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Ministry of Energy and Petroleum

How do we finance it?

A guide to financing of mini-grid companies and projects

The German Climate Technology Initiative
GIZ Promotion of Solar-Hybrid Mini-Grids

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A brief overview to help laymen understand mini-grids and key issues that matter for successfully securing financing for a mini-grid company or project in Kenya

July 2017

The German Climate Technology Initiative
GIZ Promotion of Solar-Hybrid Mini-Grids

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Foreword

Providing access to sustainable, reliable and affordable energy to all is an integral component of Kenya's roadmap to transition into a middle-income economy by 2030. Especially in rural areas, access to modern energy services shall spur inclusive economic development and improve livelihoods. As part of its national electrification initiative, the Government of Kenya has set the ambitious policy goal to achieve universal electrification by 2020. In recent years, Kenya has made significant progress towards this goal, with up to 1.3 million new connections per year. However, especially in rural and thinly populated areas, the electrification rates are still very low. In these areas electrification through mini-grids is often the economically most viable option. Moreover, mini-grids offer the opportunity to electrify underserved areas with clean and renewable energy technologies that are increasingly cost-competitive.

Already now more than 20 mini-grids that have been set up by the Rural Electrification Authority (REA) are in operation and, in addition, a range of smaller mini-grids have been installed by private companies. In the coming years, Kenya will see a significant increase in the number of mini-grids: among others, REA is planning to install 25 new mini-grids and the World Bank funded Kenya Off-Grid Solar Access Project shall result in more than 120 new mini-grids implemented through REA and Kenya Power.

The Government of Kenya, through the Ministry of Energy and Petroleum (MoEP), seeks to further promote the scale and nature of financial investments in the mini-grid sector. To achieve low-cost and efficient rural electrification, private sector shall play a significant role in the development of mini-grids, not only by installing but also by owning and operating systems. Attainment of the universal electrification goal, therefore, depends on a concerted effort of the public and the private sector to attract investment in the mini-grid sector beyond government and donor funded initiatives.

It is against this backdrop that a handbook on mini-grid financing in Kenya, which serves as an introductory guide on financing for private mini-grid developers, has been developed. It aims at improving the understanding of mini-grid financing for (prospective) developers and guides through the basic process of securing finance. As such, the handbook shall enable more private mini-grid developers to successfully secure financing and implement mini-grid projects in Kenya, and thus contribute to the development of the country and attainment to universal access of electricity.

Eng. Isaac Kiva
Secretary for Renewable Energy, Ministry of Energy and Petroleum

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The GIZ ProSolar Team

Ministry of Energy and Petroleum

Energy Regulatory Commission

Rural Electrification Authority

List of Abbreviations

AFD	Agence Française de Développement
DfID	British Department for International Development
EBITDA	Earnings Before Interest Tax Depreciation and Amortization
ERC	Energy Regulatory Commission
FCA	Fuel-Cost Adjustment
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH
IM	Information Memorandum
IPO	Initial Public Offering
IPP	Independent Power Producer
IPS	Integrated Power Supplier
IRR	Internal Rate of Return
KenGen	Kenya Electricity Generating Company Limited
K-OSAP	Kenya Off-Grid Solar Access Program
KPLC	Kenya Power
kW	Kilowatt
kWh	Kilowatt-hour
KYC	“Know your customer” process
MoEP	Ministry of Energy and Petroleum of Kenya
MW	Megawatt
NDA	Non-Disclosure Agreement
NRECA	National Rural Electric Cooperative Association
ODA	Official Development Assistance
PPA	Power Purchase Agreement
PV	Photovoltaic
REA	Rural Electrification Authority
SPD	Small Power Distributor
SPV	Special Purpose Vehicle

Glossary

Angel Investor	Typically a private individual affiliated with a network of like-minded individuals, searching for high return or high social impact enterprises at an early stage in the lifecycle of a company
Balance Sheet	A financial statement reflecting the assets, liabilities, and capital of a business at a particular point in time
Bonds	Debt securities, under which the issuer owes the holders a debt and is obliged to pay them interest and repay the principal later.
Collateral	Assets of an investee, to be forfeited in the event of a default on loan payments
Conditions Precedent	The set of actions or approvals necessary to complete prior to disbursements of funds to the investee's business bank account
Corporate Finance	The process by which corporations or businesses receive funding on their balance sheet, using the company assets as collateral
Data Room	A structured storage centre for files and documents viewable only to intended recipients
Debt	An obligation to pay a certain amount of money according to the terms and conditions of a loan agreement signed by the lender and the borrower
Developer	Usually the same individual or entity as the investee, the organization and individuals that are leading the actions to be invested into
Disbursement	The action of transferring funds from investor to investee
Dividends	A periodic or regular sum of money paid to shareholders out of profits generated by a company or project
Due Diligence	A comprehensive appraisal of a business or deal undertaken with the aim to establish its assets and liabilities and evaluate its commercial potential
Equity	A percentage ownership in a business
Executive Summary	A non-confidential summary of a business and investment; also called a teaser
Exit	The final stage of investment; An investor will recoup his funds and their earnings and go through the formal documentation needed to end the financial relationship
Grant	A sum of money given by an organization for a specific purpose or project typically seeking a social or environmental impact
Independent Power Producer	A business model comprising a private company generating and selling power to an off-taker or buyer of electricity (usually a utility)
Information Memorandum	A document focused exclusively on answering the key questions in detail that an investor has

Integrated Power Supplier	A business model comprising of a private company generating, distributing and retailing electricity to private consumers
Investee	The recipient of investment funds, typically a company/ developer
Investment Agreements	Documentation listing the conditions for an investment relationship to be formed
Investor	Shareholder or stakeholder who commits capital to invest into a company or project
Know Your Customer	A process conducted by investors during due diligence that consists of independent detailed background checks on people involved with an investee and their past and current dealings
Limited Partner	A person or organization who invests into an private investment fund to generate a financial return
Limited Recourse Financing	A way of project financing whereby taking control of a project itself is the only recourse that a lender would have in the event of a default
Mini-Grid	An integrated electricity generation and distribution system serving customers separate from the national electricity distribution network. Mini-grids may use one or more types of technology which may include diesel generators, solar, wind, biomass, and/or batteries to serve the unique elements of each market. If a mini-grid uses more than one technology for electricity generation it can be referred to as a "hybrid mini-grid"
Non-Disclosure Agreement	Contract between two parties certifying that certain information will stay confidential between the two parties only
Project Finance	The process by which a project receives funding off the balance sheet of the company conducting the project, where the project assets serve as the only collateral
Small Power Distributor	A business model where a private company buys power in bulk and distributes and sells it to end consumers
Step in Rights	A contractual term in loan agreements, which allows lenders to replace management or sell the entire project if loans are not paid back or the borrower is otherwise not operating in accordance with the loan agreement
Teaser	A non-confidential summary of a business and investment; also called an executive summary
Term Sheet	A document that includes the key terms to be negotiated in an offer for investment
Transaction Advisor	An individual or firm with financial and transactional expertise, which seeks to assist a developer in structuring and raising funding to implement a project
Valuation	The process of establishing the monetary amount that an asset, company, or project is worth

1. Introduction

This financing handbook for mini-grid businesses was developed to provide guidelines and recommendations for securing various forms of financing for the most relevant types of mini-grid businesses and projects in Kenya. It serves to provide an overview of mini-grids and the key financing concepts and procedures that developers should consider when developing mini-grid projects.

The intended use of this handbook is to guide prospective mini-grid developers in the private sector through the planning and execution of a fundraising strategy. **The primary audience of this handbook is therefore private mini-grid project developers in Kenya.** However, it may also serve as a reference to the overall business financing process and be a useful guide for regulators, bilateral and multilateral development partners, as well as investors seeking to gain insights on investments in the mini-grid sector in Kenya.

While the handbook primarily focuses on financing mini-grids in Kenya, most aspects and procedures are globally applicable.

This handbook should merely give readers a general understanding of mini-grid financing and enable them to better collaborate with qualified professionals experienced in financing and transactions active in the renewable energy and community investment sectors in East Africa.

As a caveat, in the same way that one should not read a law handbook and believe themselves to be competent to present their case in a court of law. without working with an attorney, one should not read this handbook as the entire body of knowledge in financing of mini-grids.

What is a mini-grid?

A mini-grid is an integrated electricity generation and distribution system serving customers far from the national electricity distribution network. Mini-grids may use one or more types of technology which may include diesel generators, solar, wind, biomass, and/or batteries to serve the unique elements of each market. If a mini-grid uses more than one technology for electricity generation it can be referred to as a “hybrid mini-grid”

Box 1: What is a mini-grid?

The layout of this handbook is as follows:
Chapter 2, Understanding Mini-Grid Financing provides a broad and simplified overview of financing principles and key terms, introduces types and stages of financing, as well as of flows of money with the intention to make the reader familiar with the basic principles of financing in various sectors and contexts. It also introduces Types and Timing of Financing for Mini-grids, walking the reader through the different types of investment needed at different times specific to mini-grids. **Chapter 3** is a brief Overview of the Kenyan Mini-Grid Market comprising key considerations and details relevant to investments in mini-grids in Kenya. **Chapter 4** provides an overview of business models and typical investment cases, as well as corresponding illustrations of tariff structures, financial models, and key considerations for financing methods for each case. Finally, **Chapter 5** gives guidance on How to Apply for and Secure Financing for Mini-Grid companies and projects including descriptions of the sequence of a typical financing process.

Solar-hybrid mini-grids give reliable and affordable electricity to rural households and businesses.

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2. Understanding Mini-Grid Financing


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2. 1. Basic Finance Principles

Raising money for business ventures is not unique to mini-grids in Kenya, but is a process undertaken by nearly every business around the world. Investors who disburse money to a business, fund, or other enterprise, make this decision according to three simple principles:

1. Investors trust that the investee will keep their money safe
2. The investee will return more money or value than what was invested at the start
3. The riskier the investment the higher the return that is expected

Understanding these three concepts further can help a prospective investee better relate to an investor so he or she can build a stronger relationship and rapport with investors.

1 **Investors trust that the investee will keep their money safe.**

No matter what type of strategy an investor has, nobody likes to lose money to improper behaviour. The key concept to understand is that the entire world of investment revolves around trust. Trust is the firm belief in the reliability, truth, ability, or strength of someone or something. Trust between people and institutions is built up over time throughout a relationship. In the case of fundraising for a business, one builds trust through demonstration of abilities to deliver on a plan of actions that both parties believe to be true.

2 **The investee will return more money or value than what was invested at the start.**

Providing a financial return on investment is important because of the underlying financial concept of "time value of money". The principle of the time value of money is that money received or possessed today is worth more today than in the future. To achieve this return, the investee has to deliver value that meets a need at a price higher than the cost required to create this value. Impact investors seek to receive value in the form of a positive social impact on their investment.

3 **The riskier the investment the higher the return that is expected.**

The future is uncertain and therefore the risk of receiving money in the future decreases its value. The riskier an investment is, the more return debt and equity investors will expect.

Box 2: Three basic finance principles

Readers of this handbook will better understand how to develop relationships with investors based on trust, value creation with the types of risks that are present in mini-grid businesses and how to mitigate those risks in collaboration with prospective investors.

2. 2. Corporate versus Project Financing

Corporate Finance

Corporate finance is the process by which corporations or businesses receive funding using the assets owned by corporation as collateral. The funding appears on the company's balance sheet. If the company is financially healthy there are sufficient assets for collateral, such as real estate or property assets, and if the proposed project seems viable then an investment decision is taken and funds are disbursed. In the event of non-payment of a loan a lender can repossess company assets as collateral and sell it to recover the remaining portions of a loan. This could cause significant harm to the company. Equity investment in the case of corporate finance means partial ownership of the company. In comparison to project finance, corporate finance is used for smaller funding sizes and for projects with less secured cash flows.

Project Finance

Project finance is the process by which a project receives funding, for which the project itself serves as the only collateral. It does therefore not appear on the balance sheet of the company executing the project. In many cases a special purpose vehicle (SPV) or other entity is set up for a specific project. Lenders do not primarily look at the assets or property owned by the developer, but make investment decisions based on the equity contributions from investors and the projected cash flows of the particular project. Loans are repaid completely from the cash flow of the project. In the event of non-payment of a loan in project finance, the lender can repossess assets owned by the project or the whole project itself but cannot repossess anything beyond the project. Project finance thus allows for limiting the risk of investees by protecting other assets the company may have. Furthermore, the lender typically has "step in rights" in case of non-payment, for example to remove management, and to sell the entire project or components of it to another investor.

Whether a project qualifies for project finance usually depends on the predictability and regularity of projected profits, the size of the investment, and corresponding risks. Typically, only large investments with small risks qualify as such projects. They usually have a regular and predictable cash flow as well as predictable operations, and in some cases guarantees (e.g. Power Purchasing Agreements/PPAs) that increase the certainty of incoming cash flows. The certainty and regularity of cash flows allow project finance investors comfort in reducing their collateral requirements to be exclusive to the project itself in what's known as "limited recourse" or limited recovery to the lender.

Only specialized departments in some banks and certain debt funds are comfortable taking project finance related risk and they typically focus their attention on large infrastructure projects with significant and regular cash flows from a single or limited set of customers. Some examples include large hydro power projects, concessions on ports or airports, and projects involving government guarantees for completing construction of a road, hospital, or other government-related building.

Since mini-grids in Kenya typically have many customers with irregular levels of consumption, often use evolving technology, and have no access to government guarantees there is little interest by project finance institutions in this market at present.

As the market matures and becomes more stable and predictable similar to a single payer paying the same amount over a fixed long term period with relevant guarantees, project finance investors may enter in the medium to long-term. Since project finance will not play a relevant role in mini-grid development in Kenya in the near-term, this handbook will focus on corporate finance.

2.3 The Different Pools of Money in Global Finance

In the same way one would not go to the grocery store and ask for repair services for their automobile, one should not pursue financing from those who do not provide the specific type of financing needed.

It is therefore helpful to understand the different pools or holders of money in the world of global finance and what their goals are with the money in terms of safety, trust, risk, and return expectations. The following are ordered in terms of control of aggregate wealth from Governments to private investment funds.

A **Government's Treasury** is responsible for holding the operating budgets from a sovereign country or territory. Government treasury departments oversee funds on behalf of their citizens. Money is generated by collection of tax revenue and spent through approved government budgetary items. Additionally, governments can borrow from private debt investors (discussed below) to fund investment projects. Since the health and well-being of an entire nation is at stake government treasury departments are designed to be risk-averse and conservative with their investments.

Sovereign Wealth Funds can be described in the most simple of terms, as similar to savings accounts of a sovereign country or territory. Frequently found in petroleum producing countries, sovereign wealth funds are state-owned institutions that store excess funds, e.g. from the sale of natural resources on behalf of the citizens of a country. As a steward of capital for several generations of citizens, sovereign wealth funds seek to provide a better life for the nation as well as to preserve funds through very long term investment.

Development Partners: Donors, International Financial Institutions, Multilateral and Bilateral Development Banks are institutions backed by public funds of one or more governments. They are providing official development assistance (ODA) on concessional terms. That is, they disburse money to reach certain well-defined "development impacts" (often referred to as outputs, outcomes and key performance indicators), such as catalyzing an industry or delivering on a set of predefined energy access objectives, etc.

Pension Funds, Endowments, Charitable Trusts receive their funds from contributions from individuals over long periods of time. These institutions are stewards of funds on behalf of their beneficiaries. Whether it is a portion of the salary from millions of people each month or donations over years, these pools of capital are large and typically follow a balanced portfolio approach (see below) to minimize risk while generating a return to meet future obligations to retirees, charitable programs, or other future large expenditures.

High Net Worth Individuals seek to preserve and enhance wealth in line with their individually selected strategies and values. Wealth in the hands of individuals is typically the most unpredictable among large pools of capital. Unfortunately putting significant quantities of wealth in the hands of individuals has lost many people large amounts of wealth over the years. To prevent this, professionally run family offices and asset managers have been established to better manage a balanced portfolio and preserve wealth for future generations.

Corporate Treasury departments provide internal money management by large corporations to meet their liquidity needs and return value to shareholders. Typically, the larger and more profitable the company, the larger and more sophisticated their Corporate Treasury department. Corporate Treasury departments participate in mergers, acquisitions, and other external investments in businesses.

Banks are institutions that accept deposits from the public, facilitate transactions, and lend money to generate returns for shareholders. Depositors trust the bank and the bank offers depositors interest payments in the future for allowing them to lend out money at a premium to businesses. Banks primary responsibility in lending to businesses is to mitigate non-repayment risks. In the event of a non-payment by a borrower, a bank seeks to repossess and sell collateral to protect depositors' and investors' funds.

Private Capital and Investment Fund Managers are business entities with the intent to receive money from institutions and individuals known as "limited partners", make targeted investments, and pay back initial investments with returns. Private Capital consists of venture capital, private equity, hedge funds, impact investors, and other money managers. These organizations invest to deliver on different components of an investment strategy as part of an overall portfolio of investments. Private capital firms receive a percentage of the money they manage plus a premium to incentivize success. The type of targeted investments sought by private capital sources is incredibly diverse and ranges from particular focus points in specific geographic regions, industries, stages of a business life cycle, type of investment, duration, and other components discussed further in this handbook.

Impact Investors are a subset of Private Capital Investors. They are similar to Development Partners in so far as they also seek a social benefit from their investments and have extensive guidelines and criteria on the types, timing, sector, function, and impact of the investment in the environment in which they operate. However, they are usually not backed to the same extent by government guarantees or funds, not officially counted as ODA, and frequently mix commercial and social investment objectives. They are similar to Private Capital in that they seek some degree of a financial return on their investment but may prioritize social benefit over financial benefit. A good example of the role of Impact Investors are the many profit-seeking investments in off-grid Pico PV companies active in Kenya and its neighbouring countries.

Figure 1 illustrates some typical flows from these different "pools" of capital to typical fund recipients and the interconnected nature of the global economy.

Each line represents investments typically made by the organizations listed above into national infrastructure projects such as roads, electric grids, ports, etc; bonds such as government bonds or corporate bonds; investment funds such as private equity funds, venture capital funds, or other investment funds; and companies in equity in publicly listed or privately held stock or debt in the form of loans.

Typical Money Flows

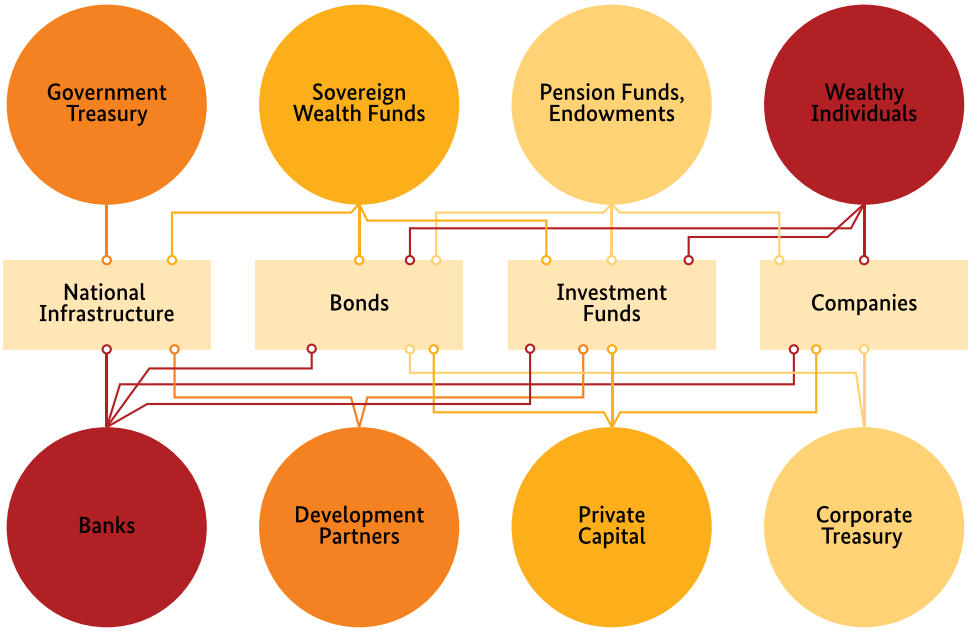

Figure 1: Pools and typical flows of money

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Investors seek a balanced portfolio

The underlying concept behind a Balanced (or "diversified", or "optimal") Portfolio is that, since investors cannot predict the future, selecting only a single investment or a single idea increases the risk of losing all of an investor's money. Therefore, investors typically prefer to diversify their investments across several strategies and types of investment. In order to spread risk, different investments need to show low correlation or connection to each other. The equivalent common sense rule is the proverb: "Don't put all your eggs in one basket!"

The larger the organisation, the more likely it seeks to have a balanced portfolio. It therefore may limit the share of its capital that is available to certain sectors and types of investments.

For example, an illustrative "risk averse" institutional investor (such as a sovereign wealth fund, pension fund, or family office) with access to global markets could likely have a portfolio consisting of the following mix:

- Developed market publicly listed stocks and bonds: 50%
- Emerging market publicly listed stocks and bonds: 30%
- Private Capital investments in developed markets: 10%
- Private Capital investments in emerging markets: 10%
    - Private Equity/Venture Capital in Asia: 7%
    - Private Equity/Venture Capital in Latin America: 1%
    - Private Equity/Venture Capital in Eastern Europe: 1%
    - Private Equity/Venture Capital in Middle East: 0.5%
    - Private Equity/Venture Capital in Africa: 0.5%

Therefore, assuming a USD 1 billion portfolio, only USD 5 million would be available to invest in private businesses throughout the entire continent of Africa in this illustrative case.

Box 3: Balanced investment portfolios

Generally, there are higher perceived risks when investing in emerging markets, such as Sub-Saharan Africa, which result in higher return expectations.

These higher return expectations raise the requirements for businesses to meet the minimum threshold for investment funds to invest based upon what fund managers have agreed to with their limited partners.

Some of the perceived uncertainty and risk in markets such as Sub-Saharan Africa come from the following challenges and market environment in certain regions and sectors:

- Political risks
- Lack of governmental transparency
- Fluctuating currencies and economic instability
- Uncertain or changing regulations that affect businesses
- High transaction costs from work across many separate countries, jurisdictions, and market actors
- Poor infrastructure – physical like roads, telecom, ports and social like legal system for handling disputes, education levels, social welfare, and other
- Fewer risk mitigation tools to work with such as insurance products available
- Further physical distance away from offices of investors

More details can be found in the World Bank's "doing business" reports for countries in Sub-Saharan Africa and other markets across the world: http://www.doingbusiness.org/

In addition to country and sector risks, there are other risk types which investors consider when determining their return expectations which are discussed in subsequent sections.

A useful illustration of country risks and sector risks affecting capital costs in the PV sector can be found in discussion series by GIZ on Energypedia (https://energypedia.info/wiki/VRE_Discussion_Series).

2. 4. Types of Financing and their Considerations

There are three main types of financing relative to mini-grid investments in Kenya with several sources and sub-types under each.

Debt

Debt in this context is defined as an obligation to pay a certain amount of money according to the terms and conditions of a loan agreement signed by the lender and the borrower. Debt providers in Kenya include the following:

- **Local banks -** registered savings and loan institutions by the Central Bank of Kenya
- **International banks -** banks headquartered and operated outside of Kenya that invest in certain sectors or sub-sectors in Kenya based upon an investment thesis
- **Debt funds -** money managers of private capital or impact funds either in Kenya or abroad that are investing in the form of loans based upon an investment thesis on behalf of limited partners
- **Export credit agencies -** organizations established by foreign governments who incentivize export from their respective countries by providing export tied loans
- **Development banks -** organizations established by foreign governments who seek to generate a financial return along with positive environmental, social, and economic development in Kenya and other developing nations

The large investors who provide funds to debt investors - depositors, limited partners of debt funds, and national governments - dictate a very conservative approach to investment. Therefore, debt investors are the most conservative among the three primary types of investors.

Debt providers can be focused on short-term or long-term loans based upon their shareholders or stakeholders. For example, local banks with short term depositors who can withdraw their money at any time limit the banks' abilities to lend to a company requiring funds for a long term construction project.

Debt providers are primarily concerned with the investee's or borrower's ability to repay their obligations as per the loan agreement. If a borrower is unable to repay the agreed amount, debt investors have the ability to liquidate collateral pledged and recover the full amount of the debt provider's investment.

Equity

Equity as defined in this context is a percentage ownership in a business. Equity investors seek to invest their funds, grow these funds over time, and potentially sell their share of the company they own to another party at a substantial return. Some types of equity investors operating in Kenya include:

- **Local corporations -** local corporations may establish a joint venture, merger or acquisition to increase the value of both entities together
- **Foreign corporations -** organizations from outside Kenya may seek to expand their operations in the country by making an equity investment, joint venture, or acquisition to gain a return from knowledge, experience, and/or technology transfer or other means
- **Venture Capital funds -** specialized investment managers that seek high returns on investment for investing, holding, and selling relatively new or early stage businesses
- **Private Equity funds -** specialized investment managers that seek high returns on investment for investing, holding, and selling relatively established or mature businesses
- **High Net Worth Individuals/Family Offices -** wealthy individuals and their representatives who seek to invest in businesses for a variety of reasons which include a strong future financial return on investment

Whereas debt investors seek a conservative and agreed upon rate of return, equity investors seek to maximize the upside potential. In many cases equity investors aim to double their money in two years, triple their money in three years and so forth before selling their share of their investments and returning funds to their limited partners or Corporate Treasury departments.

Grants

Grants are a sum of money given by an organization for a specific purpose or project. In Kenya grants are typically provided to catalyze or assist a company or companies operating in a targeted industry. Grant providers in Kenya are typically from the following sources:

- **Local government -** either regional or national grant funds to encourage co-investment in certain sectors for employment or other national interests. Companies may also benefit from subsidies or tax benefits.

- **Development partners -** Foreign governments, bilateral or multilateral institutions assist a developing nation in reaching its targets for development through encouragement of targeted industries in priority sectors.
- **Charities -** either religious or non-religious based funds for development tied to the organizational mission of the charity.

Whereas debt and equity investors seek to generate a financial return, grant providers contribute funds seeking only a social or environmental return. While grants typically have no obligation for a financial return, they usually involve lengthy application procedures and strict monitoring requirements to demonstrate grant effectiveness to grant providers.

In addition to these typical sources of financing, companies can receive tax or other subsidies from governments, which can increase the attractiveness of a business for investment. One example of this would be reductions of import tariffs on solar panels and related equipment.

2.5. Stages of Financing

There are several stages in a corporation's or company's life cycle, starting from the birth of the idea to setting up the company, recruiting the team, and developing the first project or customer. It may finally lead to an initial public offering (IPO) or sale of the company either to another larger company, to an investor, or to the next generation of family members. Different types of financing are suitable for the different stages of a company's life cycle. These include types of financing to help a company grow as well as to participate in the investment returns of that company's growth.

The earlier a company is in its life cycle the higher the risk it poses to investors. A company without customers yet is significantly more likely to fail than a company that already has served thousands of customers. As explained above, investors match risk with returns. Therefore an investment in a newer company requires higher returns for investors to consider an investment.

The Company Funding Lifecycle (Figure 2) illustrates types of investment and how they are typically aligned with the stages of companies in their lifecycle. However, these steps may vary according to company and project type, sometimes leading to a different order or only certain types of investments.

Company Funding Lifecycle

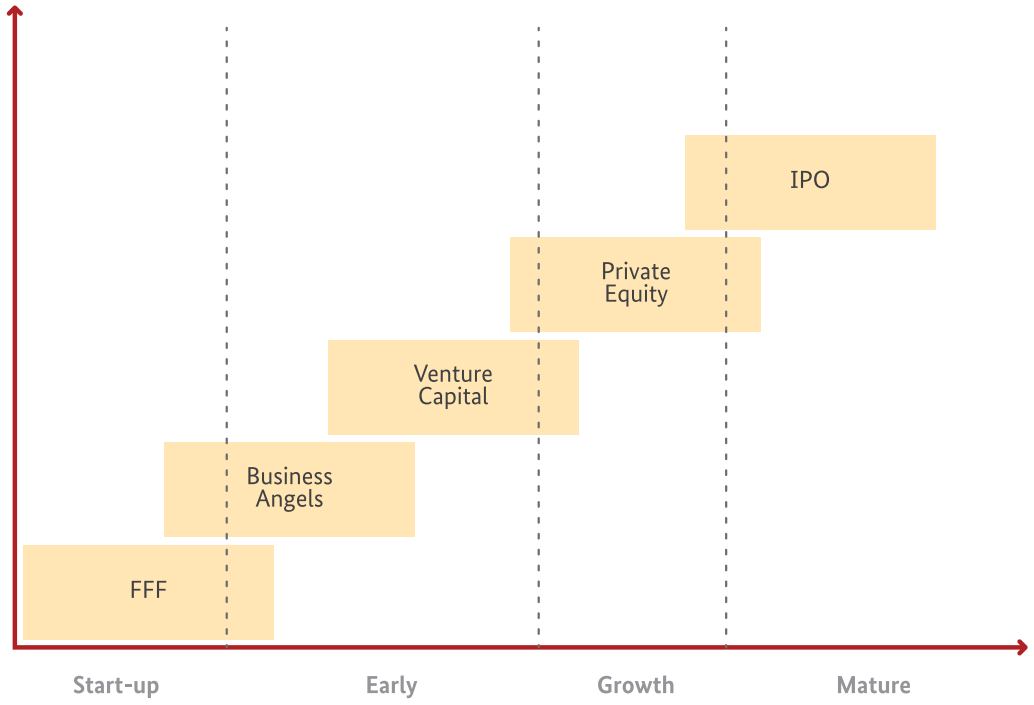


Figure2: Investment types and when they typically occur

Start-up: Founders, Friends, and Family (Seed Funders) – These are the funds from the business owner or entrepreneur and the founding team along with their friends, family, and community members whom they convinced to invest. Typically these funds are used to establish the business, prove a concept and show that the business will generate a return. This is the highest risk part of a business's life and the investors who invest here target to generate the highest return on monies invested. Typically seed funders will contract to receive an equity share equal to a premium on investment valuation in subsequent rounds.

Early Stage: Business Angels and Crowd sourcing - This stage is typically the second round of funding requiring the business owner to expand funding beyond their personal network. At this stage the business concept should clearly demonstrate what the focus of the business is and how it will generate a significant financial return. So-called "Business Angels" or "Angel Investors" will contract to receive a certain amount of equity shares in the company or a premium on investment valuation in subsequent rounds. In developed markets, business angels take risk commensurate with seeking

to double their money in two years or equivalent to 40% return year on year. Since emerging markets such as Sub-Saharan Africa are perceived to be more risky, return expectations for non-impact oriented Business Angels can be higher.

Early Stage and Growth: Venture Capital - This stage is the first of several organized rounds of funding in collaboration with established institutions primarily focused on this particular scope and stage. The quality of the pitch to venture capital firms reflects the quality of the business plan, as well as the performance history of the company in terms of meeting targets promised to prior rounds of investors. The profile of prior investors is reviewed by venture capital firms and can either help or hurt a prospective investee. Venture capital companies have limited partners who have entrusted them with their money to invest it and generate a high rate of return of typically over 30-40% per year in emerging markets. If the founding management of a company is not well respected or cannot deliver on an agreed upon business plan, venture capital companies typically have the right to replace founders or management with people who can implement the intended business improvements.

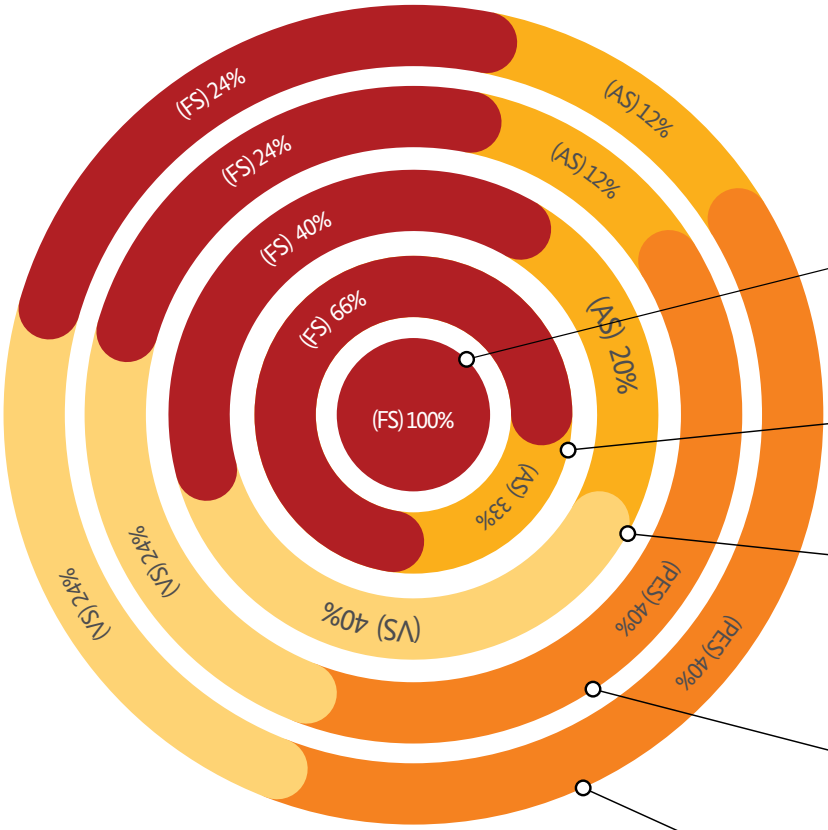
Growth: Private Equity - At this stage the business has delivered on its business plan and generated significant value for investors. However, there are significant growth opportunities which may require a larger amount of capital, for example to finance an acquisition of an adjacent firm or add new components to the business. Typically, earlier investors are bought out or highly diluted at this stage and private equity companies buy in with additional management staff taking over the business. Because the company is more mature at this stage investments are considered less risky and therefore return expectations are typically over 20-25% year on year in emerging markets.

Mature: Acquisition or Initial Public Offering - since Private Equity companies typically only hold on to investments for a limited number of years before they have to liquidate their investments and return money to their limited partners, they typically exit or sell their stakes either to another larger corporation, to another private equity company, or through IPO on a stock exchange.

Many companies follow this path to an extent but others, who have more modest growth paths continue to be held by founders, their families, or long-term investors who reap benefits from dividends on an ongoing stream of cash flows.

The following illustration of a successful business shows the growth from start-up through angel investment, venture and private equity investment to sale phases. As the business grows, value is created and the founder's percentage in this example declines from 100% to 24%. However, the value of the founder's investment, while earning a reasonable salary from the business, can be twelve times their initial cash investment or a 1200% return on investment.

Company Lifecycle: Development of business value and shares



RESULTS:

- Founder: 12x on investment
- Angel: 6x on investment
- Venture: 3x on investment
- Private equity: 2x on investment

This illustration is intended to show that although founders of companies may give up percentages of their business through selling shares to external parties, the business grows, the value of the business rises, and the value of the shares owned by the founder increases significantly in a successful business. To put it another way, a bigger pie feeds more people.

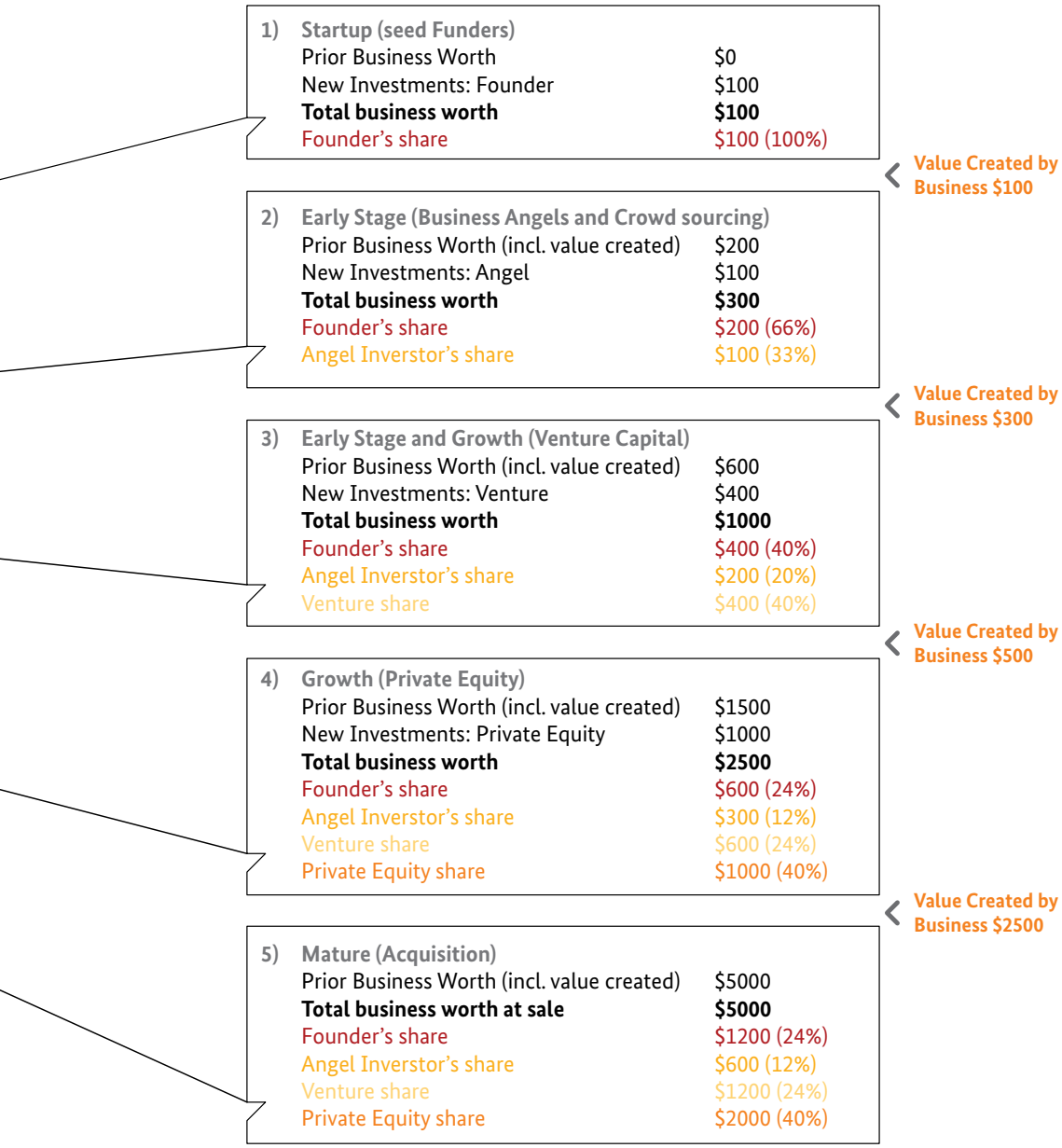


Figure 3: Typical development of business values and shares

2. 6. Types and Timing of Financing for Mini-grid Projects

In addition to the stage of the overall business in its business cycle the individual's projects undertaken by a mini-grid business has the following four key sub-components with differing funding needs at each stage.

Figure 4: Stages of a mini-grid project

Planning / Development - the development stage of a mini-grid project is typically aligned with the start-up and early stage portions of the company life cycle as described in a previous section.

Funding needs for start-up and early stage funding are almost exclusively in equity investments from founders, families, friends, angel investors or crowd funding platforms. In-kind support from donors and other institutions whenever available can for example cover feasibility studies or assist in establishing pilot mini-grids.

Development stage

Key activities:

- Selection of sites
- Negotiation of land leases
- Community relationship development
- Scoping and feasibility studies
- Prospective customer surveys
- Technical design of equipment
- Designing procurement of technical items
- Fundraising for subsequent stages

Construction / Expansion - This stage of a mini-grid project entails the implementation of the plans outlined in the development stage: the installation of generation, distribution and electricity retail assets as well as connections to end consumers.

A mini-grid company in the Construction/ Expansion stage typically relies on Angel and Venture funding, usually in the form of equity investment.

Construction / Expansion stage

Key activities:

- Manufacturing of technical equipment
- Logistics and transportation of equipment to sites
- Install of generation and distribution equipment
- Commissioning of the mini-grid(s)
- Customer acquisition and install

Community relationship development and feasibility studies are important steps in the development stage

©GIZ / Jackson Mutonga

Operations & Maintenance - Following construction the mini-grid project is ready for operations and should support ongoing maintenance of the systems and customers. In this stage, depending on the demand growth speed, the mini-grid project might have to adjust its installed capacity and network coverage.

During this phase a mini-grid project does not usually need additional funding, as the revenues should exceed costs. However, funding may be needed for investing in the extension of mini-grid infrastructure. Additionally, a mini-grid company typically would be both operating existing mini-grids as well as constructing new ones. Therefore this stage is aligned with angel and venture investment along with debt either from local banks, development banks, or others to support short term cash needs to acquire fuel for backup generators, maintain cash liquidity, or pay for working capital needs as common operation and maintenance issues arise.

Operation & Maintenance stage
Key activities:

- Management of technical assets
- Collection of customer revenue
- Customer service
- Repair and maintenance of equipment
- Monitoring and reporting on progress to stakeholders
- Resolution of any customer or community issues that may arise

Exit - As described in previous sections exit is the sale of shares of a business to another company or investor. A sale could be made to a local or foreign utility, a regional energy company, a collection of investors with an interest in the sector, or through an IPO on a stock exchange. The Exit stage gives founder, angel investors, venture, and private equity investors an opportunity to turn their business holdings into cash.

2. 7. What Investors Value in Companies they Invest In

As illustrated above there are different investors with differing priorities and intentions for investment. Because of these differing priorities prospective investees should develop investment materials, business plans, and presentations that speak specifically to the priorities of each prospective investor they meet.

The key components of a business to present to investors are market, model, management, and money described further as follows:

- **Market -** description of the marketplace that the business operates in, including the geography, customers, competitors, regulations and other factors that outline why there is a business opportunity from a market distortion, underserved market, or inefficiency.

- **Model -** description of the way the business will be exploiting the market opportunity in a way that enables the company to capture revenue and profit, which includes the business growth prospects and ability to scale to a larger size.

- **Management -** profile of the team members that are going to execute the business using the model highlighted previously, demonstrating that each of the areas of focus of the business is covered by intelligent and specifically experienced professionals of the highest integrity working together as a team.

- **Money -** description of the current financial health and projections for future financial health including revenue and profit for the business as well as the description of how equity or debt investment would generate a return if they were to invest.

Investing in People

Through all of these elements and priorities investors that have a mandate to invest in companies are in essence investing in its people. A famous maxim from the world of start-ups is that an “A” team with a “C” plan will figure things out and are a better investment than an “A” plan with a “C” team.

A developer either needs to hire or build skills in certain areas to convince funders that the team can deliver results. Generally, the more complex the model the more confident the investor needs to be in the team that he or she is investing into.

The following are skill sets required for mini-grid teams at varying levels of complexity:

- Executive management and leadership
- Project development and management
- Accounting
- Human resources
- Legal
- Government and regulatory relations
- Capital raising from local and foreign sources
- Donor/Investor relations
- Electrical and civil engineering
- Renewable energy system design
- Renewable energy system construction management
- Renewable energy system maintenance and operations
- Utility management
- Community relations

Box 4: Investing in People

Table 1 highlights key questions debt, equity, and grant investors will have on each element of a business presentation.

Key Questions Investors may have

	DEBT	EQUITY	GRANT
Market	Is there an appropriate market and will it continue to be open for the entire period of the loan?	Is the market big enough to scale and generate large returns?	Is the market in a high priority developmental sector that benefits target populations?
Model	Is the model easy to execute and proven to generate enough cash to pay back the loan?	Does the business model extract the full amount of value from the market?	Is the model sustainable and does the implementation of the model help the beneficiaries in a meaningful way?
Management	Can management demonstrate their ability to repay obligations through past success, relevant experience, or other means?	Is management capable, focused, dedicated, flexible, and motivated enough to achieve and exceed their targets?	Is management able to deliver on the developmental impacts beyond just focusing on business profits?
Money	Is there sufficient collateral for lending to this business? If so, would this business meet or exceed standards for lending and repayment of a loan?	Does the business plan and due diligence of the company clearly demonstrate that we will clearly exceed our minimum threshold for investment?	Is there appropriate co-investment to support additional developmental investment? Key questions that debt, equity and grant investors may have

Table 1: Key questions that debt, equity and grant investors may have

How investors perceive mini-grid investments

Table 2 offers a brief analysis from an investor standpoint for mini-grids in Kenya using the market, model, management, money outline as listed above:

Assessment of mini-grid investments from an investor standpoint

	PRO	CON
Market	• Large underserved market of consumers • Proven willingness and ability to pay for alternative goods such as kerosene • Strong developmental benefits from electricity in rural communities • Declining input costs of solar power generation and energy storage through batteries	• Unclear perception of where the commercially viable sites are • Uncertain and evolving regulatory environment • Revenues in Kenya shillings which is perceived as a volatile currency • Substantial competition from solar home systems and grid extension • Uncertainty about the scope and timing of government initiatives
Model	• Several options of mini-grid types to choose from • Less expensive than solar home systems to the consumers • Provides more scalable energy access for consumers • Faster delivery of electricity service to consumers than grid connections • Reduced burden on government to connect citizens far away from the grid or low consumption consumers	• Unique challenges with each type of business model for mini-grids • Challenges in regulatory compliance in each business model • Logistical challenges in managing hundreds or thousands of customers with 24/7 service
Management	• There is a significant number of very motivated qualified people currently interested in the mini-grid market • Significant unemployment in rural communities provides for ample potential labour force	• There are a limited number of qualified staff and labour in the rural communities able to support staffing demands by the industry • The diversity of skills required of staff members sets is wide and deep
Money	• Many mini-grid financial projections show strong financial returns to equity investors • Strong measurable social impact to provide for positive results to developmental investors • Both equity growth and dividend returns are possible through mini-grid investments	• Limited to no available collateral to support debt investments • Largely new businesses with unproven models and teams • Financial returns may not meet risk adjusted return thresholds for most investors • Limited availability of co-investors • Uncertain opportunities to exit equity investments • Limited track records on the economics of already implemented projects.

Table 2: Mini-grid investments from an investor standpoint

3. Kenya Mini-Grid Market Overview

3. 1. Market Size and relevant actors

The number of grid based customers in Kenya has been increasing by 23% per year on average for the last 6 years, representing an average annual increase of around 570,000 new connections. As of March 2017, Kenya Power (KPLC) was reporting around 6 Million customer connections to the main grid. It is expected that this number increases significantly over the next years, especially due to grid densification, but also through grid connectivity programs.

The National Rural Electric Cooperative Association (NRECA) estimates the off-grid market in Kenya to consist of around 1 million households, many of which can best be served with solar home systems. Around 280 clusters of more than 50 structures, which are suitable for mini-grids, have been identified through a satellite mapping in the off-grid area. Considering smaller communities will result in a significantly larger amount of communities that can be served by micro-grids. Furthermore, mini-grids in grid-proximity can be a viable option in case the potential future grid integration is part of the business model.

There are currently 21 mini-grids in operation under a public model, of which 19 are owned by the Rural Electrification Authority (REA) and operated by KPLC and 2 are owned and operated by the Kenya Electricity Generating Company (KenGen). These mini-grids are predominantly diesel fuelled, some of which have smaller solar or wind components. There are plans to retrofit and hybridize all existing systems with renewable energy components. The isolated mini-grids operated by KPLC currently have about 20,000 connections in total (less than 0.5% of the Kenyan population). The total installed capacity for these mini-grids is 24.8 MW comprising of 23.7 MW thermal, 0.55 MW wind, and 0.57 MW solar. The stations operated by KenGen are located in Garissa and Lamu. Lamu was recently connected to the national grid, and construction is being undertaken to also connect Garissa to the national grid. Additionally, NGOs, communities, and academia have developed small mini-grids. Also several private firms in Kenya are developing these mini-grids in small but densely populated areas, sometimes just next to the main grid. These sites differ greatly from the utility scale approach of KPLC in that these mini-grids are based on renewable energy (mostly solar), they are relatively mobile, and cover smaller radiuses with low voltage distribution.

Kenya Power operated Mini-Grid in Lodwar, Turkana County

3. 2. Framework conditions

Kenya has many locations that are geographically very favorable for solar-hybrid mini-grids. Furthermore, while there is some debate about the market size for mini-grids, it is certain that a large share of the population is still not electrified, many of which live in rural communities. High costs of alternative fuels render even business models with relatively high tariffs feasible. Furthermore, pilots have shown that customers are willing to pay cost-reflective electricity prices.

Both the current law – the Energy Act (2006) – and the proposed Energy Bill (2015) make clear provisions for entities to apply for and obtain generation and distribution licenses through the regulator, the Energy Regulatory Commission (ERC). More specifically, distributors other than KPLC can be provided with licenses or permits (depending on their size) to operate distribution networks in the different counties, including mini-grids. However, policy does not allow for multiple distributors in the same geographic area. So far, only few entities other than KPLC have been licensed to generate electricity.
However, mini-grid project developers in Kenya also must contend with several uncertainties. While the Energy Act 2006 has provisions for private sector led distribution, the specifics of operationalizing these provisions remain unclear. The following are key regulatory issues that currently affect the mini-grid market in Kenya:

Mini-Grid Tariffs

Policy is clear in that tariffs ought to be affordable. While there is a clear political drive for a uniform national tariff across Kenya (including off-grid areas), tariffs differing from the KPLC tariff are allowed, if only for a shorter time-frame of e.g. 1 year. Currently, the only utility with an approved longer-term (3 years) tariff schedule is KPLC, and this tariff schedule is uniform for customers across the country (whether grid connected or off-grid). It should be noted that the KPLC and KenGen operated mini-grids are currently subsidized through (a) subsidies for the construction of mini-grids via the Rural Electrification Fund; (b) subsidies for electricity connections; and (c) subsidies for operating costs, including cross subsidization via the Fuel-Cost Adjustment (FCA) in the electricity bill of KPLC customers.

Private parties willing to enter the electricity supply business are under pressure to match this KPLC uniform tariff, which would make most mini-grid projects unviable without subsidies.

Mini-Grid Licensing

Licensing procedures for activities of power generation, distribution and retail have been designed for large projects and large utilities and are too long and costly for mini-grid projects, which are usually well below the megawatt. Although some private sector companies have been licensed to generate electricity, only few have received provisional distribution licenses/permits besides KPLC. While distribution licensing is anchored in law, the process of obtaining a distribution license is still cumbersome, especially for small-scale mini-grids due to high transaction costs.

GIZ has developed a Guide to licensing a mini-grid in Kenya, which assists project developers in understanding the licensing procedure.

Grid Extension and mini-grid transfer

The spread of the central grid will be further enhanced by the Last Mile Connectivity Programme which seeks to promote grid densification around locations that are already served by the distribution infrastructure. There still an information gap on grid expansion plans and the areas designated to KPLC. However, the Ministry of Energy and Petroleum (MoEP) through financing from the World Bank is developing a map, which shall show areas that will realistically be electrified via the grid.

More importantly, there are currently no established guidelines on how private investment could be protected if the grid arrives and renders certain mini-grid assets obsolete. A mini-grid policy and regulation framework, which is currently under preparation, shall shed light on what happens if and when the grid arrives.

3. 3. Financing Mini-Grids in Kenya

While business development officers from a few commercial banks have shown initial interest in the mini-grid business, mini-grids developers in Kenya have found it difficult to engage commercial financial institutions due to the unproven nature of business models as well as the policy and legal gaps discussed above.

Some of the currently existing capital support mechanisms are:

- Public funding for REA/KPLC mini-grids - REA and KPLC have in the past funded and will also in the future fund the development and management of several mini-grids in Kenya using public funds or development partner support. This includes funding for the capital cost of power generation and distribution as well as a high portion of the operating cost through cross-subsidies.

- Private pilot investment - Precedents in financing renewables and pilot stage for private mini-grids. Private investors, mini-grid developers, and foreign utilities have developed privately owned mini-grids as pilots to learn about the market and sector, many with intentions of scaling up their investment with co-investors and appropriate support mechanisms.

The AFD Green Mini-Grid Facility, which is funded by DFID and managed by a consortium of consulting firms, offers financing for mini-grid developers.

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- Donor-led investment - A variety of donor-led support schemes target specifically mini-grid projects by providing grant and debt financing or risk guarantees. Most notably, the World Bank is planning to support the Government of Kenya through the USD 150 million loan (Kenyan Off-Grid Solar Access Programme (K-OSAP)) in its ambitions to significantly increase energy access in 14 underserved counties across Kenya. USD 50 million of this programme is earmarked for the development of mini-grids. The funding will go to REA and KPLC for developing mini-grids in the underserved counties with involvement of private developers. Also the Agence Française de Développement (AFD) and the British Department for International Development (DfID) have set up a £ 30 Million Green-Mini-Grid Facility, which offers output based grants and investment grants to private project developers. Also other donors, such as GIZ, give financial support to mini-grid developers through Development Public Private Partnerships or Result-Based Funding grants through Energising Development and with funding of DfID.

4. Solar-Hybrid Mini-Grid Business Models and Cost-structures

In this chapter various business models relevant for mini-grids in Kenya are briefly introduced. Furthermore, three typical cases for mini-grid investments are discussed, including illustrative tariff and financial models. For each of those cases typical challenges in securing financing and risks, as well as mitigation measures are discussed.

There is a variety of ways to classify mini-grid business models. A common way of categorization is by ownership and responsibilities for the main mini-grid related activities: generation, distribution and retailing. Following this logic, a variety of business models can be derived, of which the following are the most relevant ones to private mini-grid project developers requiring private investment:

BUSINESS MODEL	GENERATION	DISTRIBUTION	RETAILING	DESCRIPTION
Integrated Power Supplier (IPS)	Private	Private	Private	Private company generates, distributes and retails electricity to private consumers.
Independent Power Producer (IPP)	Private	Public	Public	Private company generates power and sells it to the public utility (or another party) under a PPA.
Small Power Distributor (SPD)	Public	Private	Private	Private company buys power in bulk from the public utility (or another party) and distributes and retails it to the end consumers.
Generation and retail licensee	Private	Public	Private	Private company generates electricity, retails it to end customers and uses the public distribution grid for a fee.

Table 3: Mini-grid business models

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However, different ways of classification will result in other relevant models. For example, when considering that generation, distribution and retail assets may be owned by a different entity than the one operating it. Furthermore, considering the timing of ownership will lead to other models, such as a private company building, owning, and/or operating a mini-grid before transferring it, e.g. to the national utility (so-called BOOT-model).

Each business models has, additionally to generally applicable risks, risks that are specific to that model. For example, if a business model involves dependence on another party, this comes at a risk. An IPP depends on the public utility to generate regular off-take, for the distribution system to work well and for the utility to provide good customer service. An SPD will rely on good quality supply of electricity through the grid, while a developer with a generation and retail license relies on the utility to provide a distribution grid that works without failure and is maintained well.

For the purposes of simplicity and relevance to financing of mini-grids, a few typical cases relevant in the Kenyan context are explained further. These cases, based on cost-reflective tariffs, are simplified and serve an illustrative purpose only. Table 4 offers a quick overview of the cases:

	Case 1: Micro-Grid	**Case 2: Isolated Mini-Grid**	**Case 3: Small Power Distributor**
Business Model	IPS	IPS	SPD
Technology	Solar & battery	Solar & battery with diesel back-up	Grid-connection, solar & battery back-up
Distribution	Below grid standard, moves when grid arrives	Grid standard, can be connected to grid	Grid standard, connected to grid
Size (Solar)	1 kW	50 kW	10 kW
Connections	50	300	350
Average Household consumption	25 kWh/year	175 kWh/year	175 kWh/year
Tariff	10 USD/month	0.70 USD/kWh	0.21 USD/kWh
Connection fee	10 USD	20 USD	85 USD
Capex	10,000 USD	270,000 USD	70,000 USD
Opex (% of Capex)	15%	3%	10%
Financing model	Equity only	Grant and equity	Grant and equity

Table 4: Mini-grid cases, for which illustrative financing is discussed

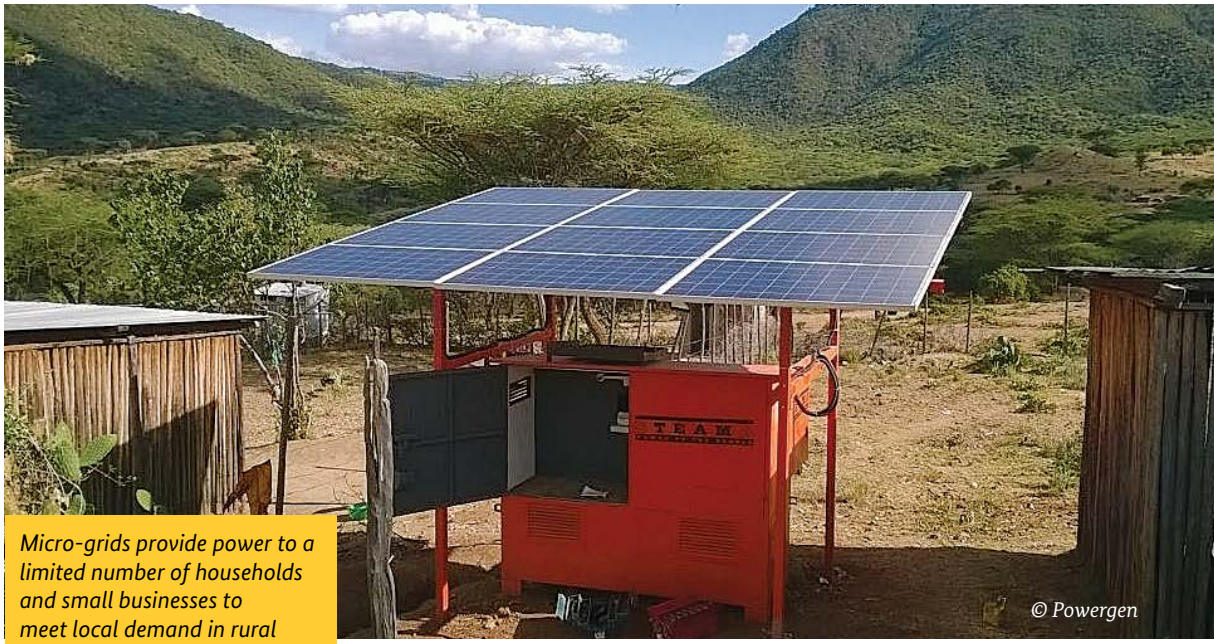
For the following sections it is recommended to identify the case that is most relevant and to only read the respective sub-chapter, as some of the information and recommendations reoccur in the various discussed cases.

Please Note:
All tariff and financial figures included in this handbook are simplified, and for illustration purposes only. They should not be used as reference for any financial model, proposal, regulatory application, business plan submitted to investors, or other similar purpose. Each business and its corresponding financial projections are unique and require appropriate financial models adapted to the specific circumstances.

All tariff and financial figures included in this handbook have been constructed using a variety of reports and data from over 50 mini-grid proposals, concept notes, and business plans presented to Development Partners throughout East Africa.

4. 1. Case 1: Micro Grid

The first illustrated case entails a small PV system of 1 kWp with battery back-up. It follows the business model of an IPS on a very small scale, as the company is responsible for generation, distribution and retailing to customers. The system serves 50 households, who are connected through a low voltage distribution grid that may not be easily connected to the main grid. In the case of arrival to the grid it is planned to be moved to a different site, so it requires movable assets. The quality of service is below that of the grid and the system most closely competes with solar home systems.



Micro-grids provide power to a limited number of households and small businesses to meet local demand in rural communities

© Powergen

Illustrative tariff model

In our illustration, the tariff structure for the micro-grid mirrors that of a solar home system unit with electricity provision as part of an overall service package. Consumers receive LED light bulbs, phone charging, and radio charging for a fixed monthly amount. Consumers with higher electricity needs, for example, extra bulbs or a television, could pay a higher fixed amount per month. Consumers are expected to pay an affordable connection charge to offset the installation and connection costs. For simplicity, we illustrate an electricity tariff of 10 USD per month and a 10 USD connection charge. However, it has to be noted that a flat-rate tariff of 10 USD per month is high and not all customers will be willing or able to pay such tariff for the services they get through the micro-grid.

Illustrative Financial Model

Total capital costs in this illustrative case are estimated to be 10,000 USD with 15% for labour for installation as non-recoverable costs in the event the grid comes and a move is necessary. The remaining 85% is split among generation/storage at 35% and distribution grid, meters, and customer lighting kits at 50%.

We assume operating expenses would be equivalent to 15% of capital costs, though this would likely be higher if only a single mini-grid is implemented. With 50 households connected, the connection charges cover one third of the installation costs. The annual revenue from 50 customers paying 10 USD each month results in 6,000 USD.

Case 1: Micro Grid
(Equity financed)

Illustrative Mini-Grid Specifications		
Size	1	kW
Connections	50	households/ businesses
Daily consumption per connection	0.07	kWh
Annual consumption per connection	25	kWh
Opex per mini-grid	15	% of Capex
Connection charges	10	$ per connection
Tariff	10	$ per month
Taxation Rate	30.00	%

Capex	% of total	
Distribution	15%	$ 1,500
Generation - solar	25%	$ 2,500
Storage	10%	$ 1,000
Meter and telecom	25%	$ 2,500
Lighting kit	10%	$ 1,000
Installation	15%	$ 1,500
Total		**$ 10,000**

Income Statement	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Revenue					
Connection Charges	$ 500				
Electricity Charges	$ 6,000	$ 6,000	$ 6,000	$ 6,000	$ 6,000
Total	**$ 6,500**	**$ 6,000**	**$ 6,000**	**$ 6,000**	**$ 6,000**
Expenses					
Opex	**$ 1,500**	**$ 1,500**	**$ 1,500**	**$ 1,500**	**$ 1,500**
EBITDA	$ 5,000	$ 4,500	$ 4,500	$ 4,500	$ 4,500
Corporate Tax	$ 1,500	$ 1,350	$ 1,350	$ 1,350	$ 1,350
Net Income	**$ 3,500**	**$ 3,150**	**$ 3,150**	**$ 3,150**	**$ 3,150**

Internal rate of return						
IRR	$ (10,000)	$ 3,500	$ 3,150	$ 3,150	$ 3,150	$ 3,150
IRR Calculation	**19%**					

A 15% operating expense results in Earnings Before Interest Tax Depreciation and Amortization (EBITDA) of 5,000 USD in the first year and 4,500 USD in subsequent years. After deducting a corporate tax of 30% the business generates a net income of 3,500 USD in the first year and 3,150 USD in subsequent years.

In the illustrative case the mini-grid business is funded entirely by equity, which would result in a 19% Internal Rate of Return (IRR) over a 5-year period, defined as the equivalent of generating an annualized return of 19% on an investment of 10,000 USD in capital costs.

An annualized return of 19% would likely attract specialized venture capital investors if there have been successful pilots and the company can proof that the model is able to generate reliable investment returns at that rate. Furthermore, the social components of providing basic lighting to underserved communities and replacing diesel would likely attract grant funding and/or developmental focused or impact investors if the business plan were to be well presented and aligned with the goals of the relevant developmental institution.

Not incorporated into the model illustrated above is the large developmental expense of frequent trips to villages for consultations with leaders and community members as well as logistics for installation or movement when the grid arrives, which can significantly increase capital costs.

Risks and Mitigations

A micro-grid as illustrated here would have the following risks and corresponding mitigating actions for developers seeking funding.

Risk	Description	Mitigation
Regulatory uncertainty	Micro-grids like the one illustrated above usually operate under the radar of regulation in Kenya. If regulations were enforced against such a micro-grid business it could mean the closure of the business. This regulatory uncertainty makes securing funding for such business difficult for formal non-developmental investment funds to invest capital without mitigation of this regulatory risk.	Maintain good relations with the local government, utility, and regulators. Keep them updated on plans and listen for grid extension plans. Where relevant apply for permits for generation, distribution and retailing of electricity to targeted geographic areas.

Risk	Description	Mitigation
Grid encroachment	The risk that the national grid is extended to the target geographic area and provides competing service at lower costs.	Focus development efforts on areas far from the grid. Design the mini-grid technology for durability and migration in the event the grid arrives to connect consumers.
High degree of customer or system maintenance	The risk that system or customers require more staff time or attention than anticipated.	Develop system and processes using mobile phone and SMS for consumer maintenance and grid monitoring technologies for increased efficiency of grid management and operations.

Table 5: Risks and mitigation measures in Micro Grid case

Risks and mitigation measures in Micro Grid case

Even investors familiar with rural electrification investment may not be aware of the nuances of investment in a particular business as illustrated here, as it is larger than solar home systems but smaller than other mini-grids. Therefore, extensive investor education is necessary.

How to Increase Investment Attractiveness

Developers of a micro-grid as illustrated above can increase their attractiveness to investors by undertaking the following actions:

- Solicit a letter of permission or support from regulators and/or the local government covering pricing and tariff structures
- Have a memorandum of understanding with the community on tariffs and conditions
- Invest the developer's own capital first by setting up pilot programs and running them profitably
- Demonstrate success in moving assets when the grid arrives to an area
- Demonstrate low development costs
- Have a full team in place covering all of the various disciplines needed to have a successful business

4. 2. Case 2: Isolated Mini-Grid

The second case illustrated entails a solar and battery operated hybrid mini-grid with back up diesel generators. The business model is that of an IPS, as the company is responsible for generation, distribution and retailing to customers. The 50 kWp system serves 300 households and small businesses in an isolated rural community within a relatively dense population cluster. Consumers are responsible for purchasing and installing their own light bulbs and other energy consuming equipment. The system entails a distribution grid for the whole community, which is built according to grid standards. In case of grid arrival the mini-grid shall be able to connect to it. Already before grid arrival the quality of service is comparable to that of the grid. The developer is required to obtain a generation, distribution and retail permit.

Isolated Mini-Grid, which provides electricity to the rural community of Talek, with many households and businesses

© GIZ / Frame Studios

Illustrative Tariff Model

For simplicity, electricity is sold in the illustrated isolated mini-grid at a uniform tariff of 0.70 USD per kWh for both businesses and household consumers and there is a connection charge of 20 USD. Households in this illustration consume 175 kWh of electricity per year.

A mini-grid developer may desire to charge varying tariffs per households and small businesses. Consumers in the business of milling or small manufacturing, for example, who desire a larger amount of energy powered by solar during the daylight hours may pay a lower per kWh price than consumers who use small amounts at night powered by the more expensive battery or diesel generator. However, for simplicity and illustration purposes we will stick with a uniform cost-reflective tariff throughout the mini-grid.

Illustrative Financial Model

Total capital expenditure are estimated to be 270,000 USD with 62% of the capital costs going into fixed non-movable items, such as the distribution grid, transformers, and the powerhouse and 38% of the items as movable assets, such as the generation and storage.

We assume operating expenses would be equivalent to 3% of capital costs per mini-grid, as it only uses diesel fuel as a backup when the batteries do not supply enough electricity during the night. Operating expenses would be much higher for a mini-grid with higher shares of diesel, or a single mini-grid implementation due to management costs.

Case 2: Isolated Mini-Grid
(Grant and Equity financed)

Illustrative Mini-Grid Specifications		
Size	50	kW
Connections	300	households/ businesses
Daily consumption per connection	0.48	kWh
Annual consumption per connection	175	kWh
Opex per mini-grid	3	% of Capex
Connection charges	20	$ per connection
Tariff	0.70	$/kWh
Taxation Rate	30.00	%

Capex	% of total	
Distribution grid	10%	$ 27,500
Vending and Meter Systems	13%	$ 35,750
Installation and Transport	18%	$ 49,500
Civil works	21%	$ 57,750
Generation (solar and Ebop)	22%	$ 60,500
Generation (backup diesel)	4%	$ 11,000
Storage	12%	$ 33,000
Total Capex		**$ 275,000**
Capex grant	85%	$ 233,750
Remaining equity		**$ 41,250**

Income Statement	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Revenue					
Connection Charges	$ 2,000	$ 2,000	$ 2,000		
Electricity Charges	$ 12,250	$ 24,500	$ 36,750	$ 36,750	$ 36,750
Total	**$ 14,250**	**$ 26,500**	**$ 38,750**	**$ 36,750**	**$ 36,750**
Expenses					
Opex	**$ 8,250**	**$ 8,250**	**$ 8,250**	**$ 8,250**	**$ 8,250**
EBITDA	$ 6,000	$ 18,250	$ 30,500	$ 28,500	$ 28,500
Corporate Tax	$ 1,800	$ 5,475	$ 9,150	$ 8,550	$ 8,550
Net Income	**$ 4,200**	**$ 12,775**	**$ 21,350**	**$ 19,950**	**$ 19,950**

Internal rate of return						
IRR	$ (41,250)	$ 4,200	$ 12,775	$ 21,350	$ 19,950	$ 19,950
IRR Calculation	**21%**					

It is assumed that in year 1 only 100 customers are connected with 200 connections in year 2. With 300 connections from year 3 onwards the connection charges only cover a small portion of the total installation charges but the energy charges make up for this shortfall with revenue from electricity charges equalling 36,750 per year after all customers have been connected. The 3% operating expenses cost the company 8,250 USD resulting in an EBITDA of 6,000-30,500 USD per annum and net income of 19,950 USD once all 300 customers are connected after deduction of corporate taxes of 30%.

We illustrate that this isolated mini-grid would be funded by a large 85% capex grant and by 15% equity, which would result in a 21% IRR on capital investment of 41,250 USD. Under the given conditions, such as average consumption, tariff and connection charges and total costs, a lower capex grant would lead to an IRR that is not very attractive.

An annualized return of 21% would likely attract specialized venture capital or impact investors following successful pilots and proof that the model is able to generate reliable investment returns at that rate. The provision of a 85% capex grant will likely require the delivery on some social components of providing electricity to underserved communities.

Not incorporated into the model illustrated above is the large developmental expense of frequent trips to various villages for consultations with leaders and community members as well as additional ongoing costs for grant reporting and management.

Risk	Description	Mitigation
Licensing	There is no certainty of success to charge a tariff that is feasible. The short-term license granted to companies developing a mini-grid similar to the one illustrated here often does not enable the company to qualify for long term debt.	Work closely with the regulator to demonstrate the need for cost-reflective tariffs that meet investor requirements or subsidies. Identify large and financially strong anchor off-takers that would potentially enable the developer to take on debt to serve its anchor customers with daytime power and allow the mini-grid to lower rates to all consumers.
Regulatory uncertainty	The lack of regulatory guidelines on grid integration poses a significant challenge, which is also reflected in the reluctance of investors to invest in mini-grids in grid proximity, where a clear strategy for integration is lacking.	Design the grid to be compatible with the national grid and prepare for net-metering regulations or the movement or sale of assets if necessary.
Off-taker risk	The initial demand assessment is reflected both in capital costs and revenue projections, and has a high potential for being inaccurate. If demand turns out to be lower than expected, this can have detrimental consequences for the business. Costs and revenue projections are therefore very difficult to defend against scrutiny from investors.	Conduct a detailed assessment and forecast of future electricity demand, including some margin of error, and size the system appropriately. Stimulate demand, e.g. through training, financing of electricity consuming activities, and sale of discounted electricity equipment. GIZ has developed a Guide to Mini-Grid Sizing and Demand Forecasting, which assists project developers in appropriately sizing mini-grids
High degree of customer or system maintenance	The risk that system or customers require more staff time or attention than anticipated.	Develop system and processes using mobile phone and SMS for consumer maintenance and grid monitoring technologies for increased efficiency of grid management and operations.

Table 6: Risks and Mitigations in the case of an Isolated Mini-Grid

Even investors familiar with rural electrification investment may not be aware of the nuances of investment in this particular business. Therefore, extensive investor education is necessary.

How to Increase Investment Attractiveness

Developers of a mini-grid similar to the illustrated case can increase their attractiveness to investors by undertaking the following actions:

- Secure licenses for specific areas of coverage
- Generate additional revenue streams beyond sale of electricity (perhaps in financing of electricity consuming equipment or in ownership of small electricity consuming businesses)
- Establish guidelines for acquisition of a distribution network with the national utility
- Be aware of developments in net-metering regulations and take advantage of net metering whenever possible
- Demonstrate low development costs
- Have a memorandum of understanding with the community to agree on tariffs and conditions
- Size systems efficiently to keep capital costs low, using high quality studies of consumer demand projections
- Have a full team in place covering all of the various disciplines needed to have a successful business
- Promotion of productive uses of electricity to ensure appropriate uptake of demand

4. 3. Case 3: Small Power Distributor

The third case illustrated here describes a Small Power Distributor (SPD) mini-grid, purchasing bulk power from the national grid and distributing the electricity to households and businesses in the surrounding area through an own distribution grid. The SPD involves purchasing a transformer connected to the national grid, which allows for buying electricity at a bulk tariff and selling it on to customers at higher rates. Since the quality of the grid power is uncertain and of low voltage, the reliability of electricity is increased through battery storage and solar power generation of 10kWp. In this illustrative case 350 customers are connected to the mini-grid. The system is designed to be a long-term solution to electrification for communities in grid proximity. The developer is required to obtain a permit for generation, distribution and retailing electricity.

In cooperation with ERC, GIZ has developed a study on the Concessionary Retail Model, which proposes regulation for SPDs and thus the integration of mini-grids into the Kenyan electricity grid.

Small Power Distributors are mini-grids that are connected to the main grid and complement grid-electricity with a solar plant

Illustrative Tariff Model

In this illustrated case the SPD buys power from the national utility at 0.08 USD per kWh and sells it on to the consumers at a price of 0.21 USD per kWh. For simplicity the illustrated system requires a 85 USD connection charge.

Illustrative Financial Model

Total capital costs in this illustrated case amount to 70,000 USD with 10% for installation. We assume operating expenses of the SPD would be equivalent to 10% of capital costs though this would likely be higher for a single mini-grid implementation. It is furthermore assumed that households on average consume 175 kWh per year of electricity.

Case 3: Small Power Distributor
(Grant and Equity financed)

Illustrative Mini-Grid Specifications		
Size	10	kW
Connections	350	customers
Daily consumption per connection	0.48	kWh
Annual consumption per connection	175	kWh
Opex per mini-grid	10	% of Capex
Connection charges	85	$ per connection
Bulk tariff	0.08	$/kWh
Markup for distribution	160	%
Customer tariff	0.21	$/kWh
Taxation Rate	30.00	%

Capex	% of total	
Transformer	8%	$ 5,600
Distribution	30%	$ 21,000
Generation - solar backup	12%	$ 8,400
Storage	20%	$ 14,000
Meter and telecom	20%	$ 14,000
Installation	10%	$ 7,000
Total Capex		**$ 70,000**
Capex grant	75%	$ 52,500
Remaining equity		**$ 17,500**

Income Statement	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Revenue					
Connection Charges	$ 17,000	$ 12,750			
Electricity Charges	$ 7,280	$ 12,740	$ 12,740	$ 12,740	$ 12,740
Total	**$ 24,280**	**$ 25,490**	**$ 12,740**	**$ 12,740**	**$ 12,740**
Expenses					
Purchase of electricity	$ 1,813	$ 4,147	$ 4,147	$ 4,147	$ 4,147
Opex	$ 7,000	$ 7,000	$ 7,000	$ 7,000	$ 7,000
Total	**$ 8,813**	**$ 11,147**	**$ 11,147**	**$ 11,147**	**$ 11,147**
EBITDA	$ 15,467	$ 14,343	$ 1,593	$ 1,593	$ 1,593
Corporate Tax	$ 4,640	$ 4,303	$ 478	$ 478	$ 478
Net Income	**$ 10,827**	**$ 10,040**	**$ 1,115**	**$ 1,115**	**$ 1,115**

Internal rate of return						
IRR	$ (17,500)	$ 10,827	$ 10,040	$ 1,115	$ 1,115	$ 1,115
IRR Calculation	**21%**					

With 350 households connected after two years the connection charges cover significantly more than the installation costs and the annual revenue from 350 customers amounts to 12,740 USD. Once all customers have been connected the cost of electricity bought in bulk is 4,147 USD. Adding the 10% operating expense results in an EBITDA of 15,467 USD and 14,343 USD in the first two years and 1,593 USD in subsequent years. After corporate tax of 30% the business generates net income of 10,827 USD and 10,040 USD in the first two years and 1,115 USD in subsequent years.

In the illustrated case the mini-grid business is funded to 75% by a capex grant and 25% equity. The equity investment would result in a 21% IRR defined as the equivalent of generating an annualized return of 21% on an investment of 17,500 USD. A lower capex grant will result in a lower IRR and render the investment less attractive.

An annualized return of 21% would likely attract specialized venture capital investors following successful pilots and proof that the model is able to generate reliable investment returns at that rate. The social components of providing electricity to underserved communities and replacing diesel would likely attract grant funding and/or developmental focused investors if a plan was well presented and aligned with the goals of the relevant developmental institution.

Not incorporated into the model illustrated above is the large developmental expense of frequent trips to villages for consultations with leaders and community members or assessment of the reliability of power from the grid as well as additional ongoing costs for grant reporting and management.

Risks and Mitigations

Risk	Description	Mitigation
Licensing	There is no certainty of success to charge a tariff that is feasible. The short-term license granted to companies developing a mini-grid similar to the one illustrated here often does not enable the company to qualify for long term debt.	Work closely with the regulator to demonstrate the need for cost-reflective tariffs that meet investor requirements or subsidies. Identify large and financially strong anchor off-takers that would potentially enable the developer to take on debt to serve its anchor customers with daytime power and allow the mini-grid to lower rates to all consumers.
Regulatory uncertainty	The risk of changes to the regulations in a way that impacts the business, its operations, its customers, its financing, or its cash flow. Kenya does not presently have net-metering regulation in place which would allow a business a standard way of selling power to the grid in small increments thereby limiting the use of excess generation capacity.	Apply for and pursue bulk purchasing and distribution licenses for a particular area of focus. Maintain good relations with the local government, utility, and regulators by complying with all regulations.
Poor quality of grid electricity	The risk that the electricity intended to be purchased is of lower reliability or quality than anticipated requiring additional generation expenses.	Conduct studies in selected geographic area measuring the quality and reliability of electricity in that area prior to making investments or designing the storage, generation or distribution system.

Off-taker risk	The initial demand assessment is reflected both in capital costs and revenue projections, and has a high potential for being inaccurate. If demand turns out to be lower than expected, this can have detrimental consequences for the business. Costs and revenue projections are therefore very difficult to defend against scrutiny from investors.	Stimulate demand through training, financing of electricity consuming activities, and sale of discounted electricity equipment.
Customers geographically disbursed	The risk that customers have a significant distance from each other requiring increased investment in distribution infrastructure and costs.	Conduct studies in order to serve customers within a certain distance to ensure that the SPD is financially feasible.
High degree of customer or system maintenance	The risk that system or customers require more staff time or attention than anticipated.	Develop system and processes using mobile phone and SMS for consumer maintenance and grid monitoring technologies for increased efficiency of grid management and operations.

Table 6: Risks and Mitigations in the case of an SPD model Mini-Grid

Risks and Mitigations in the case of an SPD model Mini-Grid

Even investors familiar with rural electrification investment may not be aware of the nuances of investment in this particular business. Therefore, extensive investor education is necessary.

How to Increase Investment Attractiveness

Developers of mini-grids similar to the illustrated SPD can increase their attractiveness to investors with the following actions:

- Select sites with high density of consumers
- Secure bulk buying permits and licenses for specific areas of coverage
- Seek to secure small businesses as larger consumers of electricity
- Generate additional revenue streams beyond sale of electricity perhaps in financing of electricity consuming equipment or in ownership of small electricity consuming businesses
- Be aware of developments in net metering regulations and take advantage of net metering whenever possible
- Demonstrate low development costs
- Size the systems efficiently to keep capital costs low using high quality studies of consumer demand projections
- Have a full team in place covering all of the various disciplines needed to have a successful business

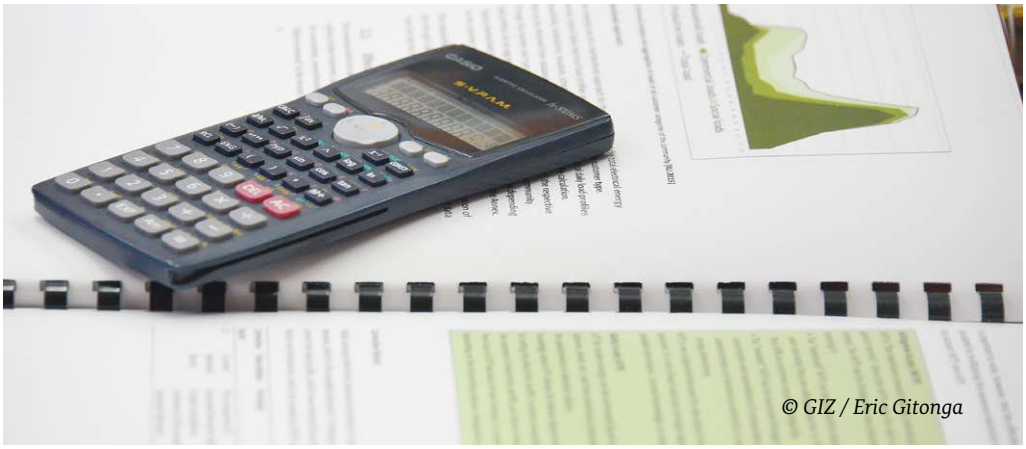
5. How to Apply for and Secure Financing for Mini-Grid Developers

The following section provides an overview and guidance on how mini-grid developers should pursue financing for their businesses. It highlights the importance of setting and executing a thoughtful financing plan, addressing the right investors at the right time for the business stage and financing needs and setting a priority on developing relationships with investors.

Each person only gets one chance to make a good impression and each person only has a single reputation in the market. Both of these maxims are acutely important in seeking funding for a business.

A prudent business person would undertake the following steps prior to making first formal contact with investors for solicitation of investment:

1. Create a basic outline of the key components of the business
2. Dedicate a particular team member (or contract a transaction advisor) with experience in fund raising from various sources as responsible to serve in the transaction advisory role
3. Develop a list of prospective investors
4. Review investor websites and note which types of investments they make
5. Separate investors into stage of investment and types of investments
6. Note particular details about the prospective investors preferences and prepare to tailor investment materials to meet their specific needs
7. Develop a fundraising plan
8. Execute on the fundraising plan and track responses and outcomes
9. Adjust plan and investment materials as needed



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The Role of a Transaction Advisor

Transaction Advisors can help companies and projects by:

- Conducting initial due diligence and validating business plans as viable and feasible
- Finding and filling missing pieces of plans and teams with strategic partners
- Determining what type of funding is needed at what stage of development per each project or business type
- Identifying appropriate funders for a business
- Packaging business information in a manner that speaks to each investor's specific interests
- Pitching and convincing funders of various types to invest into a project or company
- Facilitating and guiding investor due diligence
- Resolving issues uncovered in due diligence
- Assisting in negotiations with investors on terms and conditions of funding
- Reporting on status to investors and managing the relationships over time
- Preparing the business for so the business can receive additional investment in the future

Box 5: How a transaction advisor can assist in the financing process

5. 1. Financing Steps for Mini-Grid Developers

Steps in the financing process

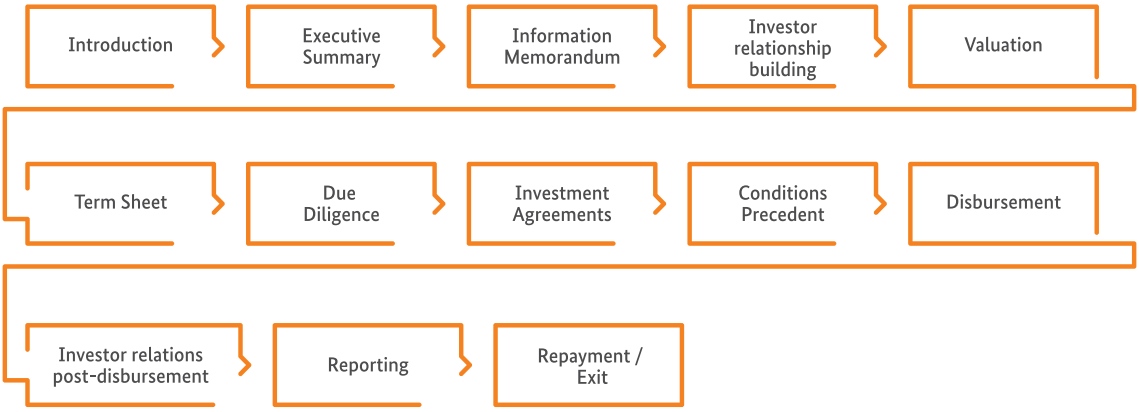

Figure 4: The steps a mini-grid developer typically follows for financing a mini-grid

a) Introduction

The introduction to an investor forms the first and often a lasting impression. There are several ways to make a first impression and each has varying degrees of impact. Meeting investors at a targeted industry conference where one is in formal professional dress as an industry leading speaker is an approach that has a higher impact than a surprise cold call after business hours. Additionally, a well presented and tailored email gives off a different impression than a standard message copied and pasted to a large audience of people. Whichever introduction one makes one should appear professional, focused, and ready for serious business conversations.

After an introduction it is likely for an interested investor to request or a developer to offer an executive summary.

The introduction to an investor can form a long lasting impression

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b) Executive Summary

An executive summary, sometimes called a “teaser”, is a non-confidential summary of the business and investment - a business plan condensed into either 1-2 pages or no more than 10 slides. The goal of the executive summary is to highlight they key points of an investment, answer basic questions, and get an investor interested to learn more. The format of the executive summary should be easy to be shared via email among investors working together at the same firm, typically in PDF format.

An investor who finds interest in an executive summary will typically request more information. At this point it is wise to execute a Non-Disclosure Agreement (NDA).

c) Non-Disclosure Agreements

Sensitive information like financial models, technology innovations, and project plans should be kept confidential. While this information has to be shared with potential investors for the purpose of confidentiality a NDA between the parties can be signed.

An NDA is an agreement not to share confidential information about a business with outside parties. Most NDAs are under four pages in length and typical terms for restriction of disclosure are under three years. A developer may offer its NDA template or receive one from a prospective investor. Executing an NDA should be an easy process, able to be completed remotely with digital signatures or electronic scans of paper signatures. Signing an NDA is more of a formality as it is challenging to take legal action upon breaches of NDA clauses. It is however an important step towards building trust with investors.

A sample NDA that a developer could offer to investors can be found in Annex 2. Please note that this handbook is not to be construed as a substitute for legal advice.

Upon signing of an NDA the next step is for a company to share its information memorandum (IM).

d) Information Memorandum

An IM is like a business plan focused exclusively on answering the key questions in detail that an investor will have - market, model, management, money as described in Section 2.7. The IM should be tailored for each investor type. Exclusively for profit investors will not consider developmental components and developmental investors will want to see more information on social and governance related topics.

The goals of sharing an IM are to:

1. Give an investor confidence in your plan,
2. Demonstrate your team's professionalism,
3. Show that you have thought through all of the key issues relevant to your business,
4. Highlight awareness and honesty about risks and how they will be handled.

In terms of length IMs are typically between 50 and 150 pages or slides. An IM should be attractive and easy to read, including photos, graphics, tables, and charts. Key sections include:

1. Executive Summary
2. Background information about the market and business environment
3. Details about the business model, locations, plans, technology, energy demand, design of systems, and other relevant components of the business model
4. Details about the monetary components including the financial model, sensitivity analysis, capital costs, operational costs, projected financial statements, positive impact on the beneficiaries, investment types and amounts sought, details on the investment process and timing, valuation of the investments
5. Details about the management and roles and responsibilities of each party, the organization chart, the staffing plans, and other elements related to people in the plan
6. Appendices including maps, licenses, permits, surveys, and other documents developed or provided by 3rd parties

e) Investor relationship building

Once an investor has confirmed interest, the process of investor relationship building commences. Building a relationship with a prospective investor is an art more than a science. It helps to understand different types of approaches and personalities that investors may display at different times during the investment cycle:

Building a relationship with a prospective investor is an art that requires understanding the investor and his or her motivations

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Here are some types of investor personalities:

- **Document focused investors -** want to see documents, e.g. IMs, permits, maps, charts, graphics - more commonly seen among banks
- **Q&A focused investors -** Some investors spend time reviewing IMs and others prefer to ask specific questions and receive specific answers to their questions
- **'Show-me' investors -** want to see physical locations and meet with key team members
- Conversational investors - prefer to talk by phone or have several conference calls on topics to absorb information from the voice of the developer
- **Game playing investors -** like to philosophize about things that may or may not matter or test you with questions or unusual challenges in an attempt to uncover the character and approach of the team members
- **'Prove it to me' investors -** like to "sit and wait" and have you prove your plan to them through performance and operations
- **'Millions-of-Approvals-Required' investors –** typically seen among developmental investors where a large volume of investors require their consultation, comfort with the relevant risks and details, and finally approval

- **Time-wasters -** have abundant time and simply want to learn about an industry for subsequent investments. Uncover their intentions by asking for a plan towards investment. Reduce focus on this investor type if they are unable to enunciate a meaningful plan towards investment.
- **Incredibly busy -** if an investor cannot plan a follow up meeting for six months or longer send periodic updates and focus on other investors
- **Plan-changers -** want to change your plan, merge you with other companies, or have some other strategy or priorities in mind for your business. Make sure in your research on investors identify any potential conflicts by asking what else the investor has invested into.
- **Syndicating investors -** some fund raising is too large for some investors and they want to share risks or team up with other investors that share similar perspectives - called "club deals" or syndicates. Typically results in additional due diligence but higher likelihood of investment.

The manner in which you handle each of these investor types is crucial to building a strong relationship with them.

f) Valuation

Valuation is the process of establishing the monetary amount that something such as an asset, company, or project is worth in monetary terms. It is relevant for equity investors as they seek to increase the value of their shares over time. It is relevant for debt investors to determine the value of the collateral to be liquidated in the event of non-payment of loans.
The following are common valuation methods:

- **Comparables:** This method uses knowledge of other valuations in the market to determine the value of a company or an asset. Equity investors may use the valuation of another company in a similar industry to determine the value of the shares of a prospective investment. Debt investors may value the price of collateral recently sold or on offer to determine the value of the collateral.

- **Cash flow based:** This method uses the time value of money and risk calculated with the current and projected cash flows of a company to determine the value of shares.

- **Competition:** This method uses multiple offers in the market to determine the value of shares of a company or asset. If a developer receives more than one offer, it can use the other offer to negotiate a higher valuation.

Some words of caution on valuation:

Typically lenders will request an independent third party valuation of collateral and then reduce the value of that asset for collateral purposes to pay for a rapid disposal of the collateral to recover debts owed. This is normal and to be expected by developers seeking debt.

High equity valuation can present disadvantages as well. A high valuation in early stages results in extreme pressure on the founders and management team to deliver a significant amount of value to shareholders. If they do not deliver but need additional cash, they may need to raise money in a "down round" meaning at less value than before. Reduced valuations can significantly dilute the shares of the founder and initial team and reduce motivation due to lesser financial incentives. In some cases this dilution reduces the shareholding of founder and team to a point at which they are economically better off leaving the company for other opportunities. It is a negative signal to the market if founders or key team members depart, resulting in increased challenges in fundraising and thus in a vicious circle. A reasonable valuation and expectations for achievable future growth matched with additional funding is a better bet than seeking the highest valuation possible from investors.

Box 5: Tips on valuation

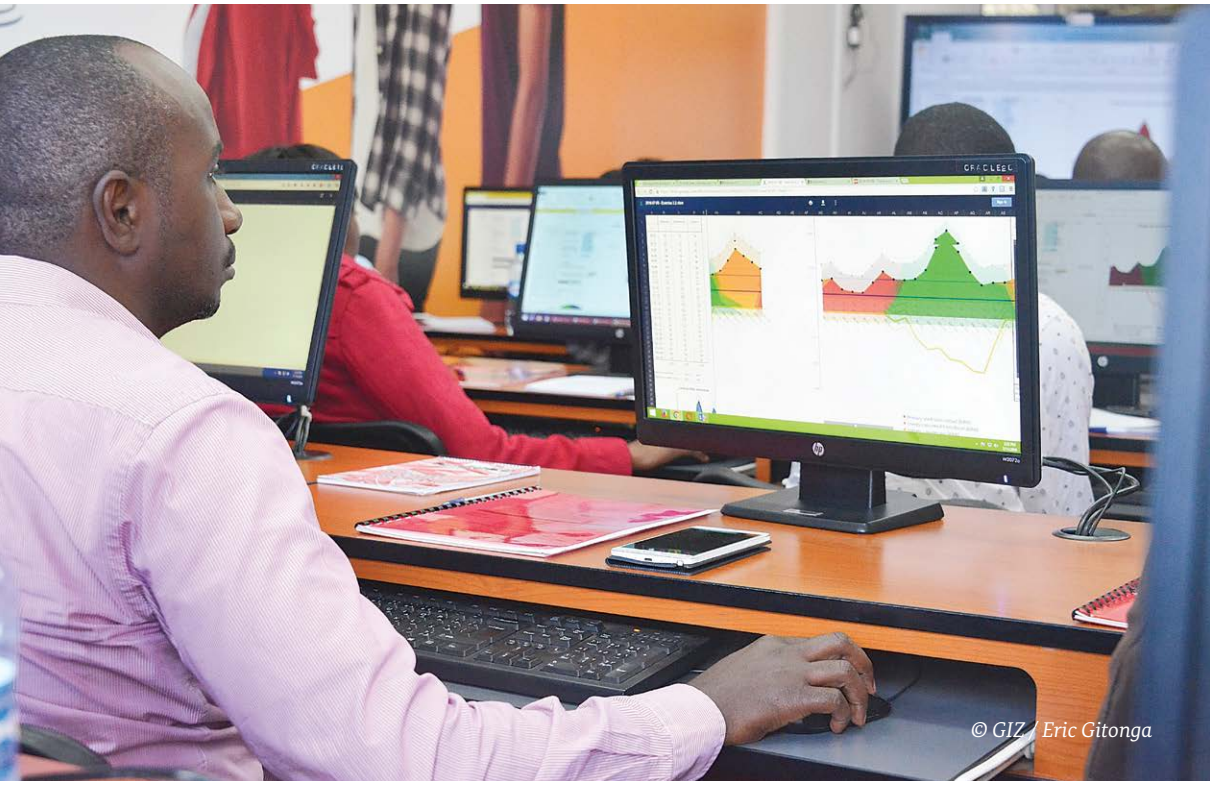
g) Term sheet

Also known as statement of terms, loan proposal, or equity agreement terms, a "Term Sheet" is a document that includes the key terms to be negotiated in an offer for investment. Term sheets are relevant for both equity and debt investments as well as some grants. Term sheets typically have the following components:

- **Name of investor:** specific legal entity the funds will come from
- **Name of investee:** specific legal entity the funds will go into
- **Valuation of the company:** as determined through methods discussed above
- **Offer for investment:** a description of the amount and the value proposed for shares and details about any further options for additional investment
- **Use of proceeds:** details and intentions or limitations on what the funds invested can be used for
- **Reporting requirements:** details on what type of reporting is necessary to the investor
- **Board representation:** details on changes to the corporate board structure
- **Corporate actions required:** details on any changes to the corporate bylaws as requested by the investor
- **Conditions precedent:** details on milestones that the company must reach prior to disbursements of funds from an investor

- **Exclusivity:** the term in which the investee may not solicit other investment and work only with the investors
- **Timelines:** projected timelines for completion of a transaction
- **Confidentiality:** details of protection of confidential information by both parties
- **Governing law:** the legal framework under which the investment agreement will be handled under
- **Dispute resolution:** guidelines for an investment agreement on how any disputes will be handled and in which legal jurisdiction and manner
- **Signatures and witnesses:** sections for officers of the investment organization and investee to sign the term sheet

Term sheets are typically non-binding but subject to good faith investment negotiations as part of relationship building with investors. After both parties have negotiated the term sheet and concluded with a signature the next step is due diligence.



h) Due Diligence

Due diligence is a comprehensive appraisal of a business or deal undertaken by all prospective buyers and investors separately, with the aim to establish its assets and liabilities and evaluate its commercial potential. At this stage investors evaluate all claims to determine if they are accurate or not. All investor personalities discussed above transform into 'Show Me investors' with every document required to be disclosed and all previously held secrets to be laid bare. Due diligence can take as short as a month or over a year to get through and no investor will invest prior to completion of their due diligence. Developers may be subjected to several hard and technical questions that may seem overwhelming. In the absence of a transaction advisor, due diligence takes away key management time and energy which can be a distraction from the development or running of a business.

If due diligence is successful investors proceed to the next phase of investment. If a project fails during due diligence the investment process stops and is challenging to start up again if the issue relates to sensitive topics of team management, fundamental flaws in a business, or its prospects for the future.

Typically, investors will have a checklist of requested items, which can be sent in paper copy, digital copy, preferably through a data room.

A data room is a storage centre for files and documents viewable only to intended recipients in a structured format. Online cloud storage services could be used but lack certain security features and tracking that are part of online services from specialists.

A data room makes it easier to find and evaluate documents, which can speed up and reduce confusion in the due diligence process.

The following documents are typically shared with investors:

- **Communication and Q&A -** investor due diligence checklists, questions and answers, and draft agreements for review by both parties
- **Corporate Documents -** corporate registration documents, shareholdings, licenses, tax identification numbers
- **Financials -** annual reports, projections, cost estimates, and any other financial data Leases, Permits and Licenses - all permits, licenses, and other authorizations from third parties relevant to the business
- **Market Studies -** information memorandum, customer surveys, maps, and other things related to the market or business
- **Team** - passport copies, CVs, and other verifiable information about key team members, shareholders, and management
- **Technology -** all information related to the solar, storage, configuration or technical designs of the business

Since each investor has different concerns and considerations, there should be a different data room or set of documents for each investor. A good practice is for a Developer to offer to guide investors through your data room to help them quickly identify the location of various documents.

The first area that most investors will evaluate is the people behind the business in a process known as “Know Your Customer” (KYC), which is a requirement of most regulated financial institutions and is undertaken by most investors. The KYC process consists of independent detailed background checks on people and their dealings. This is a very serious matter, as per their internal guidelines, investors are unable to proceed with an investment that fails this process.

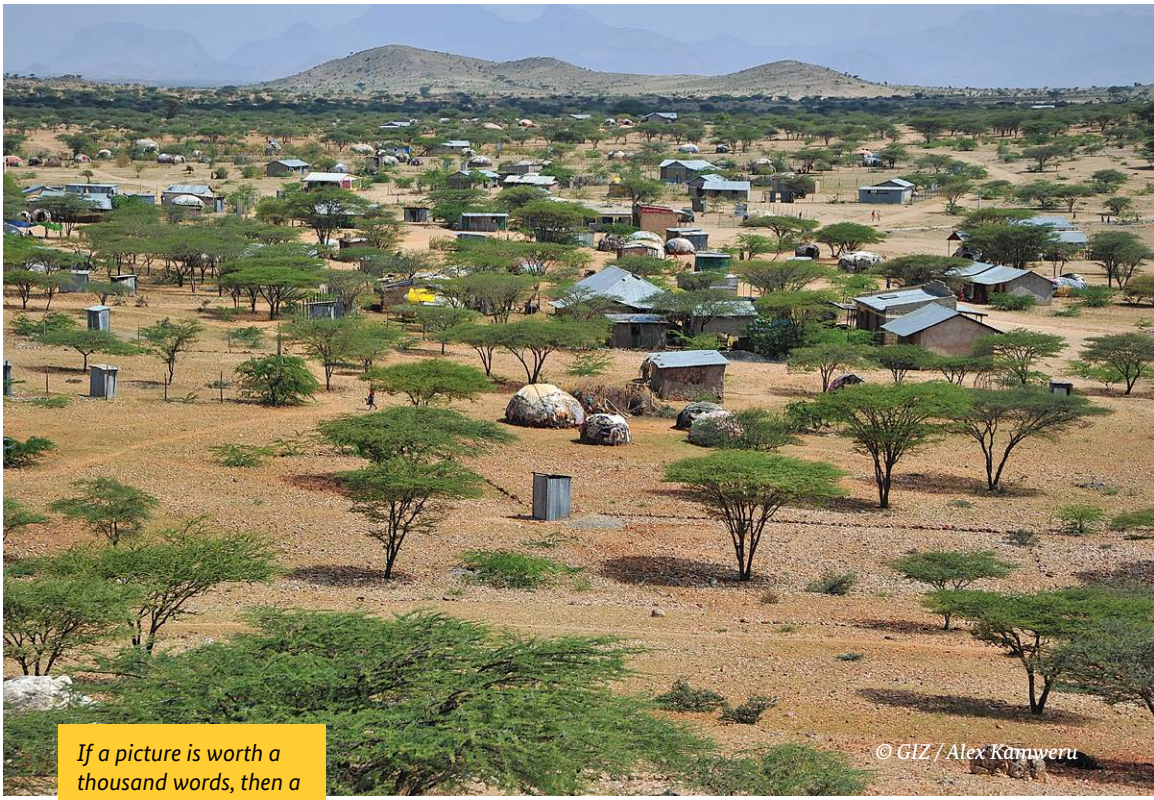
Independent background check providers operating in East Africa are of varying quality. In the event that an issue or inaccuracy comes up be prepared to defend some potentially personal accusations about yourself or your project which may be based on rumours or blatantly inaccurate or outdated information. Remaining calm and providing clear documentary evidence from reputable sources to counter any inaccurate or misleading claims can save an investment deal from being “killed” or ending of the consideration of an investment.

Assuming the due diligence process is successfully completed the investor may require a site visit to the project location(s).

i) Site Visits

If a picture is worth a thousand words, then a site visit is worth several million. A site visit is simply a trip to the project site(s) in which you are intend to operate or have already operations in place. Investors will want to physically see offices and locations, in which systems are intended to be installed. This can happen at any time during the investment process but certainly before investment agreements are signed.

There is an inherent conflict in a site visit in that the investor wants to see an objective and unbiased view of a site or location but also needs guidance for logistical purposes. Developers should be mindful of this and let the investor lead the agenda for the visit. Developers will be required to arrange any meetings with the investor and other parties to allow the investor to develop an independent viewpoint.



If a picture is worth a thousand words, then a site visit is worth several million

j) Investment Agreements

Investment agreements are legal agreements, usually over 20 pages in scope, which outline all the key details of an investment from the term sheet put into a legally binding agreement.

The role of a transaction advisor and transaction attorney can be crucial to cover the business as well as the legal aspects of the investment. A wrong move or an unchecked clause enforced in an agreement could have detrimental consequences for the company. It is thus crucial to ensure that key executives in the company understand every line of the agreement.

Some recommendations on how to evaluate a legal agreement for investment:

- Review the document once to check if the agreement lines up with the agreed upon term sheet. Flag any additions, subtractions, or modifications to term sheet clauses for further follow up.
- Review the document again to identify any areas that you do not understand in plain English and flag them for discussion and explanation with your attorney.
- List the concerns you have with your attorney and work with your attorney to ensure your entire executive team understands every line of the contract and its implications.
- Discuss with your executive team any ideas or concerns they have before entering into further contract negotiations/discussions with investors.
- Review your list of concerns, requests, or negotiable points and prioritize the most important issues to resolve. List what you would be comfortable with accepting and what is unacceptable.
- Set limits in advance on what would be concerns that would get you to walk away before you go into investment agreement negotiations.
- Set your negotiation strategy with your executive team and your legal advisors and set a date for discussions with your investors.

Negotiating an investment contract can be a stressful or simple process, depending on the type of the investor. A good practice is to go point by point and cover each issue fully and completely or raise issues and table them for further discussion.

Be aware that this increased pressure is an important component of collaboration with investors and the success of an executed agreement should be the first major collaborative win with an investor.

Investees should not seek to win on every negotiable point. Neither should the investor. Both parties should seek to identify the areas between the optimum scenarios for both parties that are acceptable for both. An investment success is a win for both parties.

Signatures on investment agreements do not mean that the funds will follow immediately. Typically, there will still be matters that need to be resolved prior to monies being disbursed to the business' bank account which are called conditions precedent.

k) Conditions Precedent

Conditions precedent are actions or approvals necessary to complete prior to disbursements of funds to the investee's business bank account. Each condition should be objectively determined and confirmed in the form of a document or certificate that cannot be disputed by either party. The onus falls exclusively on the investee to accomplish what is necessary to meet the conditions precedent agreed to in the investment agreement.

If there are issues or struggles in meeting conditions precedent, this should be raised with the investor and alternatives should be sought. If alternatives are sought this usually means an addendum to the investment agreement. A risk in making amendments or addendums to the investment agreement to assist in meeting conditions precedent is that other areas of negotiation may be opened up which are not favourable to the investee.

Assuming conditions precedent are met, the next step is disbursement.

Conditions Precedent may include actions such as:

- regulatory approvals secured
- permits secured
- shareholding agreements completed
- resolution of corporate registrations
- differing versions of guarantees signed
- agreements from other parties to invest in an investment round in a club or syndicate
- documents signed with third party suppliers
- certain milestones met for portions of construction
- conflict of interests resolved
- deposits of shares in trust made
- any other key detail that an investor wants to see confirmed prior to disbursing their money

Box 5: Activities that may be part of Conditions Precedent

l) Disbursement

Disbursement is the transaction of funds from the investor to the investee. Most investment agreements include a schedule for disbursements, which means that funds are not disbursed all at once but over time based upon certain milestones and accomplishments achieved. This limits the exposure of the investor in case the investment does not result in agreed upon milestones as expected.

For example, an investment schedule of USD 10 million has a first disbursement of USD 1 million followed by a second of USD 3 million and a third of USD 6 million. If an event occurs after the first disbursement that ends the business's ability to function, then an investor only loses the first USD 1 million and saves from losing a full USD 10 million.

In addition, having multiple disbursements enables an investor a higher degree of control during sensitive times and aids an investor in directing an investee's use of the funds disbursed.

Typically, an investee will write a letter or an email to an investor when it has qualified for a disbursement. It should state, which milestone has been achieved and ask for the disbursement of a certain amount as a next tranche. Furthermore, it indicates the relevant bank details and signatures from key members of the management team.

However, an investee's journey with an investor is not completed when an investor disburses all of the agreed upon capital. It is crucial that an investee maintains a positive relationship even after disbursement as funding is like fuel for a business and further funding is needed afterwards to continue the journey.

m) Investor Relations Post-disbursement

The reputation of a business in the industry and among funders is crucial for subsequent rounds of investment. Maintaining positive investor relations should therefore be a priority for developers.

After disbursements the main role in investor relations consists of providing information, which may include:

1. Reporting on financials such as quarterly reports, audited accounts
2. Reporting on key metrics as set forth in the investment agreement or other metrics that reflect the health of the business
3. Answering investor questions that arise periodically
4. Preparation for and participation in Board meetings

Reporting can be done frequently or upon an agreed upon schedule with investors. A good practice is to provide positive updates on key milestones, as well as negative updates along with well thought through plans for improvement. Investor relations can be handled by any member of the management team, ideally a team member dedicated to finance and investment.

The investment cycle continues from earlier stages for subsequent rounds of investment until one or more investors seek to exit their investment either on a scheduled basis or due to circumstances that arise.

n) Repayment/Exit

As highlighted in earlier sections investors invest money which they hope to receive back at a later date plus a return on their investment. Debt investors exit their investments either through completion of the scheduled loan payments, early repayment, or default and liquidation of collateral. Equity investors receive a return on investment either through dividends paid over time and through sale of shares either through an acquisition, buy out, merger, or listing of shares on a public stock exchange. Investment agreements dictate the terms and conditions of when and how investors exit. If circumstances dictate a need for adjustments, amendments or addendums can be made among the parties.

5. 2. Challenges for securing finance

CHALLENGE	SOLUTION
Funder concerned about risks	Create a risk management and mitigation plan specific for that funder
Valuation too low	Get multiple funders to evaluate and give offers of valuation
Valuation too high	A valuation that is too high can hurt subsequent fundraising and kill a business prospects, so reasonable prices are preferable
Difficult to meet conditions precedent	Ask to revise conditions president in consultation with the prospective investor
Business hits downturn during fundraising	Speak openly and honestly with investors, set a plan for turnaround
Frustration with due diligence processes	Remain calm and have relationship oriented conversations with prospective investors

Table 7: Typical challenges and solutions for securing investments

6. Conclusion

The following key points summarize the most crucial aspects for financing mini-grids in Kenya:

1. It is important to understand the available financing options, the financing needs at each stage of a project, as well as the framework conditions, in which a business shall be set up.
2. Understanding investors, their approaches and their goals is key to enticing them to invest into new and existing businesses or projects (including SPVs typical for renewables).
3. Highlighting the advantages and differentiating factors of "your" project to the market of investors requires strategic planning and careful communication to the right audiences at the right time.
4. Risks should not be hidden but clearly spelled out – there needs to be a plan on how to control the risks, as well as a backup plan if they arise.
5. The relationship between investee and investor should be managed mindfully throughout the process. Clear communication, transparency and collaborative coordination build positive, trusting, and long-lasting investor relationships.
6. Experienced financial experts as transaction advisor can help avoid disaster: this small overview booklet is not enough to master mini-grid finance without help.

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ANNEX

1. Bankability checklist and recommendations

The following worksheet serves as a checklist providing the required elements to develop a new mini-grid to bankability, or readiness for finance along with requisite services, costs, and minimum projected time to secure each element.

For each element that is required to get a mini-grid to bankability the key question asked by investors during evaluation or due diligence, the required steps to complete each element, the estimated minimum time to complete it, and the types of costs required to complete it are indicated.

This checklist can be used by mini-grid developers to identify missing components in their business prior to approaching investors as well as a means to express to investors your various accomplishments in an easy to follow manner. This anticipates investor questions and increases the speed at which an investor can evaluate your business for investment.

Bankability Assessment

ELEMENT	DESCRIPTION	KEY QUESTION(S)	REQUIRED STEPS	ILLUSTRATIVE TIME	ANTICIPATED COSTS
Business Plan	A description of the business model, management, market opportunity, execution of the market opportunity, and financial model	Has a business plan been developed?	Creation or updating of a business plan in a format designed for international investors and/or strategic partners	4 weeks	Business plan writing costs
Local Team	The in-country team that is skilled in the context of the business and represents the project and manages the key elements of the project development	Does the local team have more than 3 years experience in directly relevant field? Do team members represent all business diciplines (Management, Finance, Marketing, HR, Engineering, etc)?	Identifying gaps in the local team's capabilities and identifying additional local or expatriates to flesh out the local team	1 month	Business development costs
Strategic Partner(s)	Globally respected international organizations that provide experience, knowledge, credibility, execution assistance, and investability to a business plan	Do you have a signed services contract with an internationally recognized firm that has done what you're seeking to do?	Securing one or more strategic partners to gain interest in the project, negotiating favorable terms on behalf of the project sponsor	1-3 months	Business development costs
Program Management	Comprehensive management of the program, its resources, strategic partners, local team, individual projects, companies, contracts, budget, and people from start to finish	Do you have a detailed program management plan in place and an experienced program manager with experience in this area secured for the life of the project?	Creating a program management plan, coordinating resources, inputs, outputs, people, processes, and technologies throughout the life of a project	Ongoing	Program management staff costs
Regulatory Environment	A favorable regulatory environment to accomplish the goals set in the business plan	Do you have all permits relevant to your business? What else is missing?	Identifying regulatory roadblocks and mitigants, collaborating with relevant regulators, gaining approvals for project plans, securing government subsidies and/or tax or other credits, securing legal assistance and/or representation for a project	3-6 months	Attorneys fees
Land	The physical location of a project	Do you have a lease contract or deed secured?	Securing the physical location of a project for exclusive use - may include securing clean title and/or negotiating lease or purchase rights	3-6 months	Lease fees
Community Relations	The relationship with the local population around and among the project site(s)	Does the community have ownership in a project in any way? How are you managing community relations?	Establish community ownership or participation in the project prior to build out	3 weeks to 9 months	Business development costs
Inputs	The inputs to a process or business	Do you have a contract signed for feedstock (diesel or biomass)? Do you have water flow/solar radiation/wind studies done to international standards? For how long?	Evaluating resources, identifying sources, gaining interest, and securing investable contracts for the key inputs to a business	3-6 months	Business development costs
Technology	The technology that transforms the inputs into the output	Do you have an invoice or contract signed for technology?	Identifying sources, gaining interest, and securing investable contracts for the transformative technology for a business	3-6 months	Business development costs
Offtaker	The organization or organizations that buy the outputs from a business	Do you have a contract signed to sell your output? How do you sell electricity?	Identifying sources, gaining interest, and securing investable contracts for the key outputs to a business	3-6 months	Business development costs
Risk Mitigation	The reduction of key risks to a project - financial, operational, geopolitical, etc	Do you have insurance contracts signed to cover all of your risks?	Identifying and securing risk mitigants which may include political risk, currency risk, market and/or commodity risk, construction risk, or several others	1-3 months	Project evaluation fees

Recruitment and Training	Recruiting and training workers and line management for the project	Do you have people by name identified to roll out the system? To manage the system?	Creating employee plans, securing 3rd party recruiting firm, securing workers	1-3 months	Project evaluation fees
Logistics	Getting equipment and feedstock into a business and getting outputs out to a business	Do you have a logistics company secured by contract to ensure that the equipment can come from port to site? How are you handling spare parts?	Creating logistical plans, identifying sources and methods of transport, negotiating with suppliers, and securing contracts with logistics firm(s)	1 month	Project evaluation fees
Engineering, Procurement, Construction	A firm that has the capabilities and track record to engineer, procure, and/or manage the construction of a project	Who will physically build the facility? Do you have an EPC or construction company secured by contract?	Identifying appropriate and investable EPC firm, securing interest, and negotiating contracts for EPC	1-3 months	Project evaluation, design, and construction fees
Operations and Maintenance	A firm that has the ability to manage the ongoing facilities of a project following construction	Who will run the facility to ensure it's maintained? What happens if the system goes down for some reason? Who's responsibility is it?	Identifying appropriate and investable FM firm, securing interest, and negotiating contracts for FM	1-3 months	Project evaluation fees
Bankable Feasibility Package	A comprehensive document describing the engineering and/or architectural details of a project	Have you completed your detailed design work for all sites?	Management of the appropriate resources in the creation of the BFP	4-6 momths	Design fees
Environmental Impact Assessment	A 6-12 month assessment of the potential negative impacts a project may have on the environment	Is your EIA completely completed and certificates issued for all locations?	Identifying appropriate and investable EIA firm, securing interest, and negotiating contracts for EIA	6-12 months	EIA fees
Predevelopment Financing	Financing to secure funds for EIA, Bankable Feasibility, project evaluation, attorney's and/or lease fees	Do you have predevelopment funds committed via contract?	Structuring financial needs for the project, Identifying appropirate sources, preparing presentations to sources, and securing predevelopment financing, managing financial controls and expenditures throughout the process	3-6 months	Project evaluation fees
Development Finance Institutions	Receipt of support from international development finance institutions to lend credibility to the business and its viability for success in country	Do you have a DFI secured via contract?	Structuring DFI plan, identifying and securing DFI relationships in support of plan, presenting plan, following up and answering questions, assisting with due diligence, and securing DFI support and funding	6-8 months	Project evaluation fees
Equity	Equity ownership in the company and/or the project(s)	Do you have equity investors secured through contract to fulfill all the needs of the project/project(s)? What type of return profile (IRRs) are you offering equity investors?	Identifying and soliciting equity investors, undergoing due diligence, executing investor contracts	3-6 months	Project evaluation fees
Debt	Debt in the project or company	Do you have lenders secured through contract to fulfill all the needs of the project/project(s)? What type of debt are you seeking? What timeframe and structure?	Identifying and soliciting lenders, undergoing due diligence, executing lender contracts	6-9 months	Project evaluation fees
Construction Financing	Financing secured once the project is able to put shovels into the ground to construct a project. This would be a combination of equity and/or debt	Do you have construction funds secured via contract? Are they coming directly from the investors/lenders or coming through another entity?	Structuring financial needs for the project, Identifying appropirate sources, preparing presentations to sources, and securing construction financing, managing financial controls and expenditures throughout the process	3 months	Project evaluation fees
Strategic Expansion and Sales	Replication of an existing project or offering in a locale outside of its origins or current location	Who are your local representatives on the ground in each of the locations you want to expand to? Do you have agreements with them?	Designing a plan to expand the current offerings to new locales, engagement with an international sales force, proactive exploration into a market, securing letters of interest, intent, and sales	ongoing	Business development costs
Exit	Sale of investor stakes in a project or company	Do you have a plan with your equity investors on how will your investors exit the business after what period of time and by what means?	Identifying targets and structuring entry and/or exit of investments	ongoing	Project evaluation fees

2 Example non-disclosure agreement (NDA)

Please note that this is just an example not to be construed as a substitute for legal advice.

CONFIDENTIALITY AND NON-DISCLOSURE AGREEMENT

This Confidentiality and Non-Disclosure Agreement (the "Agreement") is entered into as of _____;, (the "Effective Date") by and between _____;, a corporation having address at _____; ("COMPANY"), and _____ ("INVESTOR"), a corporation having address of _____ ("INVESTOR", and "COMPANY" jointly or individually denominated as "Parties" or "Party").

With the exclusive purpose of _____ between INVESTOR to COMPANY ("Purpose"), each Party has furnished or may furnish to the other certain information directly or indirectly relating to its business operations and such information is Confidential Information, as is defined below.

For the purposes of this Agreement, Confidential Information includes the following information, regardless of the form in which such information is communicated or maintained, that has been, is or will be disclosed by one party ("Disclosing Party") to another party ("Receiving Party") or its Representatives (as defined below): (i) all information related in any way to product, organizational, financial, and/or site location strategies and information, pricing policies, operational methods, and any other business affairs; (ii) all information related in any way to know-how, including but not limited designs or reports, methods, techniques, processes, samples, materials, prototypes, patterns, sketches, models, photographs, computer records or software, specifications; (iii) all data, notes, reports, analyses, compilations, studies, files, interpretations, forecasts or records, and any other written or electronically stored documents or material prepared by either party, which are based on, contain, refer to, reflect, or are otherwise related to Confidential Information; and, (iv) the Purpose, the existence of this Agreement and/or its terms and conditions.

The term "Representative" means any directors, officers, agents, employees and/or consultants of either party.

Parties acknowledge and agree that (i) all Confidential Information is and shall remain the exclusive property of Disclosing Party, and Receiving Party will not appropriate Confidential Information to its own use or the use of any third party; (ii) Disclosing Party shall have no liability to Receiving Party and any of its Representatives resulting from any use of Confidential Information by Receiving Party or any of its Representatives; (iii) Disclosing Party shall provide Receiving Party with such Confidential Information only for the period of time that will enable Receiving Party to achieve the Purpose.

Parties represents and warrants that any and all information disclosed under this Agreement shall be true, complete and correct as of the date of such disclosure, and shall not fail to state a material fact necessary to make any of such information accurate and/or not misleading. Parties hereby acknowledge that the achievement of the Purpose hereunder depends upon the disclosure of accurate, correct and complete information.

Any unauthorized disclosure or use, whether intentional or unintentional, of any of the other party's Confidential Information will be detrimental to Disclosing Party. Accordingly, Receiving Party shall:

- hold Confidential Information in strict confidence in a manner adequate to protect Disclosing Party's rights, and not to disclose to third parties, including, but not limited to, its subcontractors, employers and related companies, potential investors, successors and/or assignees. In the event that Receiving Party is strictly required by law to disclose any Confidential Information, prior to such disclosure, it shall (i) immediately notify Disclosing Party of such request and all the particulars related therewith so that it may seek an appropriate protective order and (ii) furnish only that portion of Confidential Information which is legally required;
- use Confidential Information only for the Purpose;
- disclose only such portions of Confidential Information to its Representatives as is strictly required for the Purpose and only to those Representatives who have a need to know the same and who have been informed at the time of disclosure of the confidential and proprietary nature of Confidential Information and of their obligations with respect thereto, and agreed in written to maintain the confidentiality of Confidential Information;
- indemnify Disclosing Party and hold it harmless for any breach of its obligations by it or any of its Representatives; and
- notify Disclosing Party immediately of any unauthorized disclosure or use of Confidential Information of which Receiving Party become aware and fully cooperate with Disclosing Party in any defense of its proprietary rights in Confidential Information.

Jointly created Confidential Information shall not be duplicated, reproduced, modified, changed distributed, and/or enhanced, in whole or in part, without the corresponding party's prior consent.

Confidential Information shall not be duplicated, reproduced, modified, changed and/or enhanced, in whole or in part, by Receiving Party, without Disclosing Party's prior written consent. At any time and within five (5) business days of the request of Disclosing Party for any reason whatsoever, Confidential Information shall be returned or destroyed, together with all materials, extracts or any reproductions prepared and based on it. Receiving Party shall confirm in writing any destruction of documents and materials.

This Agreement:

- does not create a relationship of –but not limited to- agency, partnership, joint venture between them nor grant the parties any right, title, interest or license in the other party's Confidential Information. Nothing in this Agreement shall be construed as an obligation of the parties to enter into any other agreement between them or prohibit the parties from using its own Confidential Information in any way, or providing the same or similar information to other parties and entering into agreements with other parties. Parties reserve the rights, in their sole discretion, to reject any proposal made by the other party and to terminate discussions and negotiations regarding the Purpose at any time. Further agreements between Parties, if any, shall be in writing signed by them.

- shall become effective on the later date of signature by parties and shall terminate three (3) years after such effective date; providing, however, that where this Agreement is incorporated in whole or in part to a further agreement signed by the Parties, the Agreement shall terminate three (3) years after the termination or expiration date of the agreement in which it has been incorporated. Notwithstanding the foregoing, Receiving Party will not be released from its obligations of confidentiality, non-use and non-disclosure, and the obligations to return or destroy documents and materials, until and unless (i) Confidential Information becomes a part of the public domain or (ii) Disclosing Party releases Receiving Party by written notice.

- is governed by the laws of _____ without regard to conflict of laws principles. Any action, dispute, controversy or claim arising out of or in connection with this Agreement shall be finally settled by arbitration administered by _____ in accordance with its Commercial Arbitration Rules in effect at the time of the dispute, by one arbitrator appointed in accordance with said rules. The arbitration shall be conducted in _____. The arbitration proceedings shall be conducted in the English language. All submissions shall be made in English or with an English translation. The arbitrator shall apply the laws of the _____, without reference to rules of conflicts of law or rules of statutory arbitration, to the resolution of any dispute. The award of the arbitrators shall be final and binding upon the disputing Parties, and either Party may apply to any court of competent jurisdiction for enforcement of such award in any jurisdiction where the parties may have assets. Except as may be required by law, neither a Party nor the arbitrator may disclose the existence, content, or results of any arbitration hereunder without the prior written consent of both Parties.

- is not assignable by the parties, and shall not be amended, except in writing signed by both parties. No failure or delay by Disclosing Party in exercising any right hereunder or any partial exercise thereof shall operate as a waiver or preclude any other or further exercise of any right hereunder. The invalidity or unenforceability of any provision of this Agreement shall not affect the validity or enforceability of any other provisions of it, which shall remain in full force and effect.

IN WITNESS WHEREOF, the Parties hereto have executed this Agreement on the respective dates set forth below by their duly authorized representatives.

Name: **Title:**

Name: **Title:**

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