

MONITORING & EVALUATION FRAMEWORK FOR OFF-GRID ENTERPRISES IN INDIA



ABOUT

Shakti Sustainable Energy Foundation works to strengthen the energy security of the country by aiding the design and implementation of policies that encourage renewable energy, energy efficiency and the adoption of sustainable transport solutions.

Intellectap is a pioneer in providing innovative business solutions that help build and scale profitable and sustainable enterprises dedicated to social and environmental change.

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Shakti Sustainable Energy Foundation commissioned Intellectcap Advisory Services to initiate a program to improve access to capital for off-grid enterprises in India. The program is using a multifold approach to improve access to finance for off-grid enterprises in India and comprises- provision of technical assistance services to off-grid enterprises and financial institutions, designing of an alternate financing facility and a framework to monitor and evaluate the financial performance, operating performance and impact achieved by the off-grid enterprises.

Lack of data with enterprises leads to incomplete evaluation by financial institutions and hence, restricted capital flow for the off-grid sector

BACKGROUND AND NEED FOR M&E

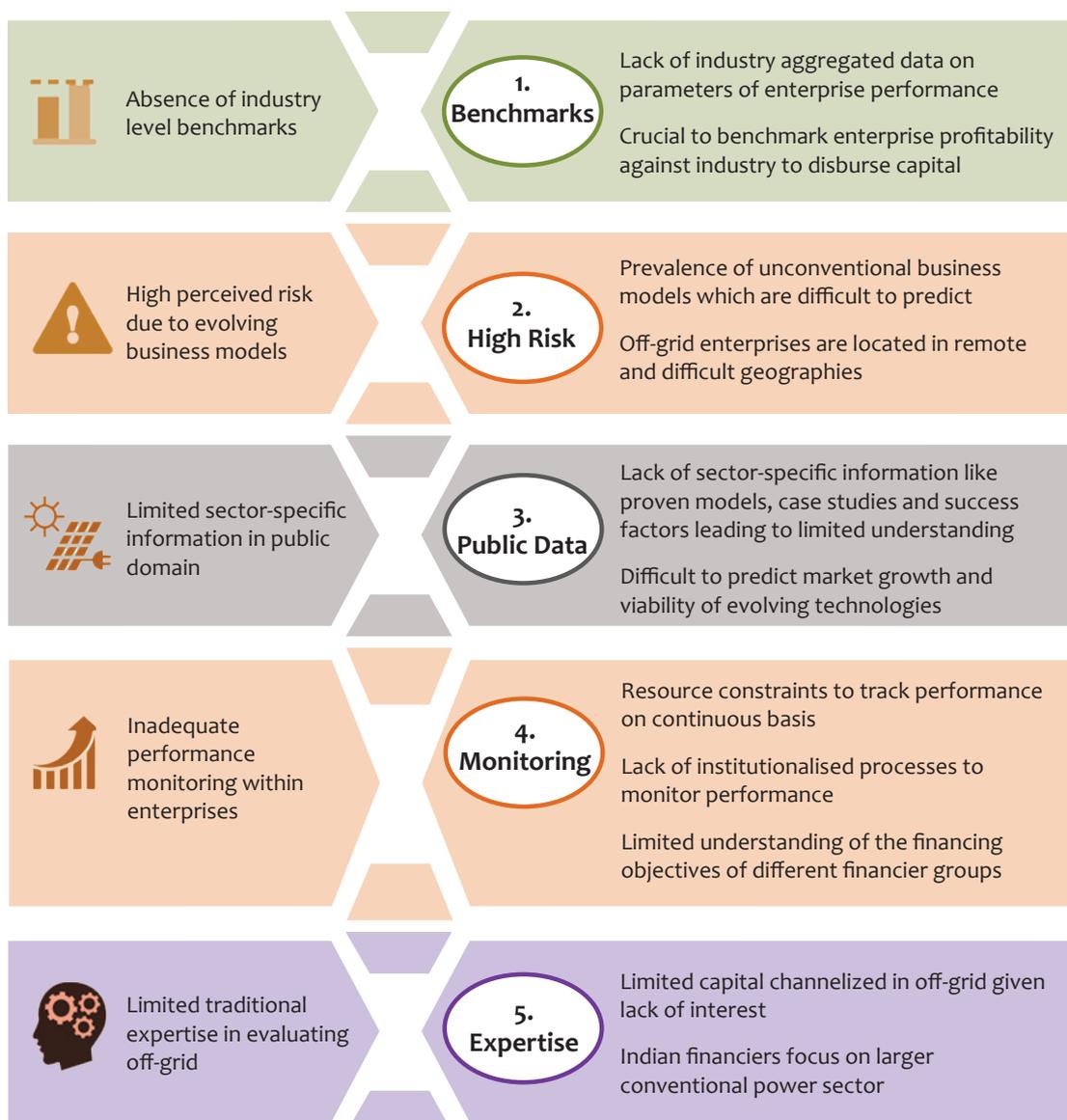
Monitoring and evaluation (M&E) acts as a true scale to measure performance of an enterprise. Off-grid enterprises are often faced with challenges related to raising capital. Besides issues related to lack of information with the promoters and perceived risks amongst the financiers, inability to engage in a contextual assessment further hinders their ability to raise capital. Standardized monitoring and evaluation framework can aid preliminary decision making for financial institutions while disbursing capital. Enterprises, on the other hand, need to track, monitor and report data on performance to engage in self-assessment and also report to investors. However, most early stage enterprises face challenges in reporting the required performance data due to limited on-ground operations. The issue is magnified when the investor also requires impact assessment to be reported on periodic basis.

Challenges facing M&E are myriad and are listed below-

- **Lack of standardized evaluation techniques**, metrics and benchmarks to measure, report and compare performance respectively in off-grid sector poses challenges in evaluating performance. Different categories of financial institutions require varying parameters and metrics to evaluate enterprise performance – banks look for cash flows and payment history; equity investors look for scalability based on unique value proposition; while grant funders are interested in impact created on ground to ensure effective utilisation of funds.
- **High perceived risks** amongst financial institutions due to presence of evolving business models in the space that are difficult to evaluate. The target markets and customers being served by off-grid are located in remote, rural geographies which are difficult to reach which makes financiers wary of investing in the sector.

- **Inadequate quality, real time, sector-specific data** on evolving technologies, demand-supply for various solutions, and expected future potential of the sector limits ability of financiers to evaluate off-grid enterprises while disbursing capital. Financial institutions have limited understanding of the nuances of the market, including viability of different technologies, implications of different business models and ways to assess future profitability of specific investment.
- **Insufficient understanding of the data to be tracked**, process to be adopted and methodology to be followed for tracking data at enterprise's end hinders their ability to engage in M&E. Further, there is lack of organisational processes and resources with enterprises to monitor performance on a continuous basis.
- **Inability of enterprises to measure comprehensive impact metrics** as required by impact focused financiers further adds to M&E related challenges. Second and third level impacts like those on overall quality of life, educational and health benefits of energy are particularly difficult to measure.

FIGURE 1: CHALLENGES FACED AND NEED FOR STANDARDIZING M&E



While challenges faced by financing institutions are critical as they hinder decision making, challenges faced by enterprises are even more important as lack of performance data from the enterprise can lead to incomplete evaluation by financing institutions. This, in turn, leads to limited capital being unlocked for off-grid enterprises. To overcome these challenges, a comprehensive tool for M&E in the off-grid sector has been developed.

Narrow and specific focus areas of existing evaluation tools point towards the need for a standardized assessment process for the industry

EXISTING EVALUATION TOOLS FOR OFF-GRID

The off-grid sector globally has seen several evaluation tools developed and launched to help assess enterprise performance. However, research revealed that the existing tools largely focus on specific, narrow objectives and do not aid holistic evaluation of an off-grid enterprise.

For instance, some of the tools studied as part of this program include –

- **RETScreen**, developed by the Government of Canada, evaluates the reduction in carbon emissions along with the savings linked to shift in spending on traditional fuels.
- **HOMER**, created by the U.S. Department of Energy, is geared towards technical assessment of micro-grids based on solar, wind, hydro or biomass.
- **PRISM**, developed by Intelicap, is primarily an impact assessment tool for the impact created by off-grid and other social enterprises present in India.

In light of this situation, an effective way to standardize the M&E process was to engage with stakeholders and understand gaps in evaluating and monitoring performance.

OBJECTIVE AND RELEVANCE OF A STANDARDIZED EVALUATION FRAMEWORK

M&E framework designed as a holistic evaluation tool relevant across enterprises and financial institutions

The M&E tool aims to provide a systematic approach for financing institutions to evaluate off-grid enterprises with the existing limitations.

The framework is intended to serve three key objectives:

- a) A framework for self-evaluation by enterprises
- b) Credit, investment and impact assessment tool for financial institutions and donors
- c) Industry benchmarks to compare enterprise performance

The tool is relevant across financier groups and can help find answers to the following questions for different stakeholders.

Lenders seek to assess the creditworthiness of an enterprise by evaluating –

- How attractive is the off-grid sector?
- How credit worthy is the enterprise?

Investors, aim to use the tool to evaluate the risk associated with the off-grid sector, sustainability and investment potential of the enterprise by assessing –

- What is the risk associated with the sector and solutions?
- Has the enterprise demonstrated growth and scalability?
- How investible is the enterprise being evaluated?

Grant makers like to see environmental and social impact to measure grant effectiveness and can use this tool to find –

- How to disburse and use grants more effectively?
- Does the grant distort/ enable the market?

Off-grid enterprises looking for self-assessment can estimate –

- What is the risk associated with the solutions being offered by the enterprise?
- What is the perceived risk of the geography of operation?
- How is the given enterprise performing as compared to the industry?

Given that most of the existing evaluation processes focus on constricted operational or financial evaluation, the M&E framework designed as part of this program has been developed as a standardized and holistic evaluation tool for the off-grid sector to be used across financial institutions aiming to invest/ fund off-grid enterprises.

APPROACH FOR DEVELOPMENT OF THE M&E TOOL AND M&E HANDBOOK

Mapping of evaluation processes across financiers aided in identification of most critical metrics needed to meet funding objectives

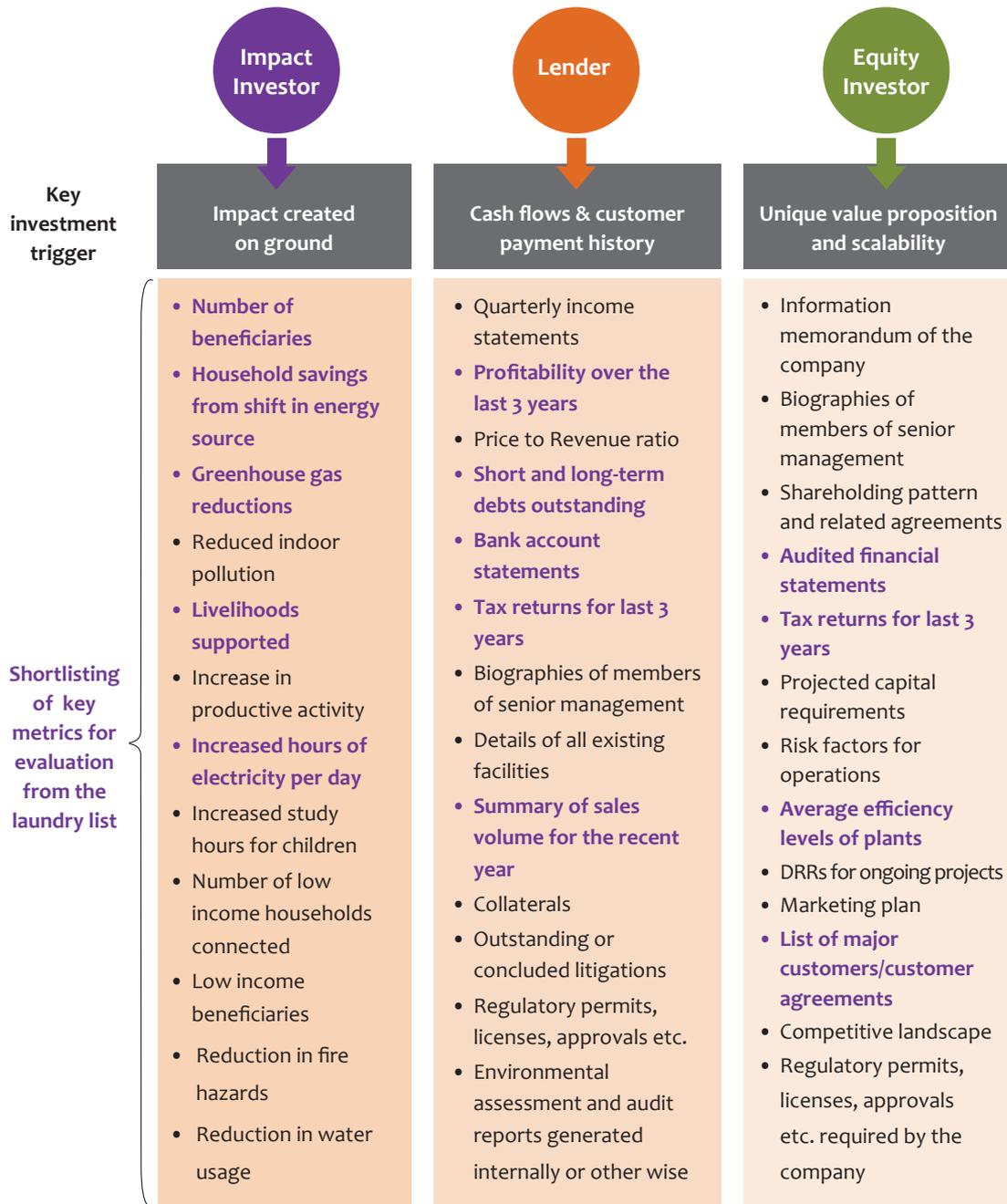
Initial research pointed towards the need for designing a standardized M&E framework for the industry along with principles of evaluation for financiers.

Appraisal and evaluation processes of different financiers were documented to reveal the lack of standardization in off-grid sector assessment. Stakeholders – including banks, NBFs, equity and impact investors – were engaged through meetings and telephonic discussions to understand the process adopted for appraisal and capital disbursement. This was critical in developing an understanding of the objective of each financier of lending or investing in the sector.

A comprehensive list of metrics was developed and analysed for relevance and criticality in off-grid evaluation. A matching and prioritizing exercise was undertaken based on ability of enterprises, availability of data points and key expectations of financiers to identify key

indicators for off-grid assessment. Guidelines on channelling resources to help enterprises track and record performance were also developed in the form of an M&E handbook.

FIGURE 2: SELECTION METHOD FOR SHORTLISTING PERFORMANCE METRICS



The key to prioritizing criteria for the evaluation framework were:

- Requirement for repayment of credit,
- Generate normal returns for impact investors, and
- Demonstrate necessary social and environmental impact for grant makers and donors.

The identified metrics were finalized through interactions with various financial institutions, industry practitioners, enterprises and other ecosystem enablers, and aggregated in an excel-based tool.

KEY FEATURES OF THE M&E FRAMEWORK

The shortlisted metrics have been aggregated in an excel-based tool that outlines a comprehensive process and has an associated logic built in for processing and analysing data inputs of an enterprise. It facilitates a context-based evaluation of off-grid enterprises that operate in difficult geographies and employ unique business models suitable to their rural and low income customer profiles.

FIGURE 3: USER INPUTS AND LINKED OUTPUTS GENERATED BY THE M&E TOOL



The key features of the framework are as follows –

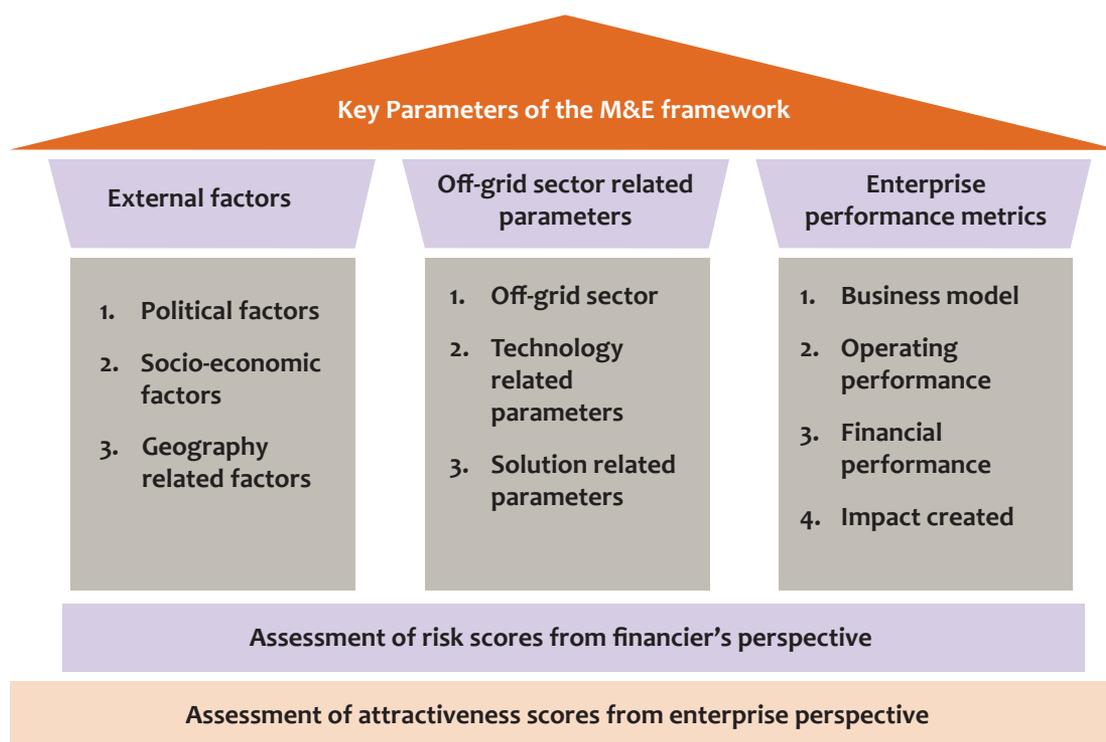
- An M&E framework relevant for both financial institutions and enterprises

- A tool with an easy to use interface and in-built intelligence for deriving insights.
- An interface developed to reduce data requirements from users and undertake assessment on sufficient number of in-built parameters combined with backend data to allow decision-making.
- Tool that provides enterprise assessment on external factors, off-grid sector related parameters as well as enterprise performance metrics.
- A monitoring handbook that lays down detailed guidelines for off-grid enterprises to monitor performance.

The contextual evaluation process ensures that parameters critical for financiers for assessment are covered while not placing an undue burden on the early stage enterprises to monitor and report enormous amounts of data given their operational limitations.

Three pillars/ dimensions are set forth by the framework to ensure a holistic evaluation by assessing risks across three critical areas covering both external as well as internal factors that might have a bearing on enterprise performance.

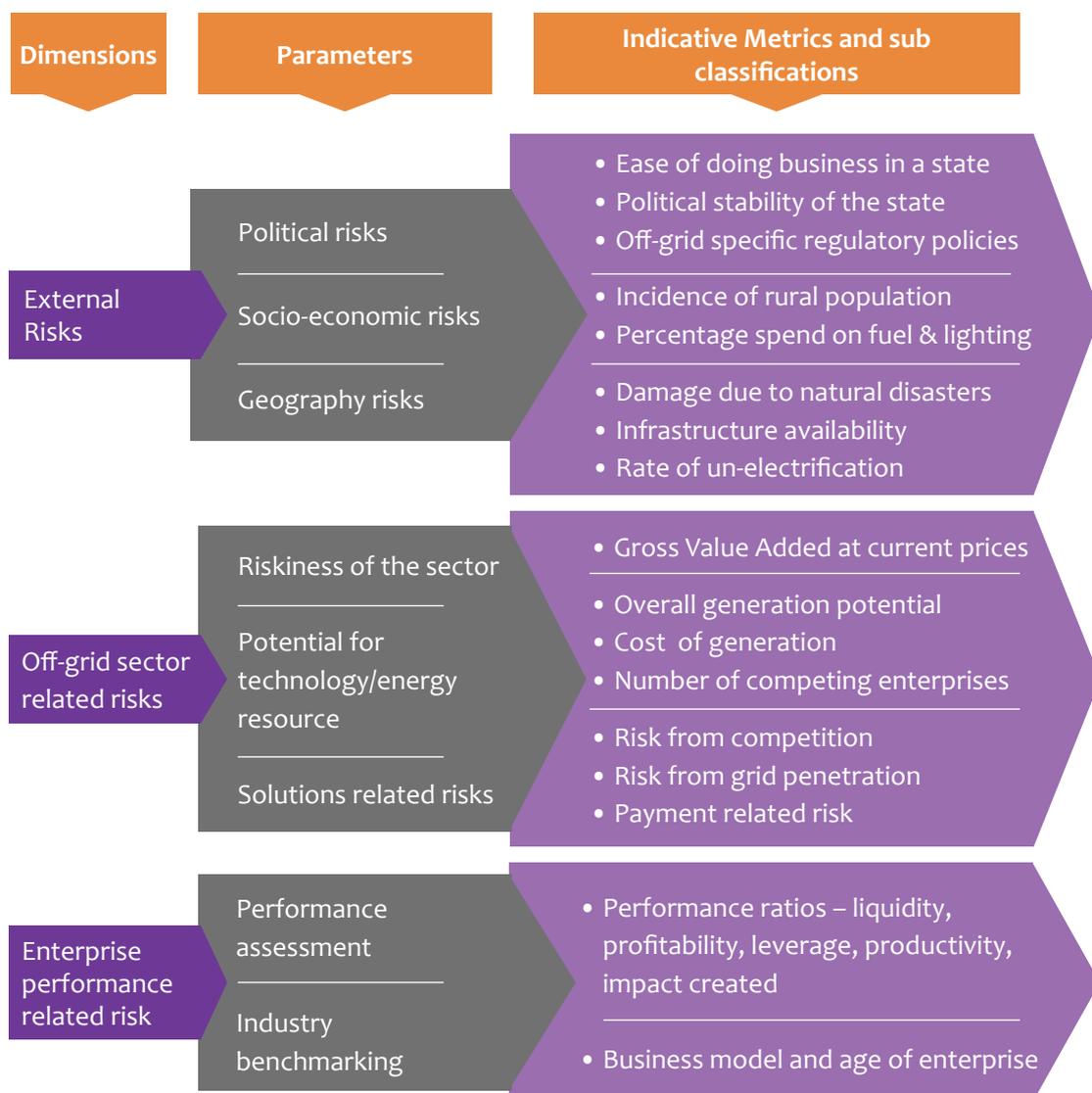
FIGURE 4: FRAMEWORK OF THE STANDARDIZED M&E TOOL



- **External factors** provide a view of the risks outside the control of an enterprise but with the potential of affecting business operations and are dependent on the geography of operations. This gives financial institutions the ability to comprehend the risks that might affect business operations and hence, impact their investments. The backend engine of M&E tool evaluates political risks associated with individual states, to assess the overall political suitability and stability for off-grid businesses. For instance, assessment of state regulatory policies, specifically renewable energy and off-grid specific policies indicates

the willingness and support of the state government to boost off-grid sector. The tool also takes into account the target market risks to evaluate risk associated with the customer segments in specific geographies. For instance, expenditure on lighting needs in low income rural populations as a percentage of total income helps in assessing the economic ability of consumers to spend on electricity and thus, the associated risk for off-grid solutions to operate in that market. Further, the tool estimates geographic risks associated with each state, given its topographical location. For instance, risk of occurrence of natural disasters signifies potential business interruptions contributing to losses and delay in investment recovery.

FIGURE 5: METRICS EVALUATED BY THE M&E TOOL UNDER THE THREE PILLARS



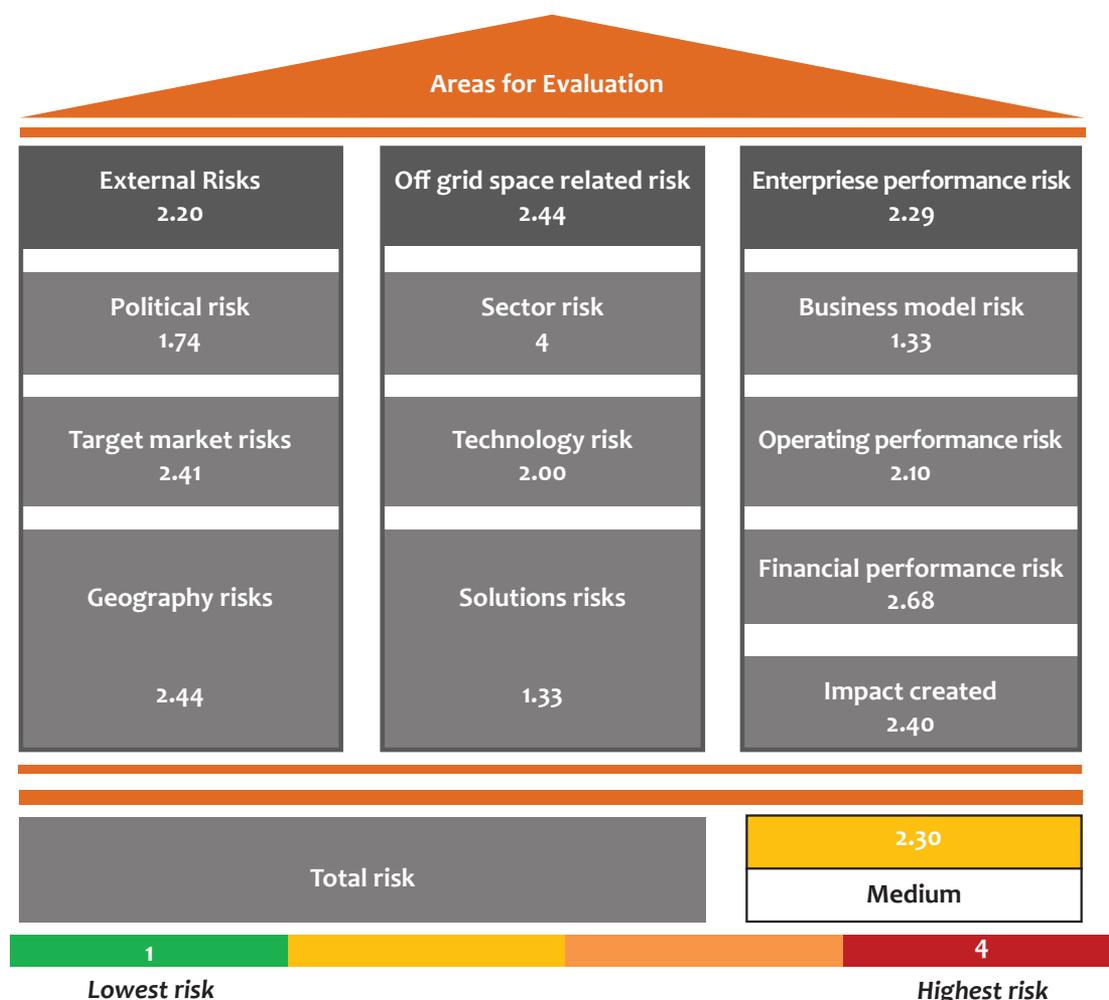
- **Off-grid sector related factors** assess the performance of the industry and individual solutions to evaluate the attractiveness of each offering. The sectoral parameters evaluate attractiveness of the off-grid sector compared to other sectors in India. The backend data comprises detailed risk related information on the expected potential for different renewable technologies such as solar, wind, hydro and biomass. It also comprises assessment of

different solutions like household systems, micro-grids and others in terms of repayments, cost of generation and competitive presence. For instance, grid penetration might have a high impact on the uptake of some off-grid solutions given that the tariffs charged by the central utility grid are much cheaper than the per unit tariff for most off-grid offerings.

- **Enterprise performance related factors** assess the performance of enterprises based on comparables. M&E tool analyses the financial and operational performance of the enterprise based on the data provided. The average benchmarks for critical parameters are calculated based on the available data on enterprises and deliberations with industry experts. Efforts to further strengthen the industry benchmarks across technologies and solution types will be continued as next steps of the program. Going forward launching the tool on a web-based platform will help in aggregating enterprise data on a wider scale and accelerate the creation of industry level benchmarks.

Each of the above three dimensions consist of parameters (as outlined in Figure 5) which are quantified and built as risk/attractiveness scores to assess the level of risk posed by an enterprise to assist financial institutions and enterprises in decision-making. M&E tool's internal processing engine generates individual risk scores linked to each parameter along with an overall risk rating.

FIGURE 6: REPRESENTATIVE RISK SCORES FOR AN ENTERPRISE AS INDICATED BY M&E TOOL



The toolkit also incorporates a few alternate evaluation metrics that can be used to assess performance given the general lack of traditional performance parameters with off-grid enterprises and aims to standardize data requirements for enterprise evaluation across financial institutions. For instance, the M&E tool uses total capacity of solar panels utilised in a given year to estimate the number of households connected or the total land area under installation for mini-grid players to assess the annual revenue.

FIGURE 7: SNAPSHOT OF THE EXCEL BASED FRAMEWORK FOR THE PROPOSED WEB TOOL

Inputs for evaluating external risks and off-grid enterprises

Users are required to provide details of the off-grid enterprise under evaluation on this sheet

Input details in the grey cells

User type	Lender
Assessment options	Complete assessment

Weightages

Parameters	Details
Name of the enterprise	

	State name	% Revenue contribution
States of operation and revenue share [Select names of states from the drop down in the grey cells]	Andhra Pradesh	10%
	Bihar	20%
	Uttar Pradesh	20%
	Maharashtra	30%
	Madhya Pradesh	20%

▶▶	Read me	Inputs	Results View-Financiers	Results View-Enterprises	Detailed report	State Risk report
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As next steps the tool aims to expand coverage of such alternate metrics to reduce the burden of monitoring extensive performance data, and also fulfilling evaluation requirements of financial institutions.

Limited ability of enterprises to track performance data deters evaluation by financiers and hence, limits capital channelization into the space. The tool standardizes evaluation process to the required extent across financier types and therefore, limits dependency on in-house expertise traditionally used for potential investee/ borrowers.

The framework also provides guiding principles to undertake M&E for off-grid enterprises by way of a monitoring handbook developed along with the toolkit. The handbook provides detailed questionnaires and reporting formats to ease the monitoring process for enterprises, along with guidelines to help institutionalize the monitoring process across off-grid enterprises.

A standardized framework comprising an excel-based evaluation toolkit along with a monitoring handbook designed for contextual evaluation of off-grid enterprises.

FIGURE 8: MONITORING HANDBOOK FOR ENTERPRISES

Basic M&E steps for early stage enterprises

- 1 Track basic financials and operational details from Day 1 of business operations
- 2 Train field staff in monitoring impact during field visits
- 3 Plan to monitor direct impact metrics by allocating additional responsibility to existing field staff
- 4 Design standardized data collection surveys to collect data from field
- 5 Develop reporting formats to collect all data in one format across the organization
- 6 Plan field visits and collect data on a regular basis
- 7 Evaluate performance annually from the data collected
- 8 Develop internal report for yearly performance that can be used when approaching financial institutions

Pilot trials with enterprises and financiers helped gather feedback and strengthen the framework

It is an effort to help enterprises in collecting better and more meaningful data as a proof of business growth and performance. Effective monitoring will allow financial institutions to undertake detailed evaluation of enterprises, facilitating capital flow in the sector.

Additionally, the M&E tool was taken through testing and validation by conducting pilots with off-grid enterprises and financial institutions to gather feedback on ease of use, applicability of the tool for making strategic business

decisions and logic used by the tool to estimate impact.

An M&E roundtable was also conducted in New Delhi in November 2016 to introduce off-grid enterprises to the tool. The roundtable was used as a forum to assess relevance of data requirements of the tool and gain wider acceptance for the framework in the industry. Key highlights of the pilots conducted with stakeholders are as follows:

Lender 1: From a lender's perspective, financial data analysed by the tool can be limited only to month-on-month financials for the last 1 year with focus on revenue and expenditure heads

- This will ease reporting for early stage enterprises who do not have 3 year financials or small enterprises who are unable to track detailed financial numbers

Enterprise 1: Analysing the depth of impact created by an enterprise is more important than assessing the breadth of impact

- For instance, an enterprise may be present in 500 villages and providing solar lanterns while another enterprise operating in only 100 villages but providing livelihood supporting appliances along with lighting and impacting more lives

Enterprise 2: It would be useful for the tool to suggest names of potential enterprises to invest in/ lend to along with the final risk score

- This is because financiers are unaware of all enterprises operating in the sector making it difficult for smaller enterprises to access finance

As next steps the program aims to conduct pilots with additional enterprises and financial institutions to refine the tool in line with stakeholder needs and expectations.

WAY FORWARD

In its current form, the tool captures key metrics that are in line with requirements of a lender, investor or a donor and calculates a comprehensive risk/attractiveness score and serves as a platform for enterprises to assess itself and suitability of its business decisions. In addition, the monitoring handbook that is developed serves as guidance material for off-grid enterprises trying to institutionalize a monitoring and evaluation process for its work and report data on a regular basis.

Transition of the M&E tool on a web-based platform will result in wider reach and more pointed analysis

As next steps, program intends to evolve the M&E tool into a web based platform for wider reach and accessibility along with additional capabilities for deeper and pointed analysis. The key activities proposed to be undertaken as next steps of development are –

- Review of the excel-based tool with additional enterprises and other stakeholders
- Finalize the tool based on feedback and inputs received from enterprises and financial institutions
- Launch of finalized M&E tool
- Build a technology-based platform for large scale access of the M&E tool, to aid in generating real time data for benchmark creation

Going forward, the objective of the initiative is to develop the framework as a go-to tool for enterprises/corporates planning to enter off-grid markets and for all types of financing institutions willing to explore the sector for capital and funds deployment.



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