b>



Ukraine has the highest biomethane potential among the EU countries



# Structure of Ukrainian GTS and biomethane potential

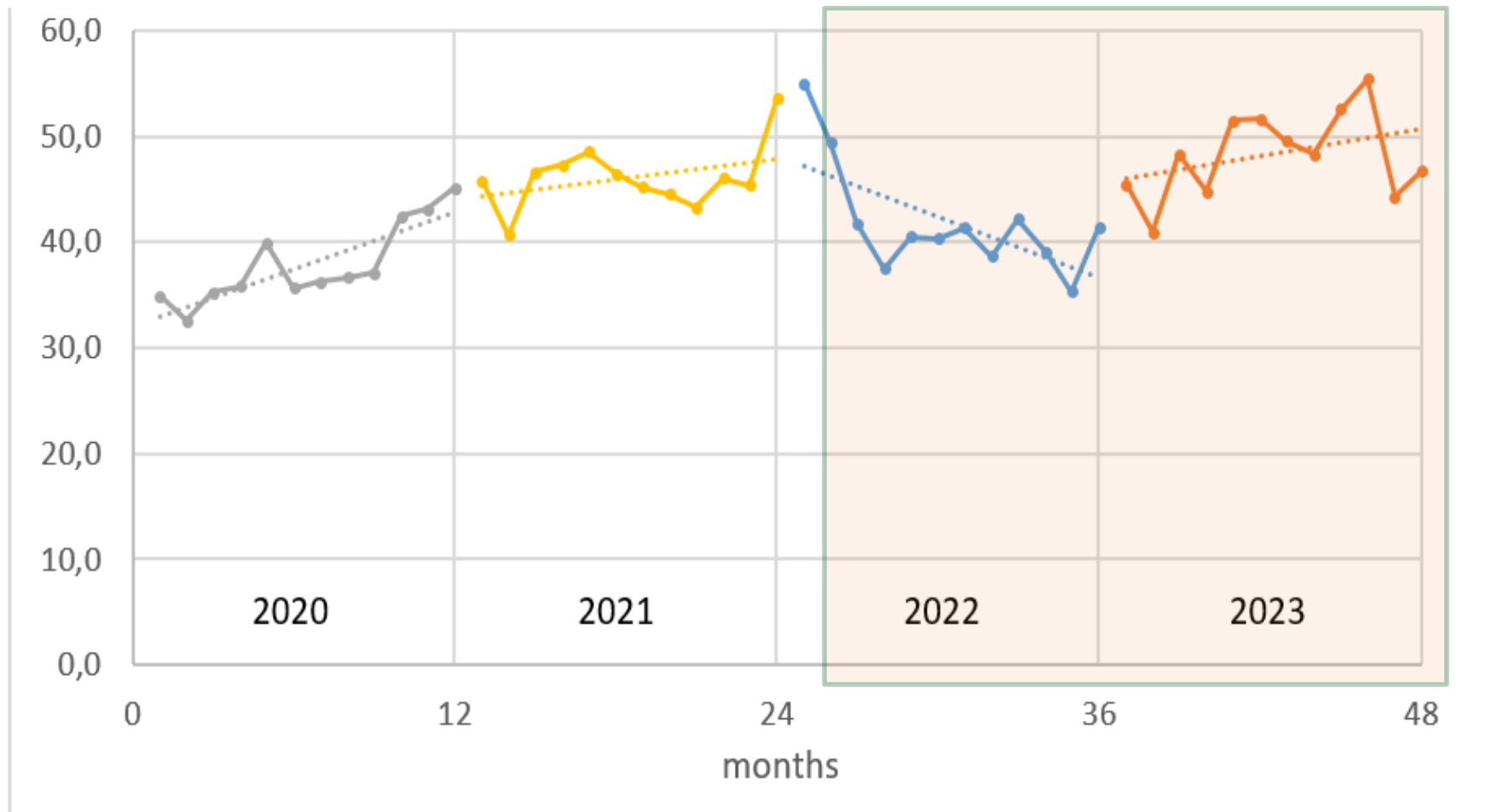


136 reorganized districts of Ukraine

- District's biomethane potential is up to 707 mcm CH<sub>4</sub>/year
- Average district's biomethane potential equals 182 mcm CH<sub>4</sub>/year
- Almost half of the potential concentrated in western and central regions as Vinnytsya, Kyivska, Dnipropetrovsk, Poltavsk, Kirovohradska
- All regions of Ukraine with the greatest potential for biomethane production are quite well covered by GTS infrastructure



# Power production from biogas in Ukraine in 2020-2023, GWh/month



Power production from biogas is growing even during the war!



## UABIO's optimistic scenario of Ukrainian biomethane market (under removal of all barriers)

	2027	2030	2035	2040	2045	2050
Production of biomethane, bcm/y	0,25	1,00	2,1	4,5	9,5	20
Export of biomethane, bcm/y	0,13	0,50	1,05	2,25	4,8	10
Consumption in Ukraine, bcm/y	0,13	0,50	1,05	2,25	4,8	10
Number of biomethane plants, units	50	200	420	900	1900	4000
Necessary investments, billion €	0,5	2,0	4,2	9,0	19,0	40
Reduction of GHG emissions, mill t of CO <sub>2</sub> -eq./y	0,6	2,5	5,3	11,3	23,8	50
Created new jobs, thousand units	3,1	12,5	26,2	56,2	118,7	250



# First Ukrainian Biomethane Plant (Hals Agro)

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

Production of **3 mill m<sup>3</sup> of CH<sub>4</sub>/year** (eq. 1,3 MWeI) on  
the base of existing biogas plant of **6,9 MWeI**.

Feedstock: manure, sugar beet pulp, corn silage

Upgrading: membrane technology





# Biomethane plant VITAGRO (1 stage)

Biomethane plant with a capacity of **3 mill m<sup>3</sup> CH<sub>4</sub>/year**

The first stage of the complex is commissioned in **2024**

**Location:** Khmelnytskyi region

**Main parameters:**

- Feedstock: pig manure, cattle manure, straw, corn silage
- Investments – 6 mill. Euro
- Upgrading: membrane technology
- Biomethane use: export





# MHP biogas plants (poultry farms)



Poultry farm "Oril-Lider",  
Dnepropetrovsk region  
Production in 2017 – 42 mill heads  
(105,000 t/a)

Start of operation -2013  
Installed power capacity – **5.7 MW**  
Digesters – 10x3500 m<sup>3</sup>  
Feedstock – chicken dung, wastewater  
Investment – 15 mill EUR  
Biomethane production – **11 Mm<sup>3</sup>/year**



Poultry farm "Vinnitska",  
Vinnytsya region  
Production in 2017 – 280,000 tons of  
chicken meat

Start of operation -2017  
Installed power capacity (1<sup>st</sup> stage) – **12 MW**  
Digesters – 12x8200 m<sup>3</sup>  
Feedstock – chicken dung, wastewater, corn silage  
Investment (1<sup>st</sup> stage) – 25 mill EUR  
Biomethane production is planned (with biomethanation)



# Theofipol Energy Company

**Project capacity:** total installed capacity of **26.1 MW** (four stages)

1<sup>st</sup> stage of 5.1 MW was launched in 2017

2<sup>nd</sup> stage of 10.5 MW – in 2018.

**Location:** Khmelnytsky region (on the territory of Teofipol Sugar Plant)

**Feedstock:** sugar beet pulp, manure, corn silage, straw

**Product:** electricity production (sold to the power grid at the "green" tariff);

Space heating (greenhouses, administrative buildings and hostels)

**Investments** (2 stages): 40 mill EUR

Connection: **GTS**, production of bio-LNG is considered





# Yuzefo-Mykolayivska Biogas Company LLC

**Project:** Biogas/biomethane plant

1<sup>st</sup> stage - 3.2 MW el.

2<sup>nd</sup> stage - 2.0 MW el., totally **5.2 MW el.**

**Location:** Vinnytsia region, Mykhaylyn village  
(next to the local sugar plant)

**Digestors:** 2 industrial type units (8,000 m<sup>3</sup>)  
and agricultural type secondary digester  
(4,000 m<sup>3</sup>)

**Feedstock:** sugar beet pulp and tails, chicken  
litter, apple pulp, hydrolysed straw

3<sup>rd</sup> stage - upgrading to biomethane

**Technology:** amine scrubber, **bio-LNG**  
production

**Investments** – 11 mill Euro (without biogas  
upgrading station).





Thank you for your  
attention!

Welcome to UABIO!

**UABIO**

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