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UKRAINIAN CLIMATE OFFICE

A SUMMARY IN EIGHT PICTURES:

The potential of Ukraine-EU biomethane cooperation

2024

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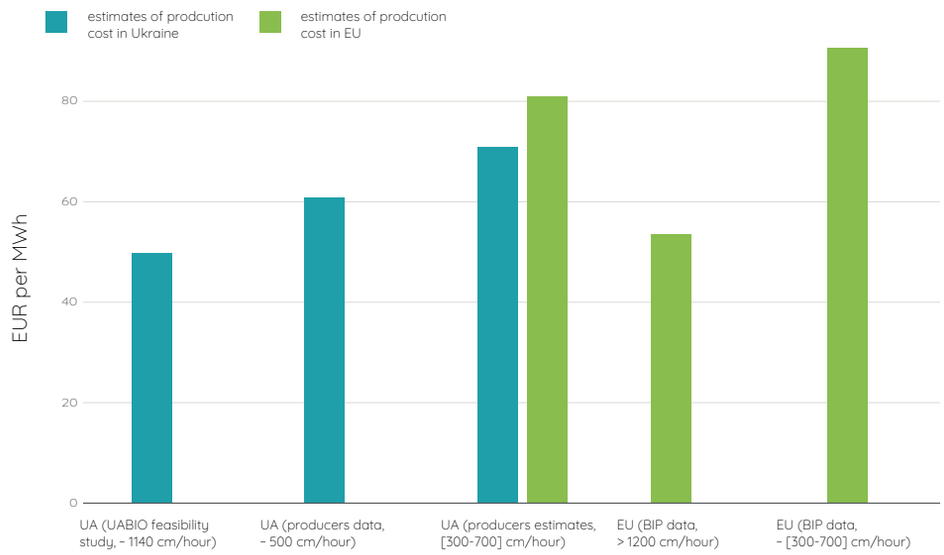
CONCLUSION

- Ukraine has the potential to produce substantial amounts of biomethane, which EU consumers are willing to purchase to reduce the costs of decarbonising their societies.
- Given the current structure of the gas network, biomethane exports will not work based on tracing individual biomethane molecules, but on ensuring a robust certification chain is in place.
- Reliable certification is essential for investors, as any failure in the system could jeopardise all Ukrainian biomethane exports to the EU.
- Facilitating biomethane trade offers clear advantages for both the EU and Ukraine, including enhanced supply security, increased competitiveness, and progress towards decarbonisation.

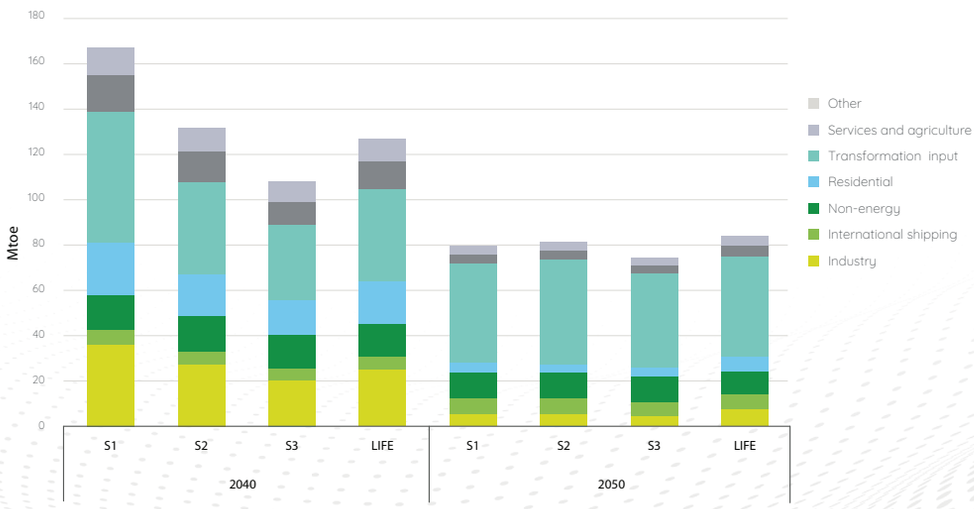
UA vs EU biomethane: Efficient Ukrainian biomethane production could be competitive with EU biomethane installations



Source: UABIO, BIP, Ukrainian companies' production data and estimates

Figure 1: The costs range for production of 1 cm of biomethane in Ukraine and EU

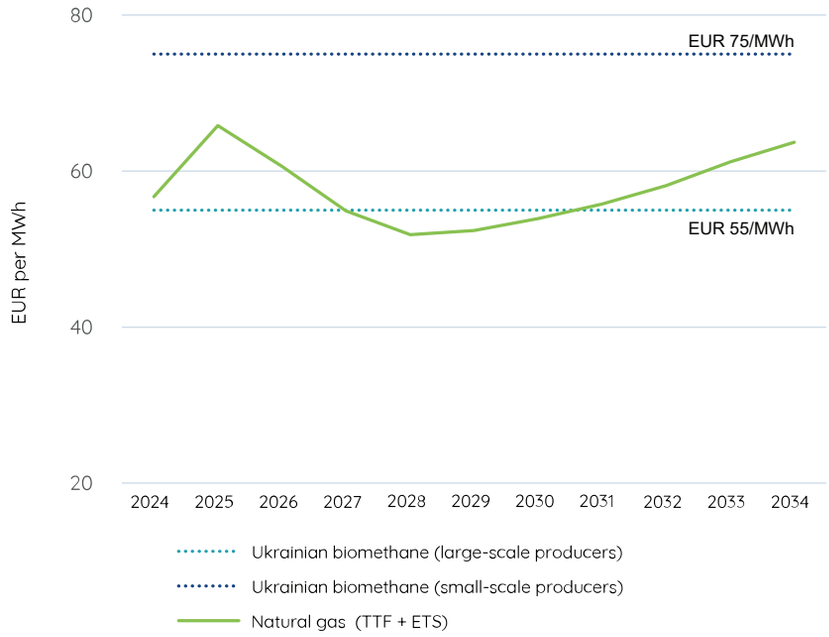
EU gas demand: The EU will continue to demand declining, but still substantial volumes of gaseous fuels.



Source: Fig 30 of the IA

Figure 7: Energy demand for gaseous fuels

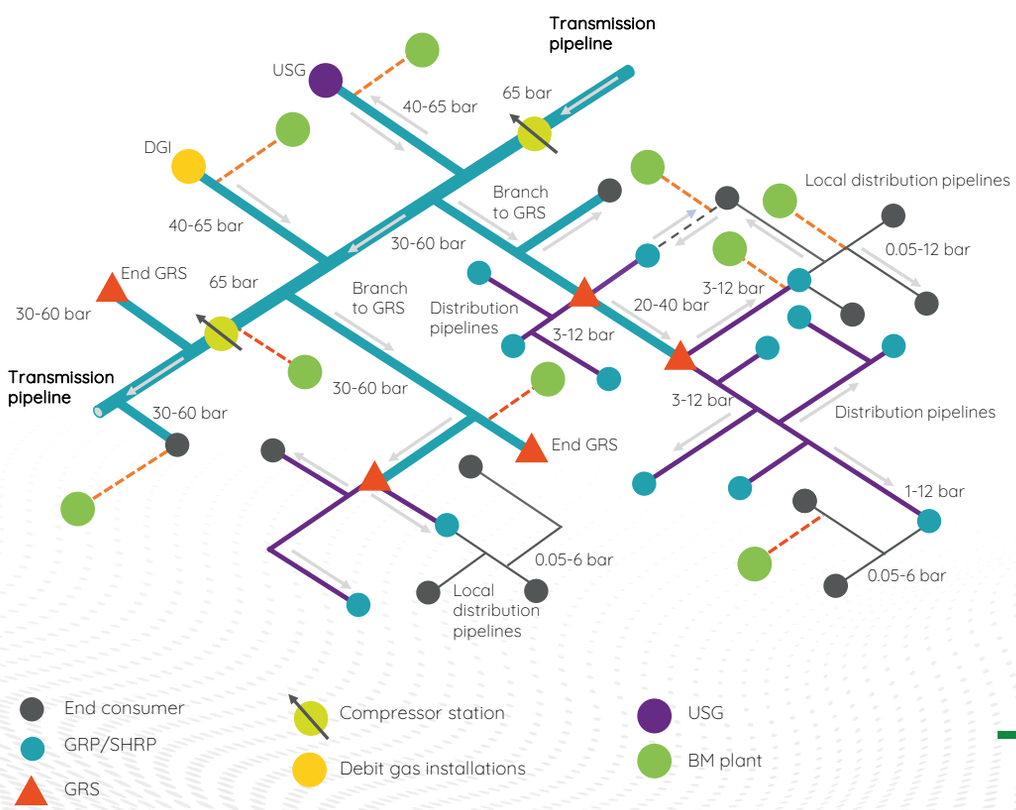
UA biomethane vs natural gas: At baseline EU natural gas & EU carbon prices, efficient Ukrainian biomethane producers would be competitive on the EU gas market. A carbon price level exceeding €150/tCO_2 would result also in less efficient Ukrainian projects being profitable in the EU gas market.



Sources: TTF natural gas prices forecasts from CME Group[20]; for ETS prices (https://www.eeagrants.gov.pt; https://bip-europe.eu; https://www.kobize.pl; https://ember-climate.org/)

Figure 3:
Comparison of reference prices for Ukrainian biomethane in the EU market and forecast of natural gas + ETS price (without transportation costs)

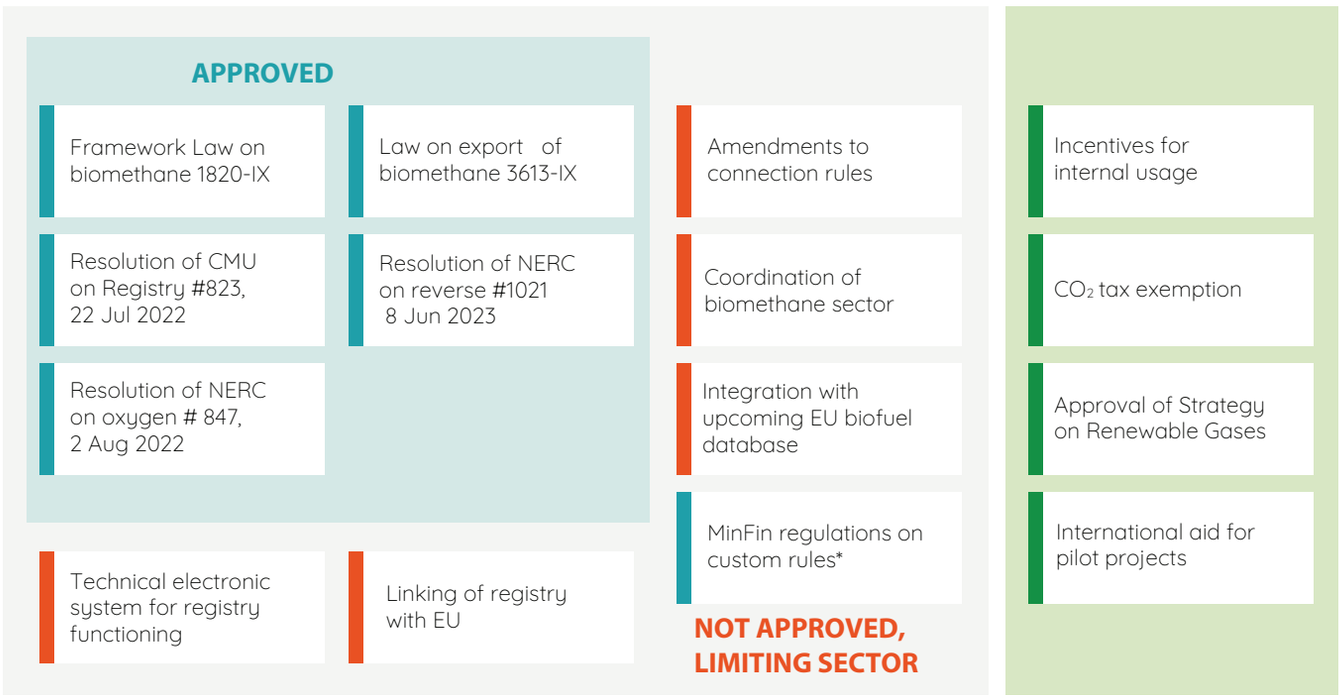
A lot of existing infrastructure: Ukrainian distribution and transmission grid, as well as local demand for gaseous fuels would enable trade with the EU - but swapping volumes would be clearly most efficient to avoid pressurisation of gas injected at distribution level.



Principal scheme of Ukrainian gas network indicating potential connection points for biomethane plants and distribution segments structural layout

Figure 9:
Basic scheme of the Ukrainian gas network, with potential connection points for biomethane plants and distribution network layout.

Substantial regulatory improvements: Ukraine seeks to prepare regulatory framework for such exports - but for exports a Ukrainian biomethane registry and its connection to the Union Database (UDB) is crucial.



*Approved 8 Sept 2024 (Order # 380), technically unlocking export based on mass balance method

Figure 12: Mapping of regulations of biomethane.

EU - issues: On the side of the EU and its Member States a clear strategy is missing - but would be crucial to resolve remaining technical/regulatory issues.

FOR THE EU

- In order to promote biomethane consumption and shape its biomethane policy – both within the EU and regarding imports – the Union needs **reliable, up-to-date, and comparable data available for all Member States.** Collecting and publishing such data should be the first step in building an effective EU biomethane policy.
- Adopt strategic thinking for biomethane, ideally through the **development of an EU-wide biomethane strategy.** This strategy should not only define goals but also outline a vision and concrete framework for developing the biomethane market in Member States where it exists, and promote it in countries where it has potential, but is not yet established.
- A comprehensive strategy should harmonise and unify quality standards and requirements, address the diversity of support systems, and simplify access to cross-border networks and biomethane trade. It should also **facilitate the dissemination of know-how, best practices, and technological advancements.**
- Given the local nature of biomethane, the strategy should be based on 3 pillars: promoting **local initiative, fostering intra-EU cooperation, and encourage collaboration with accession countries, particularly Ukraine.** An essential step is launching the **UDB and granting Ukrainian producers access to it.**

- The strategy should clearly **illustrate how biomethane can contribute not only to the energy transition in the power sector and hard-to-electrify industrial sectors, but also to climate goals and transforming agriculture.** A well-designed biomethane strategy could act as a trigger for defining a new agricultural policy for an expanding EU.
- In the context of EU-Ukraine cooperation, it is essential to pursue win-win partnerships, whether through collaborations between individual producers and consumers, or the formation of cross-border clusters. This approach should aim for solutions that benefit both Ukrainian producers and EU stakeholders, encouraging sustainable development of projects and joint efforts to create a pan-European biomethane market.
- The EU needs an effective information policy that emphasises the advantages biomethane use and highlights the benefits of cooperation with Ukraine, while proactively addressing potential challenges, countering misinformation and minimising political risks.
- Clear **quantitative and qualitative requirements** for imports from third countries should be established, along with **pre-allocation of renewable gases imports from Ukraine in strategic documents** and planned on a technical level with annual allocations.

For Ukraine, the most important thing is not to cut corners, as a single problem with certification of one Ukrainian installation will get all Ukrainian export projects into trouble with finding EU buyers. («one bad apple would spoil the whole barrel.»)

FOR UKRAINE

Improvement of connection rules:

- To unlock production potential of Ukrainian biomethane, simplifying connection procedures is essential. Ukraine should develop a set of standard documents:
  - A standard technical specifications form for the connection of biomethane plants, with a maximum issuance period of 30 days.
  - A standard technical agreement for biomethane supply to the grid, with an option for signing post-test injection.
- Standardise the minimum calorific value requirement for biomethane at 10 kWh/nm^3 or higher and establish a national accredited laboratory for biomethane quality control in line with EU standards.
- Biomethane, biogas and biomass energy facilities should be included in the list of projects eligible for simplified connection procedures, similarly to natural gas facilities, to prevent unequal regulatory treatment.
- Create network clusters to ensure stable gas consumption.

Coordination of the biomethane sector:

- Establish a dedicated coordinating body within one of the ministries to oversee the biomethane sector in Ukraine.

Exemption from CO_2 tax:

- Ukraine should expedite the adoption of draft law No. 9597 on the register of biofuel installations, to exempt biomethane from CO_2 taxation.

Biomethane register:

- Establish a reliable Ukrainian biomethane registry, ensuring regular coordination with the European Commission on the implementation of regulation related to the accounting, reporting, monitoring, verification, and registration of biomethane in accordance with the WBI requirements.

Regulations to be adopted:

- Implement a mass-balance approach for certifying biomethane sustainability, and establish related requirements. Align regulations with the design and requirements of RED III and the Implementing Regulation for verifying sustainability, GHG savings, and risks associated with greenhouse gas emission reductions (ILUC).

Reducing general barriers to the bioenergy sector:

- Enhance the economic and legal environment to incentivise the biomethane industry in Ukraine. This includes adopting legislation to promote the cultivation and use of energy crops, establishing legislation on digestate, and developing a comprehensive Bioenergy Strategy up to 2030 or 2050 and a roadmap for renewable gases development.
- In the long term, phases out subsidies for residential natural gas prices would make methane prices more realistic, encouraging the development of domestic biomethane demand. However, given the high social impact, this may be the most challenging measure to implement.

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