

ACTIVE CONSUMPTION THROUGH SELF-GENERATION MECHANISM IN UKRAINE

POLICY ANALYSIS AND IMPROVEMENT PROPOSALS



Key Findings and Recommendations
of the Analytical Report of European-
Ukrainian Energy Agency

Kyiv, 2025

Key Findings and Recommendations

Amid mass destruction and ongoing threats to Ukraine's energy infrastructure due to the Russian full-scale aggression, the government's policy acknowledges the urgent need to expand distributed generation to enhance power grid resilience.

Prosumption mechanisms introduced in 2023-2024 now allow consumers to use their own generating units while supplying electricity surpluses to the market. In 2024, the Ukraine's government approved a Strategy for the Development of Distributed Generation until 2035, which focuses on promoting prosumption with an emphasis on green generation, energy storage systems, and gas-fired generation that are integrated within the power grid.

The full-scale war has significantly accelerated demand – particularly among non-residential consumers – for independent power supply such as solar PV and gas-fired cogeneration.

In 2024, imports of photovoltaic components suggest up to 900 MW of new solar PV capacity was installed – double the total in 2022-2023. According to the Ministry of Energy of Ukraine, a total of 835 MW of gas-fuelled small-capacity generation was installed in 2024. Credit support also played a key role, with over UAH 10.5 billion in loans approved in the second half of 2024 alone, enabling the deployment of 470 MW in new capacity, primarily behind-the-meter (BtM) natural gas cogeneration, solar PV, and gas/diesel generators.

Most new BtM capacity is installed in island mode, while prosumption remains rather limited compared to the rapid growth of generation by consumers.

Data obtained from 19 Distribution System Operators (DSOs) show that by Q3 2024, 117 MW of new BtM capacity was installed with the active consumer status (prosumer), with applications pending for an additional 77 MW. However, Net-billing contracts accounted for only 13 MW – mostly non-household solar PV. A similar pattern is seen in gas-fuelled small generation: while total installed BtM gas capacity reached 967 MW by the end of 2024, only 167.5 MW was connected to DSO grid according to the Ukraine's Transmission System Operator (TSO) data.

BtM generation allows non-residential consumers to save on increased electricity supply cost, though market signals for injecting surplus energy to the grid remain weak.

With retail tariffs reaching 7-9 UAH/kWh and the levelised cost of BtM solar PV at 3-4 UAH/kWh, investments payback period may not exceed five years. Yet, price volatility on the wholesale market and regulated price caps reduce incentives for grid injections by prosumers. During evening peak load, day-ahead market prices often hit the cap of 9,000 UAH/MWh, while mid-day prices during peak solar output can fall well below 3,000 UAH/MWh. This discourages grid injections and limits BtM capacity expansion potential.

Recent legal changes have lifted restrictions preventing prosumers from connecting third-party generating units – especially those not using renewables – to their networks.

Until 2025, such connections were prohibited, hampering mixed energy models and investment opportunities. Law No. 4213-IX (14 January 2025) eliminated this barrier, but regulatory frameworks – such as the Commercial Metering Code and Distribution System Code – are yet to be fully aligned for effective implementation.

The absence of a clear legal definition for a professional energy market player poses legal uncertainty. Active consumers are prohibited to engage in electricity production and sales as their core business operation.

Moreover, those with generating units above 20 MW (or 5 MW from 2028) must obtain a licence, effectively becoming market participants. Legal clarity is needed to define the boundary between prosumption and professional activity, ensuring predictability for investors planning the projects.

Time-based limitations on the installed capacity of BtM generating units create long-term investment risks.

Law No. 4213-IX permits active consumers to have an installed capacity of up to 20 MW until 2028, after which the limit drops to 5 MW. This looming change introduces uncertainty for the investments. Policymakers should clarify the post-2028 regulatory approach and adopt clear transition provisions to ensure investor confidence and legal certainty.

Lifting restrictions on grid export volumes will further enable self-generation.

Previously, active consumers lost their status if over 50% of their output was injected to the grid – an issue for enterprises with seasonal or uneven consumption patterns. Law No. 4213-IX removed this restriction, allowing more flexible energy use and export models. Regulatory amendments by the NEURC are now needed to operationalise this mechanism within the electricity market framework.

Discrepancies between construction and energy legislation complicate PV installations for prosumers.

While energy laws exempt rooftop solar and household generators from permitting, construction laws do not, creating legal contradictions. Regulatory institutions may still demand full package of permits, creating barriers to commissioning. Harmonising energy and construction regulations is critical to removing legal uncertainty and simplifying BtM project implementation.

Ukraine already has a sufficient ecosystem of companies – installers and electricity suppliers – ready to cooperate with prosumers.

However, low consumer awareness remains a barrier. Despite growing competition and turnkey solar PV offers, most potential users are unaware of own generation benefits, existing mechanisms, or how to access them. Public awareness efforts are currently driven by private and civil sectors, while state outreach remains rather limited. A comprehensive public information campaign and clear connection guidelines are essential to broadening participation.

Effective policymaking for BtM and distributed generation requires better data collection, monitoring, and information-sharing.

Although Law No. 4213-IX lifted the 50% grid-export limit, it did not establish a centralised accounting system for distributed installations. This hampers regulatory oversight and enforcement. A digital platform and unified register for BtM generation would streamline notifications and facilitate network integration. The government, DSOs, the TSO, and the Regulator should establish regular data exchange protocols and publish aggregate BtM data to improve transparency and market trust.

Energy storage systems are becoming increasingly popular among consumers, yet most remain invisible to the grid – often unreported even by active consumers.

Despite substantial equipment imports and confirmation of widespread installations by market participants, DSOs have received few formal applications for energy storage integration. Most units are used as backup power supply only, and their potential for grid balancing remains untapped. Price caps make arbitrage unattractive, while complex DSO procedures dissuade formal registration. Making energy storage an effective system asset requires reviewing price caps and promoting aggregation.

The lack of specific rules for energy storage within the Net-billing mechanism creates legal ambiguity.

While retail market rules allow their use, the Law does not explicitly support storage as part of prosumption operations. This limits consumers' access to compensation mechanisms and grid integration options. Legal amendments are needed – particularly to the Law of Ukraine “On Electricity Market” and the Law “On Alternative Energy Sources” – to formally permit energy storage systems use under active consumer status and provide clear regulatory framework and guidelines for operations.