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Prospects for the development of biomethane production in Ukraine

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On 8 June 2023, Ukraine's National Committee for Energy Regulation (NKRE) authorised biomethane producers to inject the fuel which has not been used in the local operator's gas networks to the national gas transmission system. This decision lifts the restrictions previously imposed on producers of this type of fuel regarding their access to the gas market. Earlier, in April 2023, Ukraine's first biomethane producing plant was connected to the regional gas networks; it has a manufacturing capacity of up to 3 mcm of biomethane annually. According to the Bioenergy Association of Ukraine, plans have been made to open five more production plants with a total manufacturing capacity of up to 70 mcm annually by the end of 2023. Moreover, 10 agricultural holdings have been considering whether to enter the biomethane production market and build 36 production plants capable of producing up to 220 mcm of this fuel.

Commentary

- The decision by the Ukrainian National Committee for Energy Regulation is another step towards stimulating biomethane production in Ukraine which has been taken in recent months. Although this process is still at a very early stage of development, many experts argue that it has great potential, regardless of the ongoing war. In addition, the cost of biomethane production is considerably lower than that of producing green hydrogen, and the unprecedented spikes in natural gas prices recorded in Europe last year have boosted its viability. In addition, the production of biomethane is becoming more attractive in the light of continued uncertainty and market risks, and the accelerated pace of energy transition. According to NKRE estimates, Ukraine could produce almost 22 bcm of biomethane annually (although other sources put this figure at 9.7 bcm), although this would require the construction of thousands of production plants nationwide. Another idea being considered involves reorienting the operation of biogas producing companies (of which there are currently more than 100 in Ukraine) by equipping them with installations capable of purifying this fuel to remove the carbon dioxide from it (biogas is 60% methane and 40% CO_2).
- Increased biomethane production could help to reduce Ukraine's demand for and imports of natural gas, and to accelerate the decarbonisation of the country's industrial sector and its economy as a whole. It would also enable Ukraine to utilise its distribution and transmission infrastructure. The digestate obtained as a by-product in biomethane production could also be used to fertilise Ukrainian farmland. Kyiv is also interested in

cooperation with the EU and its specific member states in developing the biomethane production sector and, in the longer term, potentially also in exporting this fuel. This would enable Ukraine not only to generate export revenues, but also to increase the utilisation of its transit infrastructure; it is likely that this infrastructure will be largely unused when the present contract with Russia expires in 2024. Unlike green hydrogen (which Ukraine also has the potential to produce), biomethane transmission does not pose significant challenges, which means that the existing natural gas transmission infrastructure could easily be used for that purpose.

- Alongside this, the EU has demonstrated significant interest in developing biomethane production in Ukraine and in importing this fuel in the future. In February 2023, the government in Kyiv and the European Commission signed a Memorandum of understanding which foresees cooperation at all stages of the green gases supply chains, including those of the biomethane supply chain. According to its provisions, the signatories will co-operate and support investments in the production and transport of green gases, and will seek to harmonise the relevant regulations and the certifications so as to make them consistent with EU requirements regarding the quality of biomethane and/or biogas, as well as the rules for importing them to the EU. In May 2023, Ukraine adopted EU standards regarding the rules for injecting biomethane into gas transmission and distribution networks.
- One of the strategic goals of the EU's Green Deal involves increasing the possibilities of sourcing and using so-called green (renewable) gases, including biomethane and hydrogen, in order to accelerate the EU's energy transition. At the same time, in line with the REPowerEU document, the use of green gases is also intended to increase the security of supply as it will facilitate the reduction of natural gas consumption and of gas imports from Russia. Since the possibilities of producing green gases (including biomethane) are limited, it is important for the EU to cooperate with third countries such as Ukraine in this field. According to preliminary estimates prepared by the Ukrainian side, in the best-case scenario Kyiv could help the EU to meet 10–20% of its demand for biomethane.