



Ugandan Regulators Draft Isolated Grid System Regulation to Achieve Rural Electrification Goals



August 2020 – For the past three years, regulators from Uganda’s Electricity Regulatory Authority (ERA) have been working to engage stakeholders in an ongoing effort to update Uganda’s Isolated Grid System Regulation, which will be instrumental in increasing rural electrification through small scale generation systems. Via backing from USAID and Power Africa, NARUC has provided technical assistance throughout this process in order to develop a regulatory framework governing isolated off-grid generating systems.

Increasing Electricity Generation in Rural Areas

Currently, Uganda has abundant energy resources and an overall renewable energy power generation potential of 5,300 megawatts (MW).ⁱ Nevertheless, it has one of the lowest electrification rates in Africa. Upon implementation, this off-grid regulation will help Uganda’s energy sector to encourage further private sector investment and achieve its ambitious national

electrification target of 80% electricity access by 2040.ⁱⁱ

According to Uganda’s Rural Electrification Agency, electricity reaches 28% of the country’s total populationⁱⁱⁱ and only 18% of the rural population.^{iv} These low rates are due to a number of factors but are primarily a result of insufficient investment funding to expand the distribution network and undertake customer connections. Uganda’s natural terrain also poses a challenge to accelerating electricity access, as the country is comprised of scattered settlements, islanded communities, and mountainous areas that make it difficult and expensive to extend the national grid.^v

An increased prevalence of isolated grid systems is a promising approach to providing the electricity that Uganda needs – especially in prioritized rural areas. Isolated grid systems are off-grid systems providing small-scale electricity generation and can operate separately from the main grid.

Benefits include flexibility, easy installation, and the ability to connect to the main grid when the national grid expands into formerly isolated areas. Because the majority of these systems are anticipated to operate on renewable energy resources such as solar radiation, wind, and hydro, they can also provide the beneficial long-term impact of reducing carbon emissions.^{vi}

Creating an Enabling Environment for Investment through Transparent Regulations

While the isolated grid sector represents enormous investment potential for international developers and funders, Uganda’s current electricity regulations are more suited for larger-scale, grid-connected generation, transmission, and distribution. As a result, many potential investors will be operating in new and different regulatory and business environments, requiring transparent and comprehensive regulations in order to reduce any perceived investment, political, and operational risk.

In addition to reducing investment risk, transparent regulations are also important in aiding Uganda's government to clearly define a regulatory regime over isolated grid systems. A detailed strategy for identifying the role isolated grid systems are expected to play is crucial to fostering a favorable environment for mini-grid developers and operators. For example, a clear strategy provides transparent information on when and where extensions of the national grid are expected, important data regarding non-electrified populations, and may even designate areas where mini-grid development is favored. Without a codified framework, inconsistency and confusion over how projects are regulated could ensue.^{vii}

Achieving Consensus-Based Regulation

To address these concerns, NARUC has been working closely with ERA to update its regulations for governing isolated grid systems and incorporate feedback from many key stakeholders into Uganda's new draft regulatory framework. As stated in Power Africa's Roadmap, regular stakeholder engagement is essential in promoting inclusiveness, information sharing, and transparency within governments, the private sector, and local communities.^{viii} Additionally, the teamwork that it facilitates among a diverse network of stakeholders from both the public and private sector can accelerate progress towards common goals.

In this case, some of the stakeholders whose feedback helped update Uganda's draft regulatory framework included isolated grid system developers, key government entities, and international donors involved in developing and overseeing Uganda's conventional and isolated grid sector. By extensively engaging all relevant stakeholders both in-country and remotely and leveraging their expertise, NARUC was able to gather meaningful suggestions and incorporate differing stakeholder perspectives into the final draft regulation.

Upon final approval and adoption by the ERA and Uganda's Solicitor General, the regulation will be codified as national law, and will govern millions in foreign direct investment and invigorate Uganda's electricity sector for years to come.

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ⁱ "Overview of the Ugandan Energy Sector." UNREEEA. <https://unreeea.org/resource-center/overview-of-the-ugandan-energy-sector/>

ⁱⁱ "Uganda Vision 2040." National Planning Authority. <https://www.jlos.go.ug/index.php/document-centre/government-of-uganda-planning-strategies/274-uganda-vision-2040/file>

ⁱⁱⁱ Rural Electrification Agency. <http://www.rea.or.ug/>

^{iv} "Uganda – Access to Electricity (%) of Population." Trading Economics. <https://tradingeconomics.com/uganda/access-to-electricity-percent-of-population-wb-data.html>

^v Semaganda, Henry. "The Role of Mini Grids to Address Uganda's Power Deficit." Lecture, 5th Mini Grid Action Learning Event and Summit, Accra, Ghana, June 24, 2019. <https://atainsights.com/wp-content/uploads/2019/06/13.-Henry-Semagnanda-REA-Uganda.pdf>

^{vi} "Opportunities and Challenges in the Mini-Grid Sector in Africa – Lessons Learned From the EEP Portfolio." EEP Africa. PDF file. 2018. https://eepafrica.org/wp-content/uploads/2019/11/EEP_MiniGrids_Study_DigitalVersion.pdf

^{vii} "Practical Guide to Regulatory Treatment of Mini-Grids." NARUC. November 2017. <https://pubs.naruc.org/pub/EIA6363A-A51D-0046-C341-DADE9EBAA6E3>.

^{viii} "Power Africa The Roadmap: A Guide to Reaching 30,000 Megawatts and 60 Million Connections." USAID. PDF file. April 2016. https://www.usaid.gov/sites/default/files/documents/1860/USAID_PA_Roadmap_April_2016_TAG_508opt.pdf