

# Guidelines on Solar Mini-grid Investment in Uganda







# Acknowledgements

This Guidelines on Solar Mini-grid Investment in Uganda would not have been possible without the invaluable guidance, expertise, and dedication of many individuals and teams who have contributed to its success.

First and foremost, we would like to extend our heartfelt gratitude to Dr. Ajay Mathur, Director-General of the International Solar Alliance, for his exceptional leadership and unwavering support. His vision and strategic insights have been a meaningful contribution to the ongoing dialogue around sustainable energy investments and scale-up in Africa and globally.

We are grateful to the leadership of the Ministry of Energy and Mineral Development, Uganda, led by Hon. Ruth Nankabirwa Ssentamu, for their outstanding leadership and inspiring commitment to the development of solar energy and sustainable solutions in Uganda. And to the amazing team of- Dr. Brian Isabirye, Engr. Elizabeth Kaijuka and Engr. Adella Kyohairwe in the Ministry, whose input and constructive feedback were instrumental in curating this document, thank you for your unwavering support and partnership. We appreciate the INESUS GMBH team- Nico Peterschimdt and Andrea Cabanero, who authored the report, for their diligence and attention to detail. We appreciate the legal unit of the ISA team for their leadership on the project and technical reviews, which helped in shaping the final version of this document, making it a comprehensive resource for investors and stakeholders across the energy sector.

This Guideline is a product of collaboration, expertise, and shared commitment to a cleaner, more sustainable energy future. We hope that it provides insights for investors to understand the regulatory landscape in Minigrid development in Uganda and spur investments in the sector.

Once again, we express our deepest appreciation to all those who contributed, and we look forward to continuing this journey together toward a brighter and more sustainable tomorrow.

## **Onyi lyizoba**

International Solar Alliance





# Foreword

These 'Guidelines for Solar Mini Grid Investors' represent a significant step forward in our nation's ongoing efforts to improve access to electricity for all Ugandans, particularly those in remote and rural areas.

Uganda's Energy Policy (2023) and Energy Transition Plan has been instrumental in identifying key issues that hinder the development of mini grids and, by extension, the electrification of our rural areas. A significant obstacle highlighted in the policy is the inadequate regulatory framework that currently exists for mini-grid development. This gap has stymied progress and discouraged potential investors from entering the market, leaving a vast majority of our rural population without reliable access to electricity.

Currently, Uganda's rural electrification levels are still low. Only 8% of rural residences have grid connectivity, 3% rely on solar home systems, 28% use solar lighting systems or solar lanterns, and less than 1% are electrified through mini-grids. These statistics underscore the urgent need for a comprehensive and supportive framework to catalyze the development of mini grids and accelerate rural electrification that enables productive use of energy.

These guidelines are designed to address these challenges head-on. They provide clear, practical directions and a streamlined process that will facilitate the entry and operation of investors in the mini grid sector. By laying out the regulatory, technical, and financial requirements, these guidelines aim to create a conducive environment for investment, thereby fostering innovation and expansion in the mini grid space.

We hope that these guidelines will play a pivotal role in our efforts to meet our electrification targets for remote, off-grid communities. They will help bridge the gap between policy and implementation, ensuring that our rural areas can enjoy the economic, social, and health benefits that come with reliable electricity access. By promoting sustainable and scalable mini grid solutions, we are not only addressing the immediate need for electricity but also paving the way for long-term, inclusive growth.

I would like to extend my gratitude to all stakeholders involved in the development of these guidelines, especially our partners the International Solar Alliance (ISA). Your support, input and dedication have been invaluable in this endeavor as we strive to achieve our ultimate goal of universal access for all Ugandans by 2040.

**For God and My Country**

**Eng. Irene Bateebe**

Permanent Secretary

Ministry of Energy and Mineral Development







# Message from International Solar Alliance (ISA)

It gives us great pleasure to present the Investment Guideline for Mini-grid Investors, a key publication developed by the International Solar Alliance (ISA) in collaboration with the Ministry of Energy and Mineral Development, Uganda and other various stakeholders in the Uganda renewable energy sector. The Investment Guideline aims to provide clarity and direction to investors seeking to navigate Uganda's regulatory landscape for mini-grid development.

Mini-grids continue to hold considerable potential in our mission to ensure universal energy access in parts of Africa and the world, where grid access may be challenging; and aid sustainable energy transition globally. However, understanding and navigating the regulatory landscape in this sector has been a challenge and a deterrent to some investors, as they are often seen uncertain and ambiguous. The publication of these Investment Guidelines remains part of our efforts to provide clarity to these processes, offering a clear and accessible framework for investors and stakeholders alike.

At the ISA, it is our firm belief that the future of sustainable energy in Africa lies in empowering investors, entrepreneurs, and communities to coming together to build decentralized energy systems that are affordable, sustainable and scalable. These Investment Guidelines are a vital tool in achieving that vision, encouraging more significant investment in mini-grids across the continent and helping to create the energy future Africa deserves.

I encourage all potential investors to explore this guide, gain insight into Uganda's regulatory landscape, and take part in shaping the future of energy in Africa.

**Felipe Saliba**

Chief of Unit KMID - Knowledge Management and capacity building  
International Solar Alliance









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<b>AMDA</b>	Africa Minigrid Developers Association
<b>AEO</b>	Authorised Economic Operator
<b>AfDB</b>	African Development Bank
<b>BGFA</b>	Beyond the Grid Fund for Africa
<b>CSF</b>	Credit Support Facility
<b>DPPA</b>	Data Protection and Privacy Act of 2019
<b>DTAs</b>	Double Tax Agreements
<b>EACCMA</b>	East African Community Customs Management Act of 2004
<b>EASP</b>	World Bank's Electricity Access Scale-up Project
<b>ECP</b>	Electricity Connections Policy
<b>Eoi</b>	Expression of Interest
<b>ERA</b>	Electricity Regulatory Authority
<b>ERT</b>	World Bank's Energy for Rural Transformation Project
<b>FEA</b>	Foreign Exchange Act
<b>GDPR</b>	European General Data Protection Regulations
<b>GIZ</b>	Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH
<b>GoU</b>	Government of Uganda
<b>IEA</b>	International Energy Agency
<b>MEMD</b>	Ministry of Energy and Mineral Development
<b>NES</b>	National Electrification Strategy for Uganda
<b>NSSF</b>	National Social Security Fund
<b>MoU</b>	Memorandum of Understanding
<b>NEMA</b>	National Environment Management Authority
<b>NITA</b>	National Information Technology Authority
<b>NRECA</b>	America's Electric Cooperatives
<b>PAYE</b>	Pay As You Earn
<b>PSFU</b>	Private Sector Foundation of Uganda
<b>PVoC</b>	Pre-export verification of conformity to standards
<b>REA</b>	Rural Electrification Agency
<b>REMP</b>	Rural Electrification Master Plans
<b>SPD</b>	Small Power Distributor
<b>SPP</b>	Small Power Producer
<b>UECCC</b>	Uganda Energy Credit Capitalisation Company
<b>UMA</b>	Uganda Manufacturers Association
<b>UNBS</b>	Uganda National Bureau of Standards
<b>URSB</b>	Uganda Registration Services Bureau
<b>USEA</b>	Uganda Solar Energy Association
<b>UNREEEA</b>	Uganda National Renewable Energy and Energy Efficiency Alliance
<b>URA</b>	Uganda Revenue Authority
<b>VAT</b>	Value-added tax

A photograph of a man wearing a white hard hat, safety glasses, and black gloves, working on a solar panel array. The background shows a clear blue sky and green grass. In the top left corner, there are diagonal stripes in orange and yellow. A large red circle is overlaid in the bottom left, containing the text 'Executive Summary' in white.

# Executive Summary



These guidelines serve as a comprehensive resource for investors and developers new to Uganda's solar mini-grid sector, specifically focusing on projects under 2 MWp. It guides investors through the country's regulatory landscape and institutional framework as of May 2024, provides an outlook of the national mini-grid sector, and delineates in detail the steps that both local and foreign investors are to undertake to establish a solar mini-grid project in the country – from company registration to project commissioning.

The guidelines provide a clear walk-through for investors opting to enter the market both through the solicited (tender-based) and unsolicited project pathways. Through the Unsolicited Project Pathway, mini-grid developers have the possibility to autonomously explore the channel of implementing a project of their interest. No tender must be won to gain development rights. The investor must however ensure all legal and regulatory requirements are fulfilled by the specific project and the company backing it, as well as proactively securing finance for the project's implementation.

The Solicited/Tender Project Pathway is the alternative to the above, in which a project bid is submitted by the developer in response to a centrally organized tender. Tenders may be single or two-stage (in which bidders are pre-selected in the first round and only submit a full project proposal on a second stage). Such tenders are normally launched either by a Ugandan public authority (usually MEMD), or by a development partner. In any case, close collaboration usually exists among the public and financing stakeholders in the form of a subsidy, thereby facilitating to a large extent the permit navigation process for (winning) mini-grid developers.

Relevant aspects during the project's operational phase are as well covered, including Uganda's tax regime, labour regulations, money repatriation matters, procedures relating to import of equipment, data protection, operators' reporting requirements, duties in terms of disposal and asset de-commissioning, associated risks with grid encroachment and arbitration.

Ultimately, the guidelines aim to facilitate informed decision-making for successful project implementation and operation in Uganda. A set of practical recommendations is provided for investors opting either of the two outlined project pathways. When embarking on unsolicited projects, it is crucial to plan meticulously and allocate sufficient time for the endeavour. Establishing contacts on the ground through local partners can prove invaluable, expediting processes significantly. Identifying multiple mini-grid sites rather than undergoing the entire process for a single project-site as part of the Unsolicited Project Path can also yield economies of scale both in terms of time and cost, provided that the license exemption application fee of USD 3,000 remains the same regardless of whether the project application includes a single or multiple isolated systems (as long as total installed capacity is under 2 MW). Clarity on available (or not) funding support for distribution network and connection grants are prerequisites for a successful tender.

Regardless of the undertaken project path and where equipment is to be imported, implementing a pre-export verification of conformity to standards (PVoC) and collaborating with local authorities like UNBS ahead of equipment purchase is essential to ensure smooth import processes, with the assistance of a clearing agent. Drawing from the experiences of past investors who have navigated similar processes can provide valuable insights. Engaging with the Ministry of Energy and Mineral Development (MEMD) early in project development is advisable when seeking a connection grant.

The image features a close-up, low-angle view of a solar panel array. The panels are dark blue with a grid of silver lines. In the background, a bright sun is setting or rising, creating a warm, golden glow across the sky. The sun is partially obscured by a large, semi-transparent red circle in the foreground. The overall composition is clean and modern, emphasizing renewable energy.

# Introduction



This guideline serves as a resource for solar mini-grid investors and developers, particularly those new to either one of the two primary mini-grid implementation pathways in Uganda, namely solicited/tenders and unsolicited projects. Focused on projects with a power generation capacity under 2 MWp, it navigates the regulatory landscape, policies, and institutional actors crucial for project planning within the confines of the Isolated System Regulation of 2020, which governs mini-grid projects up to the same capacity.

Comprising six sections, the document begins with a sector overview in section 2. Here, it maps out key regulations, policies, laws, institutional actors, sector sizing, and country-specific risks. Section 3 guides solar mini-grid investors through every critical step, from company establishment to project commissioning, for both solicited and unsolicited project pathways.

Section 4 delves into the legal, regulatory, and technical requirements that investors must consider during the mini-grid's operational phase. Section 5 offers an insightful comparison of the advantages and disadvantages associated with each (Solicited/Unsolicited) project pathway. Finally, in section 6, the guideline concludes with a set of practical recommendations derived from regulatory analysis and real-world experience, empowering investors to make informed decisions in the dynamic landscape of solar mini-grid development in Uganda. All included references, links and specific values (in terms of tax rates, fees, etc.) capture the status quo as of May 2024, the time in which these guidelines have been finalized.

### 3. Sector overview: key regulations, policies and institutional actors to take into account as an investor

#### 2.1 Key regulations & policies

Law/Regulation/Policy	Elements of relevance to solar mini-grid developers/investors
<b>Policies</b>	
<b>Electricity Connections Policy (ECP) <a href="#">2018-2027</a></b>	Developed under the former Rural Electrification Strategy and Plan (RESP) for 2013-2022, serves as the primary government program dedicated to expanding access to electricity. The program's objective is to substantially raise the annual rate of new connections to approximately 300,000, a significant increase from the average of approximately 70,000 recorded in 2018, with the ultimate goal of achieving 3 million new connections by 2027 (IEA, 2023).
<b>Energy Policy for Uganda <a href="#">2023</a></b>	It is the successor of the latest policy of 2002 and commits a total of 718.8 UGX billion (USD 189 million) to mini-grids spanning from fiscal years 2020/21 to 2029/30 for the addition of 500,816 new connections. It sets as government priorities on the matter of mini-grids the development of comprehensive frameworks, appropriate tariff-setting methodologies, promotion of bundled mini-grid tenders to harness economies of scale, define compensation details in case of grid encroachment, collect and disseminate market data to mini-grid developers, support PUE applications and general awareness raising.

Law/Regulation/Policy	Elements of relevance to solar mini-grid developers/investors
<p><b>National Electrification Strategy for Uganda</b> (<a href="#">NES</a>)</p>	<p>Published in 2021, provides a least-cost analysis for connecting 10 million new customers with a combination of on- and off-grid approaches. The NES will serve as a base for the successor to the World Bank’s Energy for Rural Transformation Project (ERT), the EASP, which includes the following main components: 1) grid extension and connectivity (which it notes is “in alignment with the ECP”); 2) financial intermediation for energy access scale-up; and 3) a component focused on Energy Access in Refugee Host Communities (IEA, 2023).</p>
<p><b>Grid Master Plan (available upon request to MEMD)</b></p>	<p>Gives an overview of the electrification plan for Uganda, serving as comprehensive guidance for prospective investors in the region. It aligns with the stipulations set forth in the Isolated System Regulations of 2020 (Art. 6(c)), outlining strategic directions for the development and implementation of electrification initiatives.</p>
<p><b>Electronic Waste (e-waste) Management Policy for Uganda</b> (<a href="#">2012</a>)</p>	<p>Outlines the vision of the Government of Uganda on the matter of e-waste management, defining the Government’s mission, objectives and strategy. The policy includes an institutional framework and M&amp;E arrangements.</p>
<p><b>Guidelines for E-Waste Management in Uganda</b> (<a href="#">2018</a>)</p>	<p>The guidelines have as a goal to operationalize the Electronic Waste (e-waste) Management Policy for Uganda by clearly delineating the roles of each stakeholder type throughout electric and electronic products’ lifecycles. It contemplates specific strategies such as the possibility for producers/manufacturers to factor into the product’s purchase price the cost of product take-back and disposal.</p>
<p><b>The Electricity (Amendment) Act, 2022 and The Electricity Act 1999 (Chapter 145 Laws of Uganda)</b></p>	<p>The Electricity Act 1999 is the overarching legal document for the entire electricity sector in Uganda. It provided the legal basis for the establishment of the Electricity Regulatory Authority and its functions, liberalize and introduce competition in the electricity sector and regulate aspects relating to, amongst others, licensing, quality of service and safety. The Electricity (Amendment) Act 2022 amends the former in regards to, amongst others, the functions of the regulator, administrative fines and penalties. Both legal documents must be read in conjunction</p>
<p><b>National Environment Act</b> <a href="#">2019</a></p>	<p>Requires, as per Schedule 4, the submission of Project Briefs to NEMA for establishment of distribution lines. The act is operationalized by <b>The National Environment (Environmental and Social Assessment) Regulations, 2020 and Environmental Impact Assessment Guidelines for the Energy Sector 2014</b>. Solar power plants under 2 MW of power generation capacity are exempted from submitting an environmental assessment, but distribution network with a voltage under 11kV require the submission of a Project Brief (rather than a full scale ESIA).</p>



Law/Regulation/Policy	Elements of relevance to solar mini-grid developers/investors
<b>National Electrification Strategy for Uganda (NES)</b>	<p>Defines a foreign investor as a) a natural person who is not a citizen of an East African Community Partner State; b) a company incorporated under the laws of any country other than that of an East African Community Partner State or a company incorporated under the laws of Uganda in which the majority of the shares are held by a person who is not a citizen of an East African Community Partner State; c) or a partnership in which the controlling interest is owned by a person who is not a citizen of an East African Community Partner State. Section 19 also deals with foreign investment in general, and states that a foreign investor must be registered in Uganda before entering into any investment activity.</p>
<b>Investment Code Act, 2019 (New Code)</b>	<p>Gives an overview of the electrification plan for Uganda, serving as comprehensive guidance for prospective investors in the region. It aligns with the stipulations set forth in the Isolated System Regulations of 2020 (Art. 6(c)), outlining strategic directions for the development and implementation of electrification initiatives.</p>
<b>Occupational Safety and Health Act (2006)</b>	<p>Establishes provisions for the prevention and safeguarding of individuals at all workplaces, aiming to mitigate injuries, diseases, fatalities, and property damage. As per the Act's stipulations, employers are obligated to ensure their employees' well-being, encompassing protection from adverse weather conditions, the provision of clean and hygienic workspaces, access to sanitary facilities, washing amenities, First Aid resources, and meal facilities.</p>
<b>The Law Revision (Reprint of the Public Procurement and Disposal of Public Assets Act, 2003) Order, 2021</b>	<p>Defines the principles of competitive bidding procured for solicited proposals.</p>
<b>Land Act 1998</b>	<p>Provides for the tenure, ownership, and management of land in Uganda. The tenure systems are customary, freehold, and leasehold. Use of land must also comply with the provisions of the National Environment Act and other relevant laws. Developers would have to secure a leasehold for the site they propose to use for mini grid development and pay the landowner</p>
<b>Physical Planning (amended) Act of 2020 and Physical Planning Act, 2010</b>	<p>Provides for the tenure, ownership, and management of land in Uganda. The tenure systems are customary, freehold, and leasehold. Use of land must also comply with the provisions of the National Environment Act and other relevant laws. Developers would have to secure a leasehold for the site they propose to use for mini grid development and pay the landowner</p>

Law/Regulation/Policy	Elements of relevance to solar mini-grid developers/investors
<b>Data Protection and Privacy Act of <a href="#">2019</a> (DPPA)</b>	Primarily takes cues from the European General Data Protection Regulations (GDPR) and seeks to safeguard the privacy of individuals and their personal data by overseeing the gathering and handling of personal information. It also establishes the rights of individuals whose data is gathered and outlines the responsibilities of those collecting, processing, and controlling data. Additionally, the legislation governs the utilization and disclosure of personal information (Bowmanslaw, 2019).
<b>Access to Information Act, <a href="#">2005</a></b>	Establishes that a holder of a distribution license to whom confidential information is provided may not divulge or give access of the confidential information to any person except as permitted under the Regulations and the Act and may only use or reproduce the confidential information for the purposes for which it was provided. It is derived that the same is to apply to license exempted companies.
<b>Companies Act <a href="#">2012</a> and the Companies (Amendment) Act, <a href="#">2022</a></b>	Governs the registration and formation of companies in Uganda.
<b>Arbitration and Conciliation (Amendment) Act, <a href="#">2008</a> and Arbitration and Conciliation Act, (<a href="#">Cap. 4</a>)</b>	As a country betting on the important role of foreign direct investment, Uganda's Arbitration and Conciliation Act adopts the best international standards, taking cues from United Nations Commission on International Trade Law model law ("UNCITRAL" Model Law).
Regulations	
<b>Electricity (Isolated Grid Systems) Regulations, <a href="#">2020</a></b>	Delineate the conditions to acquire a certificate of exemption for isolated grid systems engaged in decentralized electricity generation and distribution, provided their capacity is less than 2 MW. Technical requirements are listed in sections 14 – 17 of the Regulations, and cover the quality of internal connections, power quality, service quality and availability, as well as Consumer Management practices. Section 19 sets out tariff computation and section 24 deals with options on interconnection with the main grid.
<b>Electricity (License Fees) (Amendment) (No. 3) Regulations, <a href="#">2014</a></b>	Although the mentioned regulations state systems of 0.5 MW and above but less than 2 MW require a combined generation and distribution and sales license costing USD 3,500) (as per Schedule B), the Isolated Grid Systems Regulations (2020) repeal this and clarify that systems with power generation capacity under 2 MW are exempted from holding such a license. However, as per the License Fees Regulations, the application for license exemption costs USD 3,000.

Law/Regulation/Policy	Elements of relevance to solar mini-grid developers/investors
<b>Electricity (Code of Quality of Service) Regulations, <a href="#">2020</a></b>	Define quality of service in regards to electricity meters and ongoing power supply. It ensures that mini-grid developers adhere to established guidelines to maintain the reliability and safety of the electric supply system and ensure good customer service.
<b>Electricity (Primary Grid Code) Regulations, <a href="#">2003</a></b>	Regulate the timeline to connecting new customers.
<b>Electricity (Installation Permits) Regulations, <a href="#">2018</a></b>	Establishes that in terms of Section 10, a company that deals in electricity installations, as well as every individual within the company that work with electricity installations, needs to have a valid permit from the committee set up under the Regulation. There are very specific technical qualifications mentioned under Section 11.
<b>Weights and Measures (Electricity Meters) Rules, <a href="#">2015</a></b>	Establish standards and procedures for the design, use, and verification of electrical energy meters and is dealt with under Section 13 of the Electricity (Isolated Grid Systems) Regulations 2020.
<b>Electricity (Safety Code) Regulations <a href="#">2020</a></b>	Go hand in hand with Section 12 of The Electricity (Isolated Grid Systems) Regulations 2020. The main duties and responsibilities of system operators are found in Section 8 of the Regulation.
<b>Uganda National Bureau of Standards (Inspection &amp; Clearance) Regulations, <a href="#">2022</a></b>	Regulate matters concerning the import of equipment to Uganda, associated documentation and fees. Repeals the former UNBS Inspection and Clearance of Imports Regulations, 2021.
<b>UNBS Schedule of Compulsory Uganda Standards as of 31 December <a href="#">2023</a></b>	Recently updated Compulsory Standards for solar components, covering PV panels, inverters, battery banks, electricity meters and code of practice in electric system installation and operation. Particularly relevant for products to be imported into Uganda.
<b>National Environment (Waste Management) Regulations, <a href="#">2020</a></b>	Define the mini-grid operator's responsibility for waste management.
<b>Water Resources Regulations, <a href="#">1998</a></b>	Set out the requirements for a construction permit in case of borehole drilling or water supply is needed
<b>Manuals &amp; Handbooks</b>	
<b>EMD's Distribution Grid Construction Manual (available upon request)</b>	Used for construction supervision for MEMD Projects with distribution grids.



Law/Regulation/Policy	Elements of relevance to solar mini-grid developers/investors
<b>Uganda Solar Energy Association Handbook on Solar Taxation (2019)</b>	Primarily takes cues from the European General Data Protection Regulations (GDPR) and seeks to safeguard the privacy of individuals and their personal data by overseeing the gathering and handling of personal information. It also establishes the rights of individuals whose data is gathered and outlines the responsibilities of those collecting, processing, and controlling data. Additionally, the legislation governs the utilization and disclosure of personal information (Bowmanslaw, 2019).

## 2.2. Key institutions

Key Institution	Function
<b>Ministry of Energy and Mineral Development (MEMD)</b>	It aims to create an enabling environment and attract investment in the development, provision, and utilization of energy resources, which can include mini grids. Specifically, their strategies involve reviewing and implementing policies and legislation to offer a conducive business environment.
<b>Electricity Regulatory Authority (ERA)</b>	It is empowered to regulate generation, transmission, sale, export, import, and distribution of electrical energy in Uganda, including isolated grid systems. Electrical installations must be carried out by ERA certified personnel. Furthermore, mini-grid developers (<2 MW) need a certificate of exemption from ERA.
<b>National Environment Management Authority (NEMA)</b>	This is the primary agency in Uganda tasked with coordinating, monitoring, supervising, and regulating all environmental management issues in the country. NEMA is responsible for reviewing and approving Project Briefs, as well as monitoring the implementation of mini-grid projects in alignment with the Act and relevant Regulations and Conditions of Approval for the Project.
<b>Uganda National Bureau of Standards (UNBS)</b>	The Bureau functions as a governmental organization tasked with overseeing Standardization, Quality Assurance, Metrology, and laboratory testing. Its primary mandate is to advance equitable trade practices and safeguard consumers from dangerous or substandard products, all while contributing to the nation's progress. The Bureau conducts evaluations of standards for both domestically produced and imported commodities. Developers are required to adhere to the standards established by the bureau, particularly concerning the equipment utilized in the construction of mini-grids.
<b>Local Governments</b>	The decentralization of Uganda's territorial organization began in 1986. At municipal level, the country has 196 local government councils and municipalities; at regional or state level, it has 11 districts and 1 city council (OECD, 2016). For prospective mini-grid investors this becomes of relevance when securing the building permit, addressed at the applicable district's building control officer.

Key Institution	Function
<b>Ministry of Energy and Mineral Development</b> ( <a href="#">MEMD</a> )	It aims to create an enabling environment and attract investment in the development, provision, and utilization of energy resources, which can include mini grids. Specifically, their strategies involve reviewing and implementing policies and legislation to offer a conducive business environment.
<b>Electricity Regulatory Authority</b> ( <a href="#">ERA</a> )	It is empowered to regulate generation, transmission, sale, export, import, and distribution of electrical energy in Uganda, including isolated grid systems. Electrical installations must be carried out by ERA certified personnel. Furthermore, mini-grid developers (<2 MW) need a certificate of exemption from ERA.
<b>National Environment Management Authority</b> ( <a href="#">NEMA</a> )	This is the primary agency in Uganda tasked with coordinating, monitoring, supervising, and regulating all environmental management issues in the country. NEMA is responsible for reviewing and approving Project Briefs, as well as monitoring the implementation of mini-grid projects in alignment with the Act and relevant Regulations and Conditions of Approval for the Project.
<b>Uganda National Bureau of Standards</b> ( <a href="#">UNBS</a> )	The Bureau functions as a governmental organization tasked with overseeing Standardization, Quality Assurance, Metrology, and laboratory testing. Its primary mandate is to advance equitable trade practices and safeguard consumers from dangerous or substandard products, all while contributing to the nation's progress. The Bureau conducts evaluations of standards for both domestically produced and imported commodities. Developers are required to adhere to the standards established by the bureau, particularly concerning the equipment utilized in the construction of mini-grids.
<b>Local Governments</b>	The decentralization of Uganda's territorial organization began in 1986. At municipal level, the country has 196 local government councils and municipalities; at regional or state level, it has 111 districts and 1 city council (OECD, <a href="#">2016</a> ). For prospective mini-grid investors this becomes of relevance when securing the building permit, addressed at the applicable district's building control officer.
<b>Uganda Revenue Authority</b> ( <a href="#">URA</a> )	URA has the mandate to collect taxes and supervise and implement tax laws in Uganda.
<b>Uganda Registration Services Bureau</b> ( <a href="#">URSB</a> )	Responsible for business registrations, liquidations, insolvency and any other legally required registration.
<b>Uganda Solar Energy Association</b> ( <a href="#">USEA</a> )	Established in 2016 by private companies involved in the solar energy sector, USEA is an autonomous nonprofit organization committed to advancing the solar energy industry in Uganda and across the East African region.

Key Institution	Function
<b>Private Sector Foundation of Uganda (PSFU)</b>	Established in 1995 and encompassing 230 business associations, corporate entities, and key public agencies that promote private sector development, it is Uganda's central private sector organization. It acts as a hub for private sector advocacy and capacity building.
<b>Uganda Manufacturers Association (UMA)</b>	It is an industry association gathering Uganda's industrial and manufacturing sectors and providing the following service lines in alignment with the Sustainable Development Goals: policy advocacy, business networking, digital print & media, training & capacity building.
<b>Uganda National Renewable Energy and Energy Efficiency Alliance (UNREEEA)</b>	Founded in 2014 by private sector leaders in renewable energy and energy efficiency, UNREEEA operates as a non-profit organization. Established through a memorandum of understanding, it acts as a hub for uniting and improving the business climate for these sectors. UNREEEA's primary function is to create a unified platform for the private sector in renewable energy and energy efficiency, facilitating collaboration and business advancement.

## 2.3 Market outlook

By the conclusion of 2022, Uganda boasted 48 functioning mini-grids, with more than 30 becoming operational between 2021 and 2022. Projections from the Uganda Off-Grid Energy Market Accelerator (UOMA) and the International Energy Agency (IEA) suggest that the forthcoming second phase of the Beyond the Grid Fund for Africa (BGFA) and the anticipated GET Access program tender in 2023 will substantially augment the overall count of mini-grids within the country (IEA, 2023).

The Rural Electrification Master Plan (2018-2028) conducted by former REA states that approximately 62,000 households across ten service regions are to be electrified via mini-grids by 2029. The selection of potential sites was based on specific criteria, including the presence of over 50 households concentrated in a single area and ensuring that the projected grid extension expenses would not surpass USD 2,000 per customer (AMDA, 2020). Until 2028, mini-grid developers ought to refer to the REMP to identify sites for mini-grid deployment. The National Electrification Strategy (NES) provides a long-term outlook. MEMD is at present working on aligning the REMP and NES, leading to a potential updated REMP in the coming years.

Developers aiming to penetrate the Ugandan mini-grid market ought to keep in consideration MEMD's connection grant in the range of USD 150-200 per connection (Get Transform, 2020) and the existence of the Uganda Energy Credit Capitalisation Company (UECCC), established to oversee the Uganda Energy Credit Capitalization Trust, aiming to offer financial, technical, and other forms of assistance to facilitate the progress of renewable energy and rural electrification initiatives (Get-Transform, 2023). In this regard, UECCC provides financing options, collectively referred to as "Credit Support Facility (CSF)" and Technical Assistance, to facilitate private sector led Renewable Energy projects and Programs.






## 2.4. Country risks

Key issues cited in the sector encompass an unstable regulatory tariff framework, with constraints on developers charging tariffs that reflect their costs. Experience on the ground proves that ERA tends to systematically adjust project retail tariffs to staying below 0.30 USD/kWh as a way to minimize the gap with grid-connected customers. For sites at greater risk of main-grid expansion, mini-grid concession periods were notably short. To prevent customers from facing exorbitant electricity bills compared to grid-connected users, certain projects might encounter consumer tariff caps, necessitating reliance on subsidies. Obtaining license exemptions and site development rights for mini-grids is deemed a cumbersome process. The unpredictable tax environment further impedes affordability, adversely affecting project feasibility and energy demand (IEA, 2023).

Lack of a local experienced labour force and lengthy land right acquisition negotiations are cited as additional recurrent challenges (AMDA, 2020). Beyond internal challenges of the mini-grid sector, investors ought to remain aware of broader country-wide risks, namely the volatility of Uganda's currency, the instability of neighbouring South Sudan (Uganda's main export market), corruption (AfDB, 2018).



A photograph of a rural village scene. In the foreground, several large solar panels are mounted on red metal stands. The background shows traditional huts with conical roofs, some made of corrugated metal and others of thatch. People are visible sitting on the ground near the huts. The sky is clear and blue. A large orange and yellow graphic element is in the top left corner, and a large orange circular graphic is overlaid on the bottom half of the image, containing the text.

**From company  
establishment to  
mini-grid project  
commissioning:  
Solicited vs.  
Unsolicited  
Project Pathways**



The present section captures the steps for any investor, whether local or foreign, aiming to set up a solar mini-grid project under 2 MW in Uganda. The guideline firstly covers the steps to legally establish a new business in the country, after which the Unsolicited Project implementation and Solicited Project (Tender) pathways are respectively covered.

### 3.1. Mini-grid company registration/establishment in Uganda

Registering a business in Uganda is the first step for any investor aiming to develop an unsolicited project. The same often applies to applicants of mini-grid tenders, although in some cases company registration for foreign investors may also be postponed after confirmation of a winning bid or, at the latest, ahead of applying for a license exemption to ERA. Provided that there is no standardized tender procedure for public procurement works in Uganda, each mini-grid tender may define its own requirements to applicants in this regard. Experience from GIZ's Promotion of Mini-Grids Programme in 2018 or Beyond The Grid Fund's recent calls both required foreign applicants to have a company/power of attorney/ Special Purpose Vehicle registered in Uganda or be willing to do so at proposal submission stage or latest ahead of contract signature.

The following figure summarizes the steps as well as institutions and costs involved in the registration of a business in Uganda, whether local or foreign.

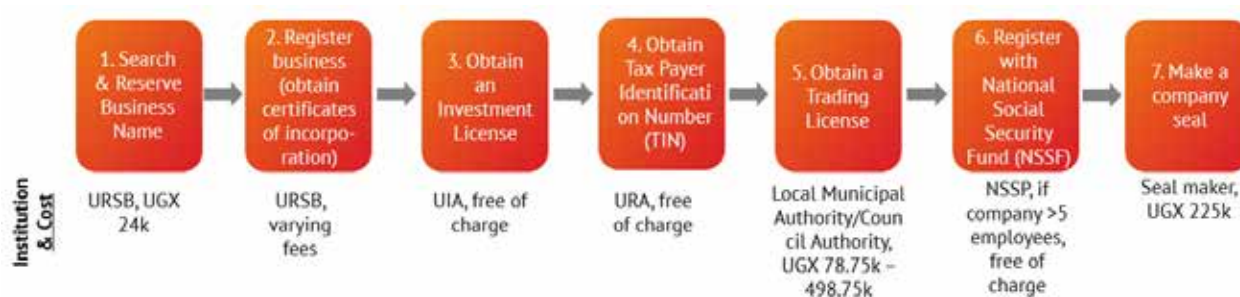


Figure 1: Steps for company establishment in Uganda<sup>1</sup>

Most of the steps above are completed within 1-5 days. Once the process has been completed, the company can proceed with opening a bank account. The Uganda Registration Services Bureau has recently unveiled a streamlined document called the 'lean MEMARTS,' comprising a concise one-page memorandum and articles of association, which allows prospective businesses to commence operations without the need to create extensive and cumbersome documentation for their memorandum and articles of association (Bowmanslaw, 2019).

The Ugandan legal framework has experienced some changes in regards to the requirement of holding an Investment License. Whereas formerly only foreign investors were mandated to acquire one, the Investment Code Act of 2019 (New Code) requires all newly established companies to secure such a permit, provided their planned invested amounts surpass USD 250k and USD 50k for foreign and local companies, respectively (UIA, 2023).

<sup>1</sup> Source: MMAKS, Women Connect



The primary choice of business structure favoured by foreign investors in Uganda frequently involves the establishment of a private limited liability company. Alternatively, foreign-incorporated companies may often opt to undergo the process of registering as branches to conduct business within Uganda. Once a foreign company completes the registration as a branch, it becomes subject to regulatory procedures similar to those applicable to companies originally incorporated under Ugandan laws (Bowmanslaw, 2019).

On top of the commonly required documentation for local businesses, foreign businesses must submit to URBS at the time of company registration Certified copies of Memorandum of Articles of Association/Charter/Constitution and Certificate from the country of origin duly witnessed and URBS' Forms 13, 24, 25 and 26.

Finally, as per the Privacy and Data Protection Act of 2019, all businesses must be registered under the National Information Technology Authority (NITA), which involves the registration of a company's hardware, software and IT systems. Not registering with NITA-U can lead to penalties or even the suspension of a company's IT systems, potentially causing significant disruptions to business activities (BNM Advocates, 2023).

### **3.2. Unsolicited project pathway**

Mini-grid developers have the possibility to autonomously explore the channel of implementing a project of their interest via the unsolicited project pathway. No tender must be won to gain development rights. The investor must however ensure all legal and regulatory requirements are fulfilled by the specific project and the company backing it, as well as proactively securing finance for the project's implementation. The present section outlines the steps the mentioned developer must fulfil before being able to start with construction work.

As is the case for mini-grid systems above 2 MW, the Electricity (Isolated Grid Systems) Regulations, 2020 contemplates as well two phases in order to acquire a license exemption. After having identified a site of interest, the developer first submits an Expression of Interest (EoI) to the Permanent Secretary of MEMD and secures a letter of support confirming availability of sites, in order to perform a project feasibility study. The EoI is to be accompanied by a proof of land availability (taking the form of a signed Memorandum of Understanding (MoU) with land owner) and a brief pre-feasibility study covering elementary aspects of the viability of the mini-grid project on site, including willingness and ability to pay by customers, approximate demand curve and system size estimation as well as a demand stimulation component. Albeit not strictly mentioned in the regulations, MEMD has stated that the submission of an innovative Business Plan with other revenue streams (e.g. incorporating Productive Use of Energy (PUE), Carbon Credits, etc.) is positively regarded.

The mentioned support letter issued by MEMD states that the intended site is a) appropriate for isolated grid system development in accordance with rural electrification planning and b) is not subject to site exclusivity by another person (as per Art. 6(d) of the Isolated Grid Systems Regulations of 2020. The letter may additionally state what government support will be availed, if any. For example, MEMD may support last-mile connections through the Electricity Connections Policy (2018) if funding is available.

Both of these documents, MEMD's letter of support and the feasibility study, form part of the application to ERA to obtain a license exemption. The feasibility study at this stage

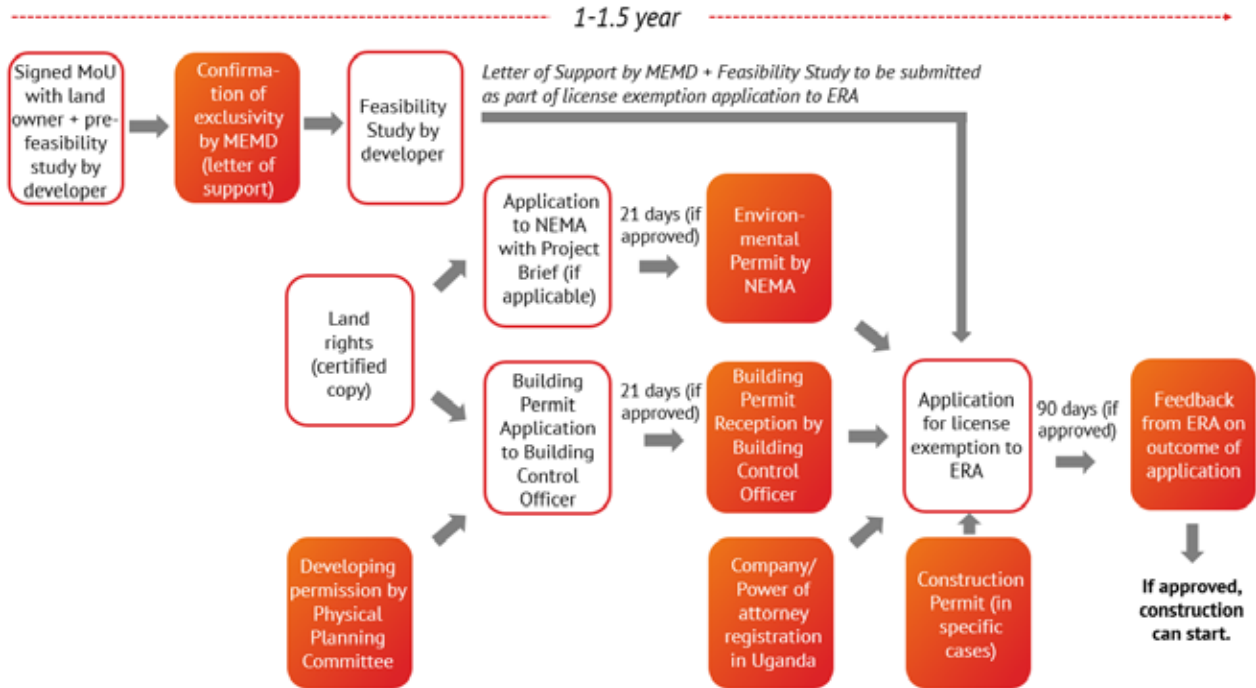
should elaborate on the formerly developed pre-feasibility study and incorporate a detailed demand assessment, customer portfolio details (number and type of connections), distribution network design, a detailed financial analysis and the project's tariff structure.

It is noteworthy to note that in the past REA has re-directed the developer to ERA for the latter to request the mentioned letter of support on behalf of the developer, only to have ERA eventually re-iterate the need from the mentioned letter to be granted to the developer directly

**A note on MEMD's procedures on site approval and registration:**

MEMD has an internal database of mini-grid sites in the country which is being developed as part of the harmonization efforts of the NES and the REMP (2018-2028). The database is work in progress and is available upon request. MEMD benchmarks every EoI received against this database ahead of issuing a letter of support. Prospective investors however have no other way to verify the eligibility of a site other than directly approaching MEMD's Permanent Secretary.

Figure 2 below outlines the entire path from confirmation of exclusivity to reception of license exemption by ERA. Permits to be obtained along the path are highlighted in orange boxes.



**Figure 2:** Steps to acquire license exemption for investors undergoing the Unsolicited Project Path.

Once the feasibility study confirms the viability of the project, the second phase of the administrative process to obtain the license exemption is initiated. There are two key administrative channels that must be navigated in parallel in order to have a complete application:

- 01 Environmental permit: application is submitted to NEMA or the delegated Lead Agency (depending on the project size).
- 02 Building Permit: application is submitted to the Building Control Officer, which among others previously requires proofs of land lease/access rights as well as a developing permission by the Physical Planning Committee.
- 03 Construction Permit (if applicable). In most instances such a permit will not be required for the concerning projects. However, in case of borehole drilling works, a construction permit will be required from the Department of Water Resource Management, as per Water Resources Regulations, 1998.

It is important to note that construction works can only be initiated once the license exemption has been received by ERA. Figure 2 above outlines time frames as stipulated in the respective regulations. Provided each step is satisfactorily fulfilled with all required documentation, the obtention of a license exemption by ERA should not take more than 5-6 months. Nevertheless, practical experience on the ground proves that over a year may be realistically required between the submission of the building permit application and obtention of certification of exemption by ERA.

### **3.2.1. Environmental permit from NEMA**

Once the feasibility study proves the project's bankability at the tariff level to be likely approved by ERA of 0.3 USD/kWh, the preparation of the application to the National Environment Management Authority (NEMA) is prepared. It is worth noting that solar mini-grid projects covered in these guidelines are exempt of submitting an Environmental and Social Impact Assessment as per the National Environment Act of 2019. Whereas the development of solar plants under 2 MW of power generation capacity remains as well exempted from the development of Project Briefs (Schedule 4, Part 1, Art. 3a of the National Environment Act of 2019), the installation of distribution lines does not.

As per the regulations, projects involving the installation of distribution lines of a voltage under 11kV require the submission of a Project Brief to the applicable Lead Agency under NEMA responsible for the territory where the project is located (Schedule 4, Part 2, Art. 2a of the National Environment Act of 2019). In the unlikely case a solar mini-grid project involves the installation of a distribution network above 11kV, the Project Brief is to be submitted directly to NEMA. In practical terms, mini-grid investors are expected to submit the Project Brief to NEMA, regardless of project size. It is NEMA internally who then



distributes the document to the applicable Lead Agency (rather than investors having to identify the mentioned Lead Agency themselves). The cost of a Project Brief may range between USD 3,000-4,000, depending on the system's size.

A Project Brief is to cover project aspects as outlined on Part II, Art. 6(5) of the National Environment (Environmental and Social Assessment) Regulations of 2020. Further documentation required for a complete application to NEMA include the submission of land right agreements, letter of approval by the host community, detailed mini-grid designs and bill of quantities.

As per Art. 9 of the National Environment (Environmental and Social Assessment) Regulations of 2020, NEMA (or the applicable Lead Agency) shall issue a certificate of approval/permit within 30 (or 21 days, respectively), of reception of the Project Brief. Part 1 of Schedule 4 of the mentioned regulations states the associated fees to obtain the environmental permit, which are a function of the total project cost and range between 0.075 – 0.28% of the total project cost. For reference, for a solar mini-grid of approx. 60 kWp, these may range between UGX 500k-600k (USD 130-160).

### ***3.2.2. Building permit from the Building Control Officer***

The building permit is part of the required documentation to submit an application to ERA for license exemption. The process for preparation and submission of an application for a Building Permit to the Building Control Office is regulated by the Building Control Regulations of [2020](#). As per Art. 19(2), a complete application for a building permit (for minor building works) requires the submission of Form 1 of Schedule 3 of the mentioned regulations, certified land lease agreements/rights, a letter from the chairperson of the village council of the area, a sketch plan, proof of payment of the application fees, development permission from the Physical Planning Committee and any other document as may be required by the Building Control Officer. As per Art. 32 of the Building Control Act, [2013](#), a Building Control Officer is appointed by the District Service Commission for each District Council and Urban Authority. Investors ought to address their application to the applicable Building Control Officer, determined by the location of the project.

Once a complete application is submitted, the Building Control Officer should provide the Building Permit within 21 days of application reception, if the project is approved. The fees of the application are determined by Gazette and based on the meter square of the construction. It is noteworthy to note, however, that experience from the ground proves that acquiring the building permit alone can require not less than 6 months and it may likely come with substantial delays imposed by the local authority, unexpected costs and a need on the side of the developer to repeatedly and personally follow up.

The Physical Planning (amended) Act of 2020 regulates the process to acquire a development permission from the Physical Planning Committee. No additional permits beyond the submission of the Sixth Schedule of the mentioned Act must be provided for the purpose. Art. 38 of the Act states that the Committee is to notify the applicant on the outcome of the application within 30 days of making a decision, but does not clarify the timeframe between receiving an application and making the mentioned decision.

### **3.2.3. Construction permit from the Department of Water Resource Management (if applicable)**

The Electricity (Isolated Grid Systems) Regulations of 2020 state the submission of a Construction Permit is a requirement for a complete license exemption application. Such a permit is however of relevance only to solar mini-grid projects that intend to manipulate or handle water bodies at any stage of the project lifecycle (whether surface or groundwater), such as with borehole drilling. The process of an application for a Construction Permit is regulated under the Water Resources Regulations, 1998. The application entails the submission of Form A (for surface water permits) and Form B of the First Schedule of the Regulations as well as a borehole completion report as per the Third Schedule (in case of a project dealing with groundwater works). The Second Schedule of the Regulations state the associated fees of UGX 500,000 (~ USD 130) to issue the Construction Permit. The Regulation does not state the timeframe within which a permit is to be provided after application submission.

### **3.2.4. Application for a license (exemption) from ERA**

ERA does not take the role of coordinating the various approvals requested by the developer in the process of application preparation. In some instances, however, NEMA has been known to communicate directly to ERA the approval of a specific application, but this is not the norm as per the Regulations. Lack of consistency in the communication with NEMA has in the past generated confusion and delays in the issuance of the license exemption, provided the developer was not informed at all times of the status of the environmental permit. The developer is expected to liaise with the diverse institutions outlined above in this section.

Schedule 3 of the Electricity (Isolated Grid Systems) Regulations of 2020 state that a complete license exemption application is composed of the following documentation:

1. Certified copy of Certificate of Incorporation, Memorandums and Articles of Association, Deed of Partnership or Deed of Trust, if applicable
2. For each isolated grid system for which a license exemption is requested:
  - a. Power station layout drawings
  - b. Map with position of power station and distribution network marked using indicators to distinguish 1-phase versus 3-phase as well as medium voltage networks
  - c. Feasibility study
  - d. Business plan (incl. financial model)
  - e. Tariff review form (Schedule 5 of the same Regulations)
  - f. Certified copy of certificate of title or lease agreement for the project site
  - g. Certified copy of Building Permit
  - h. Tariff Application Table (as outlined in the same Schedule 3)
  - i. Standard Consumer Service Agreement (Schedule 4 of the same Regulations)
  - j. Environmental permit from NEMA
  - k. Construction Permit

- I. Letters of support from the Ministry of Energy & Mineral Development (MEMD), any commercial entities being served by the power generating station, letter from the community or community group confirming their support and any other letter of support deemed necessary.

As outlined in Figure 2 above, a first step is to have a certified copy of the land lease agreements/rights as well as the Developing Permission by the Physical Planning Committee. The former document can then be submitted to NEMA and the Building Control Officer simultaneously to acquire the environmental and building permits, respectively. In parallel to these latter two applications, a Letter of Support by MEMD must be requested. Once the above permits are obtained and remaining project documentation stated above has been elaborated, the license exemption application can be submitted to ERA. ERA should provide feedback of the outcome of the application and eventually issue the license exemption certificate within 90 days of application submission, as per Art 6(8) of the Isolated Grid System Regulation of 2020.

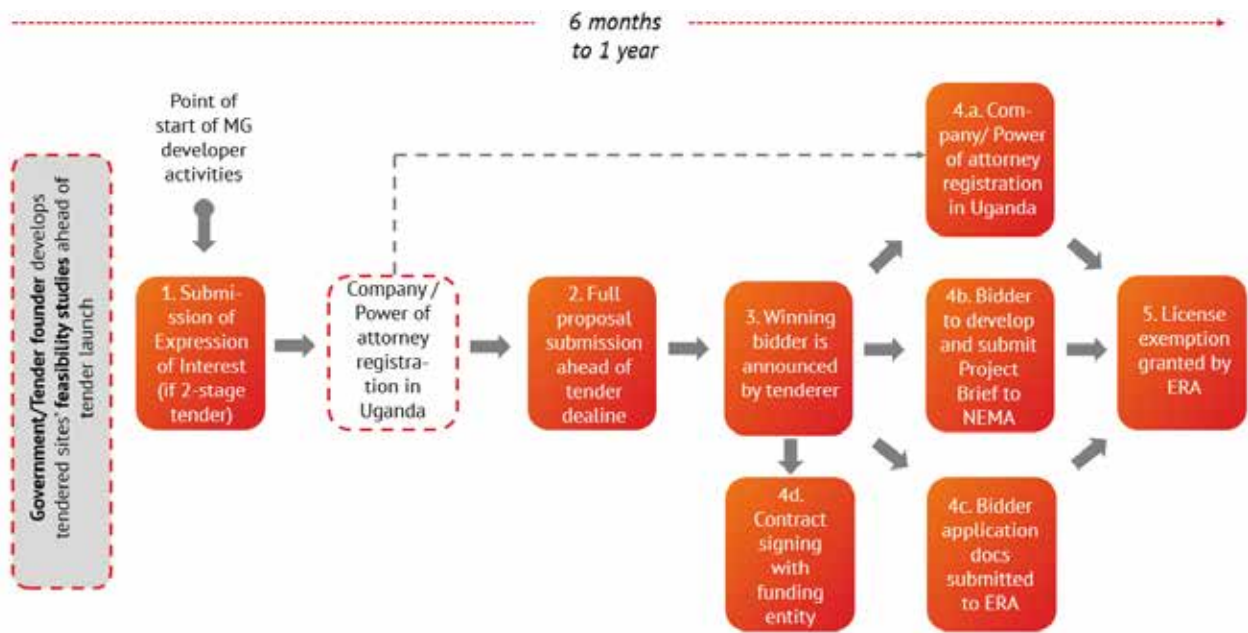
As per the section D of the Schedule of The Electricity (License Fees) (Amendment) (No. 3) Regulations of 2014, the fees to submit an application for a license exemption are of USD 3,000. Mini-grids under 2 MW of power generating capacity are exempt of further license fees.

In summary, an investor aiming to endeavour in undergoing the permit and license exemption acquisition process must budget ~USD 3,000 in permit/license exemption fees, ~USD 6,000 in (environmental) consultant and legal support, ~ USD 300 in transport/logistics, and 2-person-months of time to prepare the entire documentation and navigate the process. Annex 1 outlines all documentation required throughout the entire Unsolicited Project Process.

### **3.3. Solicited project/Tender pathway**

The alternative to the unsolicited project path is the submission of a project bid in response to a centrally organized tender. Tenders may be single or two-stage (in which bidders are pre-selected in the first round and only submit a full project proposal on a second stage). Such tenders are normally launched either by a Ugandan public authority (usually MEMD), or by a development partner (such as World Bank, GIZ or BGFA). In any case, close collaboration usually exists among the public and financing stakeholders in the form of a subsidy, thereby facilitating to a large extent the permit navigation process for (winning) mini-grid developers.

There is no standardized mechanism of tender procurement in Uganda as per the Public Procurement and Disposal of Public Assets Act of 2003 (Parts IV and V) and Art. 9 of the Electricity (Application for permit, license and tariff review) Regulations, 2007. Rather, only the principles of how a tender should be launched are defined. This implies that each tender may approach the project development, licensing/permit acquisition stage and tariff setting methodologies differently, and the conditions of these ought to be clearly and transparently outlined on the tender documentation in order for investors to gain knowledge on the mechanism they are bound to navigate. If we are to take as reference the recently launched tenders by GIZ (Pro Mini Grids) and BGFA, which performed a Reverse Auction Tender for which the lowest bid wins, the steps to undergo by solar mini-grid project investors follow those outlined in Figure 3 below:



**Figure 3:** Steps to acquire license exemption for (tender winning) investors undergoing the Solicited Project Path.

The timeline of the above process may largely vary across tenders from 6 months to more than a year, but a common feature will generally be a simplified, streamlined process with substantially lower coordination efforts on the side of the investor, in contrast to the unsolicited path. Furthermore, a key aspect is that feasibility studies (the first stage for unsolicited projects) will normally have already been implemented by the funding entity, government or regulatory body ahead of tender launch, thereby freeing applicants from the requirement of doing so themselves.

Generally, while investors will not require to have their company registered in Uganda ahead of an expression of interest submission (for two-stage tenders), this will highly likely be the case ahead of acquiring the license exemption by the regulator. Generally, the winning bidder still has to separately go through the ERA application process to acquire the license exemption.

The tender concession for the winning bidder may well include all required agreements (incl. Subsidy Agreement with the funder, Lease Agreement with MEMD for the distribution network if it was built by GoU, land lease with MEMD for the generation sites and Implementation Agreement with MEMD), contracts, approved tariff, and Certificate of Exemption terms and conditions, which have the potential to largely minimize additional administrative requirements. In most cases, however, a winning bidder will still be required to undertake a Project Brief to NEMA for each of the tendered (and won) mini-grid sites, as well as gather the remaining licenses and permits that any company active in the Ugandan market must hold, as described in section 3.1. above.



A woman wearing a white hard hat, a white button-down shirt, and blue jeans. She is holding a small blue handheld device in her right hand. A blue lanyard with a name badge is around her neck. The name badge is white with a red top section and the words 'NAME BADGE' printed on it. The background is a blurred outdoor setting with a white structure. In the top left corner, there are diagonal stripes in orange and yellow. In the bottom left, there is a large orange circle containing white text.

# Operating a mini-grid company in Uganda

The present section covers legal and regulatory requirements to be taken into account by a mini-grid company in Uganda throughout its operational phase. Generic aspects such as tax regime, labour regulations and money repatriation (if applicable) are covered jointly with mini-grid sector specific reporting requirements and import procedures.

## 4.1 Tax regime for mini-grid companies in Uganda

The **Income Tax** Act imposes income tax on all individuals and entities, whether natural or legal, who earn taxable income sourced within Uganda during a fiscal year. For companies, the applicable tax rate is set at 30% (Bowmanslaw, 2019).

**Value Added Tax (VAT)** is imposed on taxable transactions involving goods and services within Uganda, as well as on the importation of specific goods. The standard VAT rate is fixed at 18% (PwC, 2023). Section 20 of the VAT Act however states that imported goods are VAT-exempt if the mentioned goods are exempt from customs duty under the Fifth Schedule of the EACCMA 2004 (USEA's Handbook on Solar Taxation, 2019). This includes VAT exemption on solar products (see section 4.4. below) as well as on the supply of any goods and service to contractors and sub-contractors of solar power projects up to project commissioning.

Uganda has entered into **Double Tax Agreements (DTAs)** with nine countries: Denmark, India, Italy, Mauritius, Netherlands, Norway, South Africa, United Kingdom, and Zambia. These DTAs serve the purpose of preventing double taxation and determining the allocation of tax jurisdiction rights (PwC, 2023).

**Withholding tax** is levied on dividends and interest payments, particularly on interest disbursements to residents. The withholding tax rate for interest payments to residents, excluding interest on Government securities, stands at 15%. When it comes to dividends paid to non-resident individuals or foreign corporate shareholders, or received from foreign companies, they are subject to a 15% withholding tax. The same rate, 15%, applies to interest paid to foreign corporate shareholders (Bowmanslaw, 2019).

## 4.2 Tax regime for mini-grid companies in Uganda

The primary legislation regulating employment relationships in Uganda is the Employment Act of 2006, commonly referred to as the Employment Act. Although the Employment Act encompasses various aspects of employment relations, there exist additional laws that also play a role in governing employment relations. These include the Occupational Safety and Health Act of 2006, the Uganda Retirements Benefits Authority Act of 2011, and the Workers Compensation Act of 2000.

It's worth noting that, according to the Employment Act of 2006, a written employment contract is not mandatory. However, employees are still entitled to receive written particulars of their employment, which should include details such as the job description, location and working hours, contract duration, and specifics regarding remuneration, including wages, overtime rates, allowances, and payment schedules (Bowmanslaw, 2019).

Foreign individuals employed in Uganda must obtain **work permits** and/or residency permits, which grant them the right to both reside and work within the country. These

permits are typically valid for periods ranging from six to 36 months and are subject to renewal upon expiration. Various categories of work permits exist, and for those involved in the implementation or operation of a mini-grid project, the relevant permits are likely to fall under Class F (Professionals) and Class G2 (Expatriate Employees) (Uganda e-Visa, 2023).

Every month, **income tax** is collected through a system known as Pay As You Earn (PAYE). According to the Income Tax Act, employers are required to withhold taxes at prescribed PAYE rates when paying employment income. The withheld tax must be remitted to the Uganda Revenue Authority (URA) by the 15th day of the following month. PAYE is the method for deducting income tax from salaries and wages, covering all income and benefits derived from employment, including wages, salaries, bonuses, commissions, director's fees, and taxable benefits.

**Social Security contributions** are directed to the National Social Security Fund (NSSF). Participation in this fund is compulsory for all employers and is designed to provide retirement benefits to salaried workers. Both employers and employees make contributions, with the employee's share deducted from their salary and the total amount paid by the employer to NSSF. Under the current NSSF regulations, 15% of an employee's monthly earnings (5% deducted from the employee's earnings and 10% contributed by the employer) are allocated to the Social Security Fund established by the Act (Bowmanslaw, 2019).

### 4.3 Money Repatriation

The Foreign Exchange Act 2004, referred to as the "FEA," governs the process of transferring funds out of Uganda. As of now, there are no existing constraints on the movement of funds out of Uganda. The FEA does not enforce any exchange control requirements or restrictions regarding the repatriation of funds from Uganda.

The sole requirement in place is that all remittances and transfers to and from Uganda must be processed through duly licensed financial institutions or individuals/entities authorized to engage in money transfer activities. Additionally, it's important to highlight that the Governor of the Central Bank possesses the authority, as granted by the FEA, to implement temporary restrictions on outbound payments from Uganda in cases where the country encounters severe balance of payments challenges (Nabasa, 2022).

### 4.4. Import of equipment

Solar mini-grid investors will often require importing all key power generation assets, such as PV panels, battery banks, inverters and charge controllers. Pre-paid electricity meters are available in-land, but where project budgets are tight, they will not compete against equipment from established Chinese manufacturers, who often charge one third of the price.

The primary legal framework that oversees import and export activities in Uganda is rooted in a regional statute established by the East African Legislative Assembly, known as the East African Community Customs Management Act of 2004 (EACCMA). Furthermore, Uganda has implemented its domestic legislation, namely the Excise Duty Act of 2014, which pertains to the taxation of goods involved in both imports and exports, as well as the Uganda National Bureau of Standards Act, Cap. 327, and UNBS (Inspection & Clearance) Regulation 2022.

Importers of equipment to Uganda must contact a licensed clearing agent to support in the process. As per the Inspection and Clearance of Imports Regulations of 2021, electricals and electronics including solar panels and systems are generally to be subject to a **pre-export verification of conformity to standards** (PVoC) (Schedule 1, Part 1, Group II) in the country of origin or export upon payment of the fees prescribed in Schedule 2 to the Regulations. Mini-grid equipment that is by norm subject to have a PVoC may become exempted from it in the case UNBS profiles the mentioned equipment as “low risk” in its risk profiling framework or where the importer is profiled as low risk and registered as an Authorised Economic Operator (AEO).

In any case, equipment that turns to be PVoC-exempt will have to undergo a **destination inspection** instead (Art. 6(1)). As per Schedule 2 of the regulations, the fees for a PVoC may range between 0.25-0.5% of free on board (FOB) value, but in any case be not less than USD 235 and not more than USD 3,000. Imported equipment without PVoC but subject to a destination inspection will incur a fee equivalent to 0.5% of the Cost Insurance and Freight (CIF) value, but in any case not less than USD 235 and not more than USD 3,000, and a surcharge of 15% to the CIF value.

As per Art. 7(1), prior or upon the arrival of the equipment at a port of entry in Uganda, the importer is to apply to UNBS for **clearance and issuance of an import clearance** certificate by submitting an accurate customs declaration through the electronic single window. Documentation to be submitted for the purpose includes:

- Bill of lading or airway bill
- Packing list
- Invoice
- Customs declaration
- Customs transit document
- PVoC, where applicable
- Exemption letter from UNBS, where applicable

As of 2024, goods that are brought into the country are subject to an 18% value-added tax (VAT) and an additional 6% withholding tax. However, specialized equipment for development and generation of solar energy, including accessories and deep cycle batteries which use and/or store power (deep cycle batteries, solar panels, direct current inverters and direct current charge controllers) are exempted from all taxes under the 5th schedule of the East African Community Customs Management Act, 2004 (URA, 2023). It is nevertheless important to note that the above incentives are reportedly applied inconsistently, and refunds take a long time (IEA, 2023).

## 4.5. Data protection & mobile money services

Mini-grid operators must necessarily handle highly sensitive data such as customer names, electricity payment patterns (which can often be used as a proxy for income levels and stability), address and profession.

As per the Privacy and Data Protection Act of 2019, all individuals or organizations engaged in data collection and processing must register on NITA's Data Protection Register. The Act



explicitly makes it an offense to unlawfully access, disclose, or facilitate the disclosure of personal data held or processed by data collectors, data controllers, or data processors. Additionally, selling or offering for sale personal data is strictly prohibited. In cases involving corporations, these offenses can result in penalties of up to 2% of the corporation's annual gross turnover.

The Act generally prohibits the collection and processing of personal data without the consent of the data subject. The legislation also enforces restrictions on data retention, ensuring that data is retained only for the period required for its original purpose, and it introduces the "right to be forgotten."

Within Uganda's fintech sector, mobile money services dominate, with mobile banking also gaining popularity. Oversight and approval of mobile money services fall under the purview of the Central Bank. The Central Bank has issued guidelines to regulate the mobile financial service industry, specifying that entities engaged in mobile financial services must be registered as limited liability companies (Bowmanslaw, 2019).

## 4.6 Reporting requirements during mini-grid operation stage

Generic reporting requirements entail the notification to URSB of any corporate changes relating to its memorandum and articles of association, director, secretary and auditor's details, change of share capital and allotment of shares, change of company name or changes in the company assets (URSB, 2023; Bowmanslaw, 2019).

As per Art. 25 of the Isolated Grid Systems Regulations of 2020, mini-grid operators have annual reporting obligations towards ERA, which entail:

- Reporting on the performance of the mini-grid in regards to the minimum power quality specifications of voltage level 240V/415V, +/-10% and frequency of 47.5 Hz < f < 52.5 Hz (as per Art. 15 of the Regulations);
- Submission of Schedule 7, capturing several aspects of the mini-grid project operation as well as proof of compliance with annual tax requirements and copies of the annual returns filed with the Registry of Companies;
- Notifying ERA when any of the following take place, as per Art. 25(3);
  - A change in the approved generation capacity or governance structure of the company
  - Any event that affects or is likely to affect the operation of the generating station, the safety of persons within the generation station or the environment or health conditions at the generation station.
- Any other reporting requirements as stated in the license exemption certificate (such as local content plants or project implementation plants)

It is important to note that solar mini-grid projects under 2 MW of power generation capacity are exempted from the requirement of carrying annual environmental compliance audits, as per Schedule 3 of the National Environment (Audit) Regulations of 2020 (unless otherwise stated in the conditions of the license exemption certificate issued by ERA).

## 4.7 Disposal and asset de-commissioning

Albeit there being no specific e-waste legislation in Uganda, there is an e-waste management policy and guidelines for EEE-waste management (ICT, [2018](#)). The overall objective of the e-waste management policy is to facilitate the sustainable management of e-waste in Uganda. Furthermore, the government has recently launched through NEMA a National E-waste Management Center (NEC, [2021](#)). Additionally, articles 40, 41, 43 and 44 of the National Environment (Waste Management) Regulations 2020 regulate the proper management and disposal of electronic waste by producers and importers of electronic equipment. Mini-grid operators are required to have receptacles on site for the collection of any electronic waste that their project generates (that may be faulty components such as meters and eventually as well PUE appliances) and duly inform their customer base of the legal requirements to recycle e-waste. They are as well responsible for keeping records of collected e-waste and delivering the same to authorised waste handlers.

The same regulations define in Art. 35 the principles of Extended Producer Responsibility and Product Stewardship. As equipment importers, mini-grid operators are required to use the best available technology in terms of resource efficiency and apply the principles of preventing, reducing and recycling e-waste.

## 4.8 Risk of grid arrival

The Isolated Grid Systems Regulations (2020) do regulate (see Art. 23 and 24 and Schedule 6) options given to a mini-grid investor (holding a license exemption) in case of grid encroachment. Nevertheless, in the absence of practical cases, precedents on the matter are still to be created. ERA is to inform a mini-grid operator at least 6 months in advance of main grid extension, in which case the latter has the following options:

1. Apply for a generation and distribution license and continue as the power supplier to its customer base (Small Power Distributor - SPD);
2. Apply for a generation license to generate and sell to the main grid (Small Power Producer - SPP);
3. Remain both an SPD and SPP;
4. Surrender the certificate of exemption.

In each of the cases above, Schedule 6 delineates the compensation mechanisms to which the investor is entitled from MEMD, which equals (with the exception of option 4 above) the net present value of the difference between the net cash flows during the 12 months prior to the date of interconnection and the expected net cash flows under the applicable option selected above. It is important to note that to the extent the net cash flows of the 12 months prior to grid interconnection define the upper threshold of the compensation amount, the earlier in the project timeline the grid encroachment takes place, the lower the mentioned upper threshold is likely to be (provided mini-grid project's demand curves tend to follow a strong ramp up during the first project years), and with it, the lower the likely compensation.

## 4.9 Arbitration

The Electricity Act of Uganda, established in 1999 and amended in 2022, regulates various aspects of the electrical energy sector in the country. It includes provisions for the establishment of the Electricity Disputes Tribunal (Tribunal), tasked with resolving disputes within the electricity sector. The Tribunal comprises a chairperson, a vice chairperson, and five other members, operating in panels to address multiple disputes concurrently.

The Tribunal's jurisdiction encompasses matters such as disputes with the Electricity Regulatory Authority (ERA), license refusals or modifications, land use for power supply infrastructure, compensation claims, among others. Parties aggrieved by decisions or directives within these domains can resort to the Tribunal for resolution. The Tribunal operates with powers akin to the High Court and provides a structured hearing process.

When engaging the Tribunal, the process typically involves filing a written complaint, serving the respondent, and conducting a scheduling conference to explore potential resolutions, including mediation or arbitration. If disputes remain unresolved, the Tribunal sets a hearing date, where both parties present their cases. Following the hearing, the Tribunal issues a binding decision, enforceable unless challenged within thirty days through an appeal to the High Court.

In contrast, arbitration comes into play when parties have agreed to settle disputes outside the Tribunal's purview, as per their contract. Arbitration offers an alternative dispute resolution mechanism, typically governed by agreed-upon rules and procedures, allowing for impartial adjudication by arbitrators chosen by the parties or designated arbitration institutions. Arbitration awards are binding and enforceable, offering a means to resolve disputes efficiently and privately, avoiding lengthy court proceedings.

Thus, while the Tribunal serves as a formal avenue for resolving disputes within the electricity sector in Uganda, arbitration offers a flexible and tailored approach for parties to settle disputes based on their contractual agreements. Both mechanisms contribute to maintaining legal order and facilitating the resolution of conflicts in the solar mini-grid investment landscape in Uganda.

Solar mini grid investors venturing into Uganda should therefore prioritize understanding the country's arbitration laws, notably the Arbitration and Conciliation Act, 2001, to navigate the legal landscape effectively. Essential to this understanding is the inclusion of a robust arbitration clause in all contracts related to solar mini grid investments. This clause should delineate the method, rules, and venue of arbitration in case disputes arise.

In selecting an arbitration institution, investors should opt for reputable entities like the Uganda Center for Arbitration and Dispute Resolution (UCADR) or the International Chamber of Commerce (ICC) to administer the arbitration process impartially. Equally important is the designation of arbitrators, either through mutual agreement or appointment by the chosen arbitration institution, ensuring expertise and fairness in dispute resolution.


Clarity regarding the language of arbitration proceedings is vital to mitigate language barriers and ensure effective communication throughout the process. Arbitral proceedings are conducted in English unless otherwise agreed or determined by the tribunal. Additionally, provisions ensuring confidentiality of arbitration proceedings and awards safeguard sensitive information and maintain privacy are equally important.



Consideration should also be given to the enforceability of arbitration awards in Uganda and potentially in other jurisdictions, necessitating careful drafting of arbitration clauses to facilitate enforcement. Addressing the allocation of costs and fees associated with arbitration in the contract can pre-empt disputes over financial responsibilities during the arbitration process.

To foster amicable resolution of disputes, investors may incorporate provisions for mediation or other forms of alternative dispute resolution (ADR) alongside arbitration. Seeking legal counsel specializing in arbitration and renewable energy law in Uganda is advisable to ensure compliance with local regulations and optimize dispute resolution strategies.

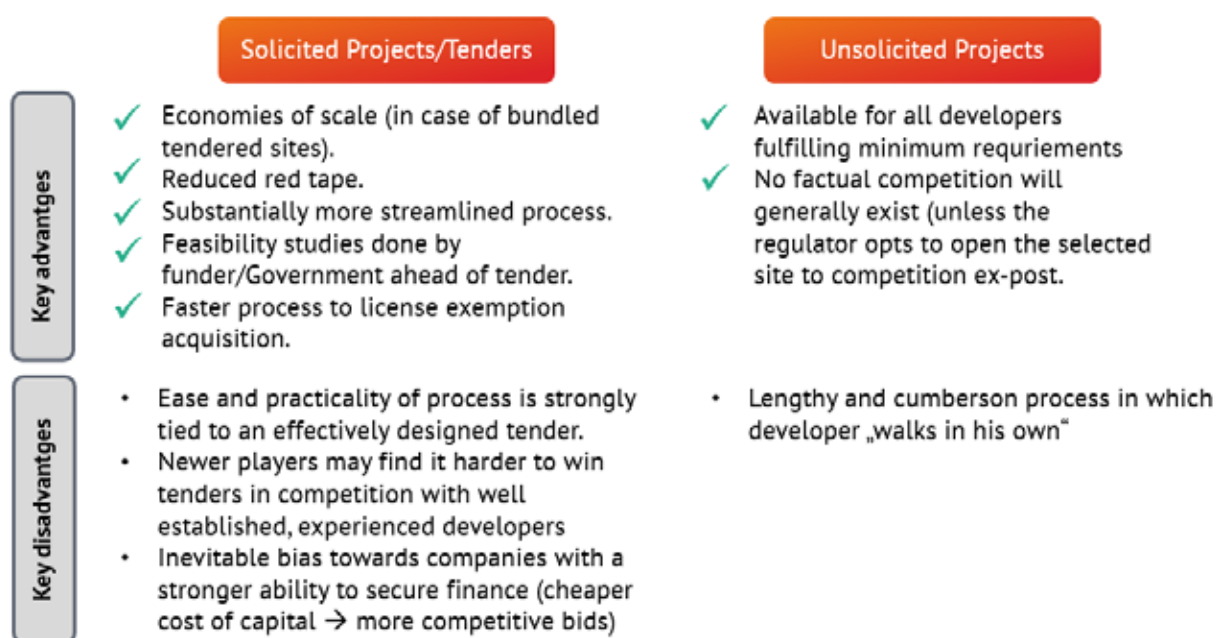




# Advantages & disadvantages of solicited & unsolicited project pathways

Until 2016, when the GIZ's Promoting mini grids for rural electrification (Pro Mini Grids) Programme was launched, mini-grid project development generally followed an unsolicited approach for pilot projects. In the last years, a harmonisation of efforts has been taking place between the Government of Uganda and international development institutions in order to centralize resources into an increased number of bundled solicited projects through tenders.

Both options remain available for local and international investors in solar mini-grid projects, albeit the solicited project path is evidently conditional to an investor winning the tender. Nevertheless, investors aiming at and winning tenders have the substantial advantages of harnessing the benefits of economies of scale (given the bundled cluster approach of recent and upcoming mini-grid tenders) and reduced red tape (with subsequent cost and time reductions), consequence of a substantially more streamlined process. Furthermore, the feasibility study of project sites is often done ahead of tender launch by programme organizers, therefore freeing investors from having to submit the mentioned study to ERA.



**Figure 4:** Key advantages & disadvantages of Solicited vs. Unsolicited Project Pathways

As per Art. 6(2)(c) of the Isolated Grid Systems Regulation of 2020, investors are requested to describe in the license exemption application to ERA how the proposed project fits in the existing Grid Master Plan issued by MEMD. However, the Rural Electrification Strategy and Plan publicly available, which covers the period of 2013-2022, has expired. The Rural Electrification Master Plans (REMP) for all 13 service territories covering the period until 2028 developed by NRECA and financed by USAID (NRECA, 2023) are public documents available upon request but they currently need to be aligned with the National Electrification Strategy (2022) that has been adopted by MEMD, causing lack of clarity to developers to assess whether their planned project fits with the latest Grid Master Plan. In the meantime, the best bet is to use the REMP for mini-grids until a new Master Plan is developed.

A key advantage of the unsolicited project pathway (from the perspective of the investor) is that no factual competition will generally exist (unless the regulator opts to open the selected site to competition ex-post) for an unsolicited project. As long as all legal and regulatory requirements are fulfilled and permits are in place, any investor would be able to penetrate the Ugandan mini-grid market via the unsolicited project path but there will also most likely be no government subsidy.

Whereas investors undergoing the unsolicited path should at present realistically expect to require more than a year for application preparation and acquisition of ERA's license exemption certificate, tender winners will often reach the same milestone within 6 months. The fact that ERA is involved in the tender preparation process and aware of an on-going programme reduces administrative friction for the (winning) developers.

The solicited bundled project approach being implemented by on-going tenders in Uganda has nevertheless a few **disadvantages**. Experience from past BGFA tenders proved that the site-bundling across clusters did not take into account aspects such as road infrastructure. This led to sites that were in fact long driving distance apart from each other being bundled together, and sites that could logistically be easily combined belonged to different clusters. Accounting for aspects such as road infrastructure in the methodology to bundle together sites is paramount to optimize costs both in the development and especially operational phases of the project lifecycle.

When bundled sites are tendered, bidders face an "all or nothing" decision – they cannot pick specific sites of a given cluster. In a sector where profitability is highly dependent not only on project scale but on the specifics of given sites (demographic size, accessibility, surrounding infrastructure such as schools or health clinics, availability of PUE potential and main agricultural activities), being hands-tied to a group of villages can jeopardize the attractiveness of the overall portfolio for investors. Furthermore, BGFA's tender at the time of launch in 2021 required investors to proactively liaise with former REA (now RED) in regards to the financing of distribution network assets and to perform their own site work of clusters' sites ahead of proposal submission, but no accurate GPS coordinate information was made available to applicants, strongly hampering the project feasibility assessment.

To the extent that a tender programme manages to optimally assign sites across clusters and provide transparent information in regards to the exact location of sites, demographics, economic potential and role of MEMD in the financing of distribution network assets, the above disadvantages can be mitigated. KfW's Get Access Uganda programme may be a good opportunity to tackle these issues.



The image features a low-angle shot of solar panels on a roof, extending from the bottom left towards the top right. The sun is low on the horizon to the right, creating a warm, golden glow and lens flare. In the top left corner, there are diagonal stripes of orange and yellow. A large, semi-transparent red circle is overlaid on the lower-left portion of the solar panels, containing the text.

# Recommendations for investors



When embarking on unsolicited projects, it is crucial to plan meticulously and allocate sufficient time for the endeavour. Establishing contacts on the ground through local partners can prove invaluable, expediting processes significantly.

Identifying multiple mini-grid sites rather than undergoing the entire process for a single project-site can also yield economies of scale both in terms of time and cost, provided that the license exemption application fee of USD 3,000 remains the same regardless whether the project application includes a single or multiple isolated systems. This will hold as long as the total generation capacity of all isolated grid systems in the application do not exceed 2 MW, as per Art. 6(11) of the Isolated Grid Systems Regulations of 2020. In case the investor aims to develop multiple mini-grids under the same license exemption application, it is important to note however that a feasibility study, Project Brief and a building permit will be required for each of the specific sites, with the former two often being the most expensive components in the license exemption application preparation.

Alternatively, to ensure resource commitment in a solicited project bid makes sense, a clearly defined tender having undergone optimized site selection with confirmed (or at the least, having clarity on whether or not available) funding support for distribution network and connection grants are prerequisites. Furthermore, where equipment is to be imported, implementing a pre-export verification of conformity to standards (PVoC) and collaborating with local authorities like UNBS ahead equipment purchase is essential to ensure smooth import processes, with the assistance of a clearing agent.

Drawing from the experiences of past investors who have navigated similar processes can provide valuable insights. Engaging with the Ministry of Energy and Mineral Development (MEMD) early in project development is advisable when seeking a connection grant. Finally, it is worth considering KfW's upcoming Get Access tender as a promising opportunity to enter (or scale) in the market, provided all the necessary considerations as outlined above have been undertaken.

# Annex 1 – List of documentation across each stage

Required Documentation	(A) Development permission from Physical Planning Committee	(B) Building Permit (Building Control Officer)	(C) Environmental Permit (NEMA)	(D) License Exemption (ERA)
Sixth Schedule of the Physical Planning Act of 2010	X		X	
Letter from the Chairperson of the village council of the area		X	X	X (for each proposed mini-grid)
Certified land lease agreements as proof of ownership of land		X		X (for each proposed mini-grid)
(A) Development permission from Physical Planning Committee		X		
Sketch Plan		X		
Form 1 of Schedule 3 of the Building Control Regulations of 2020		X		
Proof of payment of application fees prescribed in Schedule 4 of Building Control Regulations of 2020		X		
Project Brief			X	
Detailed mini-grid designs			X	
Project bill of quantities			X	
Certified copy of Certificate of Incorporation, Memorandums and Articles of Association, Deed of Partnership or Deed of Trust, if applicable				
<b>For each isolated grid system/mini-grid for which a license exemption is requested:</b>				
Power station layout drawings				X
Map with position of power station and distribution network marked using indicators to distinguish 1-phase versus 3-phase as well as medium voltage networks				X
Feasibility study				X
Business Plan				X
Tariff review form (Schedule 5 of the same Regulations)				X
(B) Certified copy of building permit				X
Tariff Application Table (as outlined in the same Schedule 3 of Isolated System Regulations 2020)				X

Required Documentation	(A) Development permission from Physical Planning Committee	(B) Building Permit (Building Control Officer)	(C) Environmental Permit (NEMA)	(D) License Exemption (ERA)
Standard Consumer Service Agreement (Schedule 4 of the Isolated System Regulations 2020)				X
(C) Environmental permit from NEMA				X
Construction Permit (if applicable)				X
Letter of Support by RED (former REA)				X
Letter of support by any commercial entities being served by the power generating station				X

## Annex 2: Key Institutional contacts

<p><b>Ministry of Energy &amp; Mineral Development (MEMD)</b> Amber House, Plot 29/33, Kampala Road, Kampala, Uganda Phone: 041 4344414 Email: ict@energy.go.ug</p>	<p><b>Electricity Regulatory Authority (ERA)</b> New ERA House, Plot 5C-1 Third Street, Lugogo Industrial Area P.O.Box 10332, Kampala, Uganda Telephone: +256 417 101800, +256 393-260166 Complaints Hotline: +256 200 506000 Email: info@era.go.ug</p>
<p><b>National Environment Management Authority (NEMA)</b> NEMA House Plot 17/19/21 Jinja Road Phone: +256-414-425-068 Email: info@nema.go.ug</p>	<p><b>Uganda National Bureau of Standards (UNBS)</b> Headquarters, Standards House, Plot 2-12 By-Pass Link, Bweyogerere Industrial and Business Park, P.O Box 6329 Kampala Tel: 0417333250</p>
<p><b>Uganda Registration Services Bureau (URSB)</b> Uganda Business Facilitation Centre Plot 1 Baskerville Avenue, Kololo Phone: +256414233219 / 0417338000 Email: ursb@ursb.go.ug (General Correspondences) helpdesk@ursb.go.ug (for enquiries)</p>	<p><b>Uganda Solar Energy Association (USEA)</b> Mateeka House, 57B Katalima Road Naguru Phone: +256 200 923 345 Email: info@useaug.org</p>

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