

Microgrids tbilisi

The sun shone unexpectedly bright on Georgia's nascent private solar power sector in 2021. Data compiled by the country's power regulator show growth of 335% (Table 1) in installed capacity of rooftop solar over the past year. But there are concerns that upcoming competitive power market reforms and questions of grid stability could bring this solar flare to an abrupt halt.

Self-proclaimed "renewable energy enthusiast" Tornike Darjania certainly hopes this won't be the case. When he opened his solar panel installation business Helios Energy in 2017, he did so "for fun, because we loved this technology." The company's motto "Here comes the sun" was anything but a forecast of explosive growth some five years down the line. "But now that the industry is on the cusp of developing something really special, to lose our momentum would be a real shame", Darjania says.

It would be a shame. Georgia has been struggling to maintain a high share of renewables in its domestic power consumption mix. Data from Georgia's Electricity Market Operator (ESCO) show that in 2016, approximately 81% of the country's consumed electricity came from hydro. By 2020, that number had sunk to 65%, mostly due to growing imports and thermal (gas) power plant production. And while private solar isn't the panacea to the country's energy woes, it can have a sizable role to play in the country's sustainable future.

Ongoing debates about what that energy future should look like are at the heart of what fueled last year's growth in solar. Many companies placed their bets on the future of energy being a cheaper one after electricity price hikes in Georgia in the beginning of 2021 practically doubled the energy tariff for commercial consumers to more than 30 tetri / kWh. Interest in private solar power as a cheaper, more sustainable alternative has since soared amongst firms.

Households meanwhile have been less tempted. For them, solar PV units still entail substantial investments and the financial incentives are not strong enough; residential power consumers remain shielded from 2021's price hikes (which raised the tariff from around 20 to 26.5 tetri) by a government subsidy.

Yet another group of solar buffs hope the energy future is a participatory one. To encourage the use of privately owned renewable energy sources, Georgia employs a net metering mechanism, a system in which microgenerator owners can sell their surplus energy onto the grid, and are credited in kind or cash at the end of a 12-month cycle. Owners of solar power units with a generation capacity of up to 500 kW are allowed to participate in the net metering scheme, and this too has encouraged uptake, particularly among large businesses.

Changes to the net metering system are a part of a series of changes surrounding ongoing power market reforms, Georgia's obligations to the EU's Energy Community Secretariat and concerns of grid safety.

Unbundling has obliged the country's two distribution system operators (DSOs, Telasi and Energo-Pro Georgia) to separate the management of their supply (purchase and sale) and distribution activities. Unbundling took place in the summer of 2021, and the new market rules have it that only supply companies have the right to purchase and sell electricity, leaving distribution companies wondering how they will be paid for shuttling energy back and forth between microgenerators and energy supply companies.

"But it's not just about the money. It's about the lack of communication, and not knowing what I can expect. As a power project advisor, how can I tell a client to invest in this technology, not knowing how it will operate in the future?" Kheladze asks.

A USAID Securing Georgia's Energy Future program spokesman told Investor.ge that self-consumption is a trend that cannot be ignored, and will have a role to play in the future of the country's energy security and independence.

"The concept of "energy citizens" has received increased attention in recent years, especially in the EU, where the potential for private and community generation has alerted states to the need to prepare for significant percentages of their population becoming "energy producing citizens", which will entail serious legislative action and grid investment", the spokesman said.

The challenges private generation will pose to the energy system are real, businesses in the sector conceded while speaking to Investor.ge, but noted it is too early to be imposing limitations as the grid's capacity to absorb private solar power generation is nowhere near its potential. In the meantime, they say, the benefits to be had from the renewable energy source should be encouraged.

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