

Challenges and opportunities for the open source microgrid industry

OSS has the potential to **democratize, standardize, and better integrate** microgrids, but the open source microgrids market is still nascent.



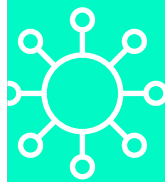
Open source models increase access to microgrids by lowering financial barriers to entry and sharing best practices, designs, and tools.



Open source accelerates microgrid design and time-to-market, enabling better modularity, efficiencies, and open data sharing.



By driving consensus on standards and fostering transparent collaboration, **open source can improve interoperability and standardization of microgrids.**



Different components of **open source business models**, such as software, support services, training, customization, and modularity, enable innovation and optimization of microgrids.

Open source enables market innovation toward energy resilience at scale via open source-enabled business models, security, talent pipelines, and cost reductions.



Collaborative and consistent policymaking is needed to revamp energy regulation that is outdated, fragmented, and favorable to centralized grid infrastructure.



Resistance from industry incumbents must be met with **onramps to open source programs and education to address security concerns.**



Data sharing, education, and goal alignment will support energy incumbents as they face economic hurdles and uncertainty in the adoption of microgrids.



The diverse group of stakeholders—from utilities to governments to communities—need a **central hub to collaborate, engage, and build the microgrid landscape.**



Data standardization, application modularity, demonstration of cost benefits, and market coordination will support greater microgrids interoperability.



Resistance to technical adoption and talent gaps can be diminished through a focus on **education, community access, and skills development.**

