

BLUEPRINT FOR AN OUTCOMES FUND IN OFF-GRID CLEAN ENERGY

Pushing the boundaries of high impact
businesses with next generation

Results-Based Finance



ABOUT ROOTS OF IMPACT

Roots of Impact is an impact finance advisory firm working with public funders, philanthropists and impact investors globally to finance private sector innovations and enterprises with strong potential for positive impact. The team is specialised in all aspects of innovative and blended finance that unlocks capital for the benefit of people and planet. Roots of Impact designs and implements funding and investment models that fairly balance risks and returns and provide impact-aligned incentives.

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The Swiss Agency for Development and Cooperation (SDC) is the agency for international cooperation of the Federal Department of Foreign Affairs (FDFA). The SDC is responsible for the overall coordination with other federal authorities of development and cooperation with Eastern Europe as well as for humanitarian aid delivered by the Swiss Confederation.

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Acumen is changing the way the world tackles poverty by investing in companies, leaders and ideas. We invest patient capital in businesses whose products and services are enabling the poor to transform their lives. Founded by Jacqueline Novogratz in 2001, Acumen has invested more than \$114 million in 109 companies across Africa, Latin America, South Asia and America. We are also developing a global community of emerging leaders with the knowledge, skills and determination to create a more inclusive world.

Lean Data is a customer-centric, technology-based approach to impact measurement created by Acumen. It was built to help Acumen, its investees and clients more effectively listen to customers in order to better understand social impact and to capture actionable customer insights at a fraction of the cost and time required by other approaches. Lean Data is now working with more than 30 leading impact investors, corporations and NGOs - including the Gates Foundation, CDC, Omidyar Network, Global Partnerships and CeniARTH - to help them understand their social impact.

OVERVIEW

- Executive Summary..... 5
- 1. Introduction.....7
- 2. The proposed outcomes fund: proposed characteristics and design.....9
- 3. Facility processes and enterprise selection.....13
- 4. Impact tracking and transaction structuring.....16
- 5. Potential instruments..... 25
- 6. Investment strategy and incorporation of technical assistance.....31
- Conclusion..... 33
- Appendix.....34



ACKNOWLEDGEMENTS

We would like to share our appreciation for the support of actors who made this blueprint possible:

The Swiss Agency for Development and Cooperation who provided the funding for this work and supports many other efforts for private sector engagement and effective use of development finance.

The Lean Data and Energy teams at Acumen have provided numerous insights, much guidance and further support along the way.

And finally, thank you to all of the contributors who have supplied us initial input, perspectives and feedback (see list in appendix).



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EXECUTIVE SUMMARY

Despite the success of a number of private companies in the off-grid energy market, the profitability of this sector varies greatly, and its investment attractiveness is mixed. One major challenge is that it is not always commercially viable to extend off-grid energy solutions to the poorest, hardest-to-reach customers; therefore, addressing commercial attractiveness is critical to unlocking the potential of private sector clean energy initiatives for the poor.

We believe this challenge can be overcome by creating a direct economic incentive for reaching these markets with off-grid solutions and creating significant value for these communities. In this report, we outline a blueprint for an outcomes fund that incentivises positive impact for last-mile distribution and catalyses greater private investment in underserved energy markets.

The core premise of this outcomes fund is both simple and powerful: the fund tracks social outcomes for the customers these companies are trying to reach, using these outcomes as a basis for payments to the companies serving them. In this way, the fund ensures that organisations are rewarded for the quality of results they produce for their customers. This contrasts with current output-based models which focus on promoting the supply of products, instead of

placing the emphasis on the end-customer's welfare.

Moving the emphasis away from supporting specific products to rewarding companies for producing customer-focused outcomes will allow for greater flexibility in generating the desired results. In doing so, the outcomes fund promotes a bottom-up approach where enterprises can follow strategies more closely aligned with their own development plans.

The facility design includes a system to track customer outcomes, and then makes payments linked to these outcomes. This requires a robust capacity to measure and manage social impact, and in this blueprint, we use the Lean Data approach spearheaded by Acumen for impact measurement. Lean Data has a tested and affordable means of generating the necessary data in off-grid clean energy.

Setting the appropriate level of incentive is a major design challenge for this fund. Outcome-based incentives should be used to attract fresh investment or to deepen the impact of investments already made in commercially viable enterprises.

To define the appropriate incentive levels and maximise the efficiency of the fund, Roots of Impact and Acumen have tested a context-sensitive mechanism to ensure appropriate

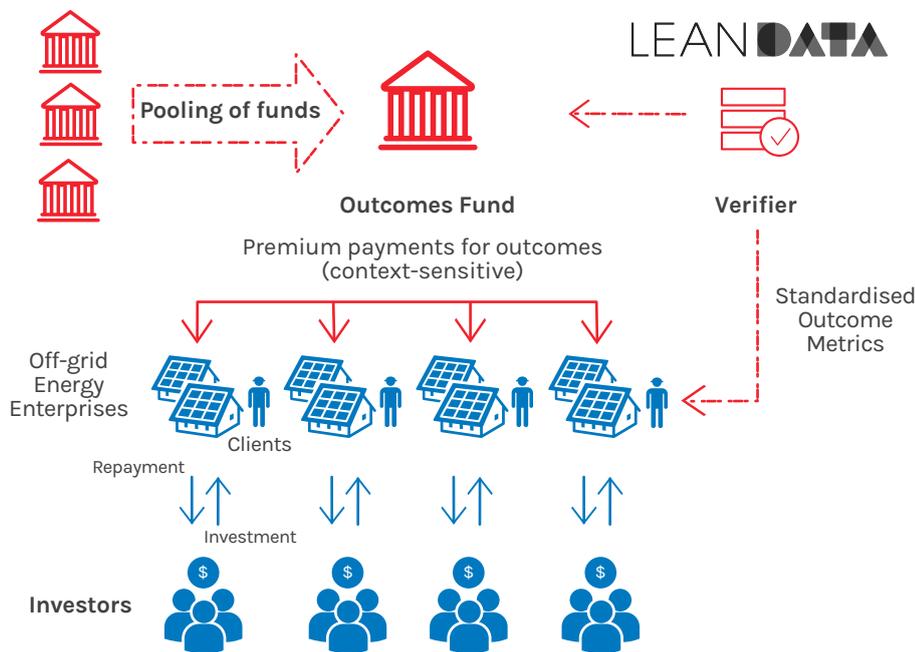


incentivisation for a range of enterprises. Instead of focusing on cost as the primary factor in determining the level of incentives offered, we include further variables as a basis for outcome-based incentives.

The iterative process within the fund will serve as its own refinement mechanism, whereby a track record of deals will result in the production of more and better data. This, in turn, will allow the fund to increase the accuracy with which it calculates and interprets the data and sets appropriate incentive levels over time.

The fund permits enterprises to plan and rely on certain volumes of cashflows stemming from their penetration into poorer markets, doing so in a way that appropriately rewards them for providing reliable services to these customers. The ultimate objective of the fund is to establish appropriate incentives to reward those entrepreneurs and investors who push the boundaries of pro-poor, off-grid energy supply.

Figure 1: Overview of the Outcomes Fund





1. INTRODUCTION

Traditional approaches to closing the energy gap, which involve large-scale, grid-based power, are either not working or not working fast enough for those who need these services most. Worse, much of these efforts are often not focused on using clean energy sources or, where they are, are not necessarily grounded in market-based solutions.

While energy access was omitted from the Millennium Development Goals from 2000, Sustainable Development Goal 7 focuses on ensuring access to affordable, reliable, sustainable, and modern energy for all by 2030. One of SDG 7's additional objectives is doubling the share of global energy generated by renewables. This represents significant progress.

Achieving these goals, however, will require a step change in investment. The World Bank estimated in 2013 that a quintupling of current investment to a total of \$45 billion a year is needed (World Bank 2014). To make this happen, we need tailored investment solutions that look more holistically at both financial and social performance.

Strong collaboration between all stakeholders and innovative, market-based solutions will be necessary to attract the desired levels of investment. [Private sector enterprises providing clean energy solutions often struggle](#)

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We work in tough business environments which makes access to finance much more expensive. We can generate objectively valuable impact on the one hand; but on the other, it is difficult to generate a big margin. Outcomes funding would help to bridge that gap and make the company more scalable.”

Ruben Walker, Commercial Director, Africa Clean Energy

[to incorporate social and environmental considerations, thanks to the all-too-real pressures of profitability and investability.](#) Our collective challenge is to find ways to support the growth of these companies with private investment while doing so in ways that promote sustainable development and optimise impact – particularly in last-mile distribution.

Our belief is that there is significant potential to use public funds to directly reward the achievement of social outcomes.



The outcomes fund we propose does just this by supporting private companies in the off-grid energy sector using a blended finance approach that leverages donor funding to catalyse private investment. In its current design, the fund monetises positive outcomes, meaning that donor funding is released only when enterprises achieve specific, measurable social outcomes. This income stream is an additional source of cashflow for these companies, serving to improve the attractiveness of these companies to outside investors.

But catalysing investment is only a means to an end; the overall objective is to greatly increase the equitable and sustainable distribution of clean energy solutions through rewarding a focus on generating the best possible outcomes for end customers.

This abridged report is based upon a more comprehensive feasibility study commissioned by the Swiss Agency for Development & Cooperation (SDC).¹

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The ultimate objective is to establish incentives to reward the entrepreneurs and investors willing to push the boundaries of pro-poor off-grid energy production.”





2. THE PROPOSED OUTCOMES FUND: DEFINING CHARACTERISTICS AND DESIGN

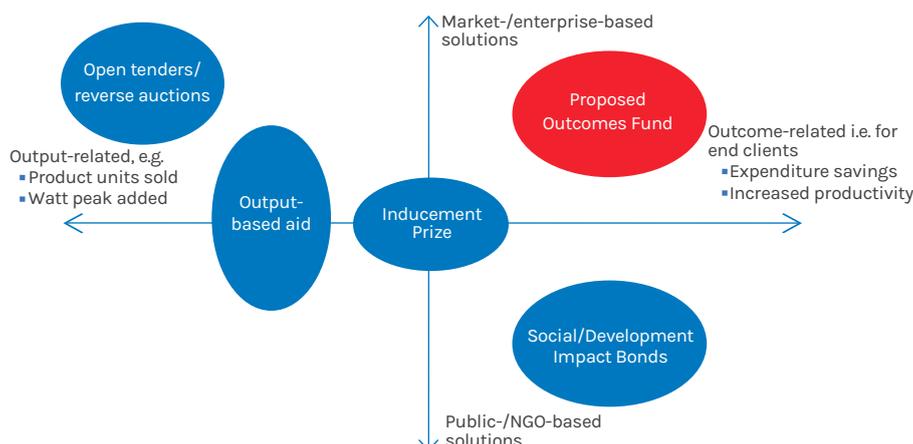
A large number of actors already provide a range of support in the solar sector (see, e.g., SIDA 2015). This support has improved clean energy supply for many, but there are still shortcomings, particularly around market-based provision of services to last-mile households. An outcomes fund provides funding based on results and can be directed to address this gap. It therefore falls under the umbrella of ‘results-based financing’ (RBF).² In order to understand the potential benefits of the proposed outcomes fund, we assessed other RBF approaches to describe the distinctive characteristics and benefits of the proposed approach. Here we provide a summary of differentiating features before highlighting some key design implications.

2.1 OUTCOMES FUND CHARACTERISTICS

While the proposed outcomes fund shares attributes with other funding approaches, **its configuration and operational focus, when compared to other RBF mechanisms, differentiate it from the predominant output-based approaches.**³ The chart below illustrates the positioning of the proposed outcomes fund against other RBF approaches currently in use according to their output/outcome focus and their market or public sector utilisation.

As the off-grid clean energy sector is primarily based on the provision of services by private sector actors, we have positioned

Figure 2: Positioning of the proposed outcomes fund, compared to other RBF approaches





our facility accordingly. Some of the characteristics that make an outcomes focus advantageous are:

■ **Comparability:** Output-based models are usually designed around specific products and have payments based on established operational targets (e.g., sales figures or number of households reached). While this provides some basis for comparing different projects using similar products, these metrics lack information on the actual outcomes generated. Thus, the capacity to compare the effectiveness of projects remains limited. [Tracking and using outcomes as a basis for payments means that organisations providing a diverse and expanding range of products can be judged on the quality of the results they produce for their customers](#), and these results can be compared across projects.

■ **Shift from supply to demand:** When financial mechanisms use output metrics as a basis for providing payments to enterprises, the emphasis is on ensuring the supply of goods to a specific market. But that does not say much about whether the end customers are satisfied with those products or whether the products themselves are the most appropriate. [The shift from a supply perspective to a demand perspective increases the significance of the customer's position](#), while simultaneously leaving products and services more responsive to conditions on the ground and to innovations in the sector generally.

■ **Pre-definition vs. alignment of interests:** One challenge is to balance an established definition of targets with both the flexibility

“**With an outcomes fund, the onus will be on enterprises (with their investors) to produce strategies which are in line with their own development plans (bottom-up approach), and which fulfil the development mandate of the facility. With a focus on outcomes, enterprises have greater flexibility in determining how best to generate the desired results.**”

to allow enterprises to shape their own targets and for these targets to evolve over time. In most RBF initiatives, the payment metrics are decided upon in advance, are output based, and are fixed⁴. Such schemes can skew an enterprise's development and cause misalignment with the enterprise's strategic plan as well as with its investors. With an outcomes fund, the onus will be on enterprises (with their investors) to produce strategies which are in line with their own development plans (bottom-up approach), and which fulfil the development mandate of the facility. With a focus on outcomes, enterprises have greater flexibility in determining how best to generate the desired results. Individual transactions also provide more opportunity to reflect changes in business conditions (which would otherwise be challenging when, for example a company



receives blanket subsidies or has a reverse auction with a winning bid).

2.2 TRADITIONAL AND NEXT GENERATION RBF

The outcomes fund we propose here is part of a move away from traditional, results-based finance, and toward next generation models (e.g., World Bank 2018). This change is being motivated by a greater emphasis among development and philanthropic funders on engaging with the private sector and in particular on seeking to catalyse higher volumes of private investment. This new wave of approaches vary case by case, but they share four key characteristics:

“

RBF has worked quite well, better than we had anticipated. The private sector likes it because they have more flexibility compared to grant-based projects and it lowered the financing risk. It's not like a loan that they start paying interest on and then maybe something doesn't work. It's a lot more flexible and supplement the unforeseen cost as they try to figure out how the market works and how to get things to move and accelerate.”

Josh Sebastian, Sector Leader - Energy, SNV

Traditional RBF approaches	Next gen RBF approaches
Indirect focus on impact through support for pre-defined products or services	Direct focus on impact by incentivising material outcomes for households
No link to investment	Strong link to investment (leverage/scaling)
Payments based on verified output (e.g., units sold in a respective region, peak watt created)	Ongoing payments over a period of time based on verified outcomes (e.g., increase in household income)
Focus on the results to be created rather than the organisations to deliver it (often favours cheapest option)	Focus on optimising impact models of organisations, their sustainability and framework conditions



2.3 FACILITY DESIGN AND IMPLICATIONS

Over the course of our research, we were able to identify a number of components which have concrete implications for the design of the outcomes fund. We highlight the most significant of these here and the corresponding design implications:

Issue	Summary	Design Implications
Metric selection and verification	Funders are concerned with the reliability and representativeness of data that trigger payments; however, bespoke indicators can sometimes be too costly to implement.	Design indicators that balance the costs and feasibility of data generation and verification while remaining robust.
Comparability of transactions and impact metrics	It is important to keep the facility open to as many potential actors as possible.	Ensure a context-sensitive approach that still allows for the comparability of like indicators across different transactions.
Impact incentivisation	The facility should be integrated into the overall process of refining impact incentivisation by incorporating increasing levels of precision over time.	The fund will have a pipeline of deals within the facility leading to a track-record that serves as the basis for pricing, and the facility will seek out others working in the sector to integrate lessons on generating cost-effective results.
Value chain optimisation	It is necessary to optimise the net impact on the entire value chain, especially where imbalances of power exist.	Ensure that power imbalances are incorporated into the overall design and promote improvements across the entire value chain.
Enabling an investors exit	The facility has to be designed to be able to facilitate an investor's exit or securing of financial return for investors.	Incorporate structures that enable investors' exit through the enterprises rather than through other channels in order to catalyse investment even in challenging contexts.



3. FACILITY PROCESSES AND ENTERPRISE SELECTION

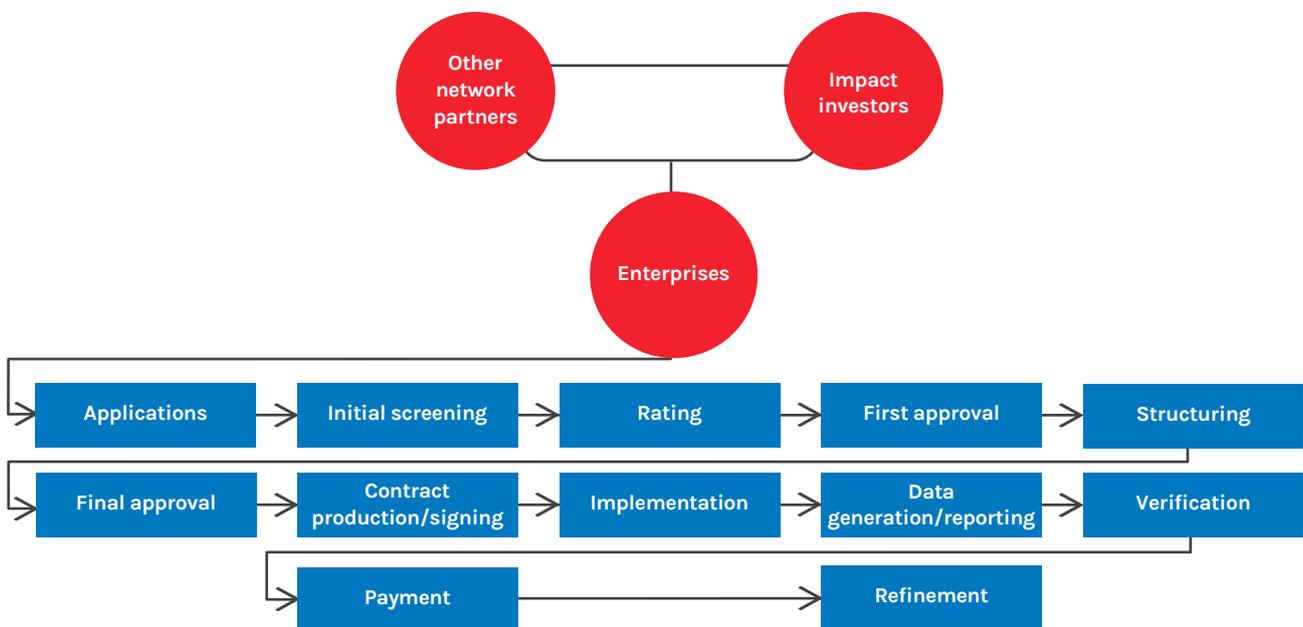
The outcomes fund will pool and manage capital from various funders, while disbursing it to a number of enterprises. We outline the enterprise application and selection process as well as the subsequent operational steps below.

must be a robust pipeline of applicants and a steady stream of funders interested in supplying an ongoing source of capital. This matching of supply and demand for the outcomes funding is essential for its success. The initial process structure of the facility can be seen in the following diagram:

3.1 FACILITY PROCESSES

For the fund to achieve its objectives, there

Figure 3: Process for enterprise applications and selection



Enterprise applications will first go through an initial screening, and those that meet the basic requirements will then be rated using a standardised scorecard. The fund will then engage with the organisations that receive the best ratings in order to structure a transaction

for final approval. Once the contracts are signed, implementation can begin with outcomes data being generated and reported. Finally, there is a verification process for the results, and payments are disbursed thereafter in predefined instalments over the



period of the intervention.

There are continuous feedback loops relating experiences from implementation back into the earlier stages to refine the screening to structuring processes.

3.2 ENTERPRISE SELECTION

The application is a standardised form to ensure comparability, and enterprises are scored against five criteria. This enables comparison of different enterprises, even if they are servicing different markets with different products in different ways. The range of products to be considered is intentionally left open, as we are more interested in the development outcomes than the solution delivering them.

The five categories in this scorecard are:

1. Additionality: How effectively would the proposed outcomes-funding stimulate the type and scale of outcomes envisaged by an applicant, and how much would it leverage private investment? Additionality relates to the idea that the investment catalysed and outcomes generated would not have occurred had the funding provided not been present. It also relates to cases where the outcomes would not have occurred as quickly or as well.

2. Impact scalability: How much would the outcomes-funding component increase the potential breadth and depth of an enterprise's impact? This includes an assessment of the projected influence the investment will have on the enterprise itself, whether by enhancing its potential to generate impact, by allowing it to operate

more efficiently, or by generating greater outcomes for the same level of investment (e.g., through increased economies of scale).

3. Enterprise impact model: To what extent is the overall impact of the enterprise explicit and internalised? By overall impact, we include that impact which is generated through how the enterprise operates (e.g., employee conditions, ecological footprint, gender balance, etc.). Most significantly, there should be a clear roadmap to assess and monitor how overall impact is generated and measured.

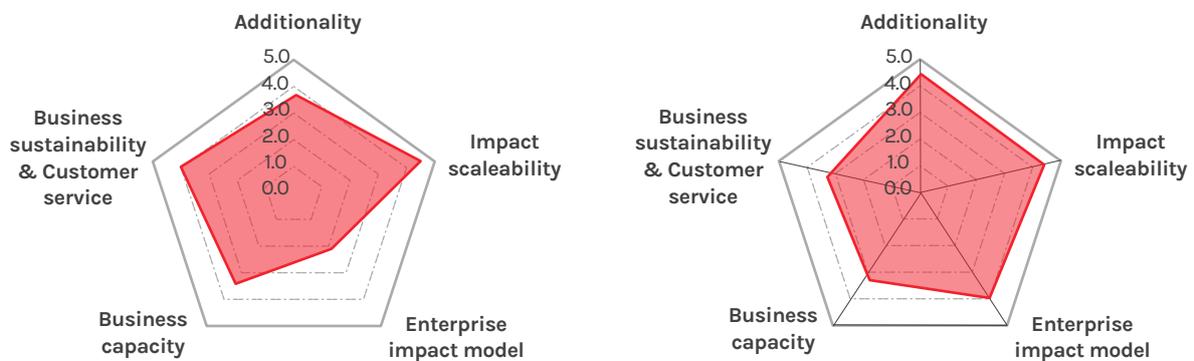
4. Management team: How strong is the management team? Their business capabilities, levels of relevant knowledge, and experience will influence implementation and the probability of success. This affects whether the enterprise operates effectively and advances the local and regional status of the off-grid industry.

5. Business sustainability and customer service: Finally, what is the enterprise's operational track record in providing efficient, effective, high-quality, and responsive services to its existing customer base? We consider financial track record in this category in order to estimate the probability of the enterprise succeeding commercially and being able to operate sustainably at scale.



The scorecard produces a summarised table of results to facilitate comparison. The selection criteria can be calibrated to meet the requirements of the funders' mandates. Two contrasting examples are displayed below, while the question as to which enterprise should be incentivised is left open.

Figure 4: Scorecard comparison between two companies





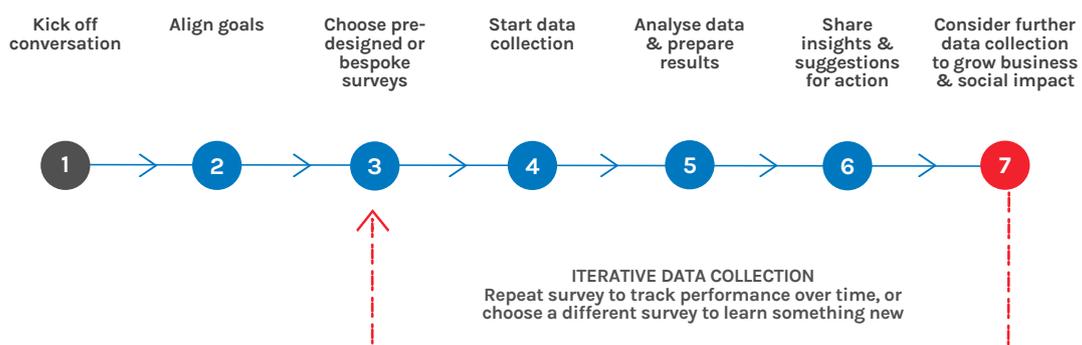
4. IMPACT TRACKING AND TRANSACTION STRUCTURING

The cost-effective tracking of outcomes data to be used as payment triggers is a crucial concern for outcome funders. The two subsequent sections focus on how payments are triggered within the fund. Importantly, these are fund internal procedures and not communicated to the applicants or the public to avoid over-complication. The two processes are: (1) Calculating the projected level of outcomes through ‘impact points’; and (2) Building a process to assess the value for money that these points represent. Thereafter, we look at the enterprise view of the facility (i.e., what will enterprises have to deliver in order to receive their outcomes-based payments).

4.1 DATA GENERATION

Current practices in impact measurement are still evolving – in particular when this data is used for results-based finance. Genuine end-consumer data that truly help to understand social value are few and far between. [Lean Data, created by Acumen, is helping multiple funds and firms in this sector to gather better outcomes data, directly from end users](#) (see Dichter et al. 2016). To date, the Lean Data team at Acumen has worked with more than 120 social enterprises to conduct over 200 Lean Data projects, refining their processes and establishing benchmarks across outcomes in off-grid energy as well as in other sectors.

Figure 5: The Lean Data data collection process (Source: Acumen)





A majority of Lean Data projects use simple, remote survey tools (phone calls, SMS, online and interactive voice response (IVR))⁵. The application of these technologies allows for swift project delivery times, usually between six and eight weeks, with little or no compromise on the quality of data collected.

Lean Data-type approaches thus represent a tested and feasible means of generating the data necessary for an outcomes fund in off-grid clean energy.

4.2 FACILITY INTERNAL: IMPACT POINTS, VALUE SCORING & INCENTIVE LEVELS

The theory behind the outcomes fund is that it has the potential, through better targeting of resources, to allocate capital more efficiently than output-based aid or traditional grant-making.

To operationalise this principle, we need a refined process to estimate both the potential impact of an application as well as the value that that impact represents. To do this successfully, we must find a way to level the playing field for all potential applicants, so that resources are allocated towards potential impact and there is no preference for organisations at a particular stage of development or for ones operating in particular contexts. This opens up the possibility of supporting local enterprises that would otherwise be difficult to justify funding for (if, e.g., basing all decisions purely on the cheapest option or on a fixed price).

We thus developed a set of functions which were simulated using anonymised data from actual enterprises and which involve two steps to calculate the *impact points* and

impact value rating. These processes are ‘facility internal,’ meaning that the enterprises will not need to be aware of the various functions and systems running within the facility. A streamlined and simple user interface is described in the subsequent section.

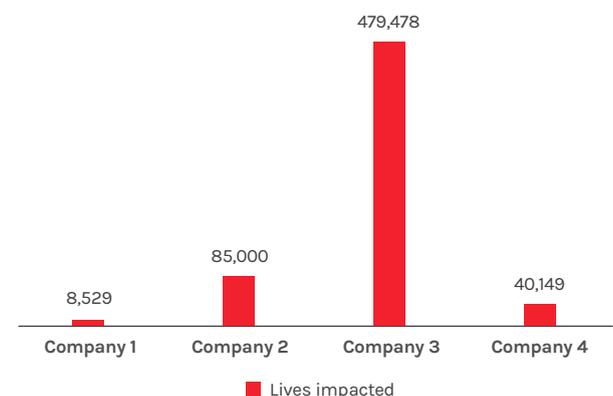
4.2.1 Impact points

Impact points are an effort to capture exactly how much impact, and with what quality, an organisation has generated in a certain market.

We calculate this measure of quantity and quality of impact using three variables that together result in the number of impact points that could be generated. To calculate impact points, we consider:

■ **Lives impacted:** We calculate breadth of impact using company sales figures. Typically, we multiply the sales figures by a household size multiplier based on national averages. (NB: We only had total cumulative company figures available, a further option is to look at sales in an individual year only).

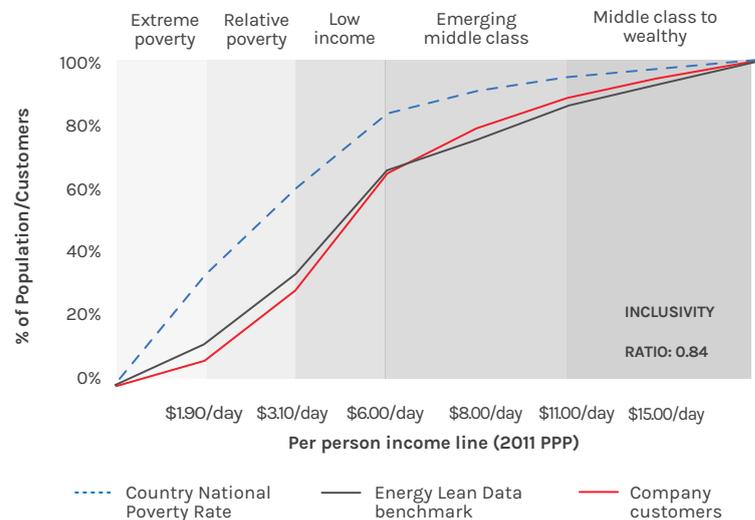
Figure 6: A comparison of lives impacted, (👤👤) across four companies (Source: Acumen)





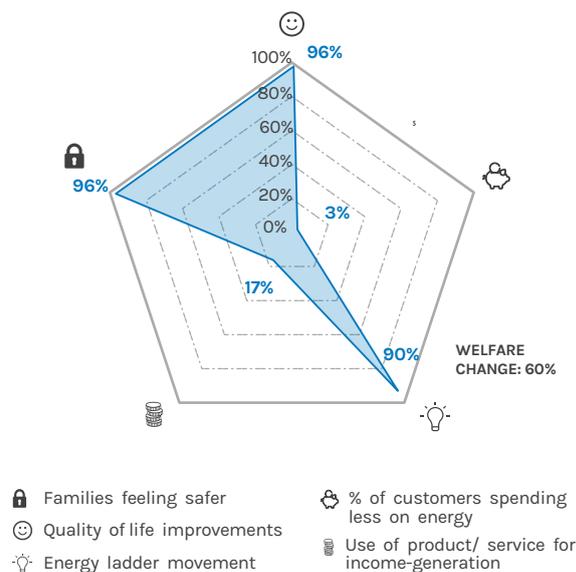
■ **Inclusivity ratio:** The inclusivity ratio is determined by calculating the difference between the proportion of customers at various income levels reached by the company (data gathered by Lean Data), in comparison to the general population of the country in question. This ratio may be less than one if the company is serving proportionally fewer people at lower income levels relative to the population in the country; or greater than one if the company is serving proportionally more low-income people than the country (or regional) average. This ratio can be weighted more heavily, by design, if the goal is to place a stronger emphasis on rewarding companies that serve the poorest of the poor.

Figure 7: The inclusivity ratio (⚙️) for a company (Source: Acumen)



■ **Household Welfare Change:** This metric relates to how customers' actual experiences are tracked across a range of benefits. The household welfare change factor is the weighted proportion of customers reporting that their lives have improved against a range of key welfare measures. The metrics included can be adjusted to better represent the outcomes expected from differing product offerings.

Figure 8: Household welfare change (🏠) for Company 4 (Source: Acumen)



The impact points are calculated by bringing these three data-sets



together. For the four exemplary companies from Acumen’s energy portfolio, their impact points were calculated, as demonstrated to the right.

4.2.2 Impact value scoring

While impact points are important for judging the volume and quality of impact that an enterprise is projected to generate, they say little about the context in which those points were generated or about whether this represents good value for money. As part of impact value scoring, we thus look to incorporate a coefficient for context, and we put cost estimations into the mix to give an indication of value for outcomes.

We calculate a **context assessment coefficient** for each of the enterprises, with values produced by members of Acumen’s energy team across five dimensions: (1) Environmental, Demographic & Geographical Factors; (2) Business Environment; (3) Technological Products and Services/Availability; (4) Policy and political environment; and (5) Product-specific considerations. We then created a weighted assessment of the ease or difficulty of operating in a given market.⁶

Figure 9: Impact Points (★) = Lives Impacted x Inclusivity Ratio x Welfare Change (Source: Acumen)

				IMPACT POINTS
Company 1	8,529	1.04	50%	4,891
Company 2	85,000	X 0.93	X 40%	= 31,786
Company 3	479,478	0.88	43%	182,871
Company 4	40,149	0.84	60%	20,439

Figure 10: Factors included in the Context Assessment Score - ● (Source: Acumen)

- 1** Environmental, Demographic & Geographical Factors
Weighting: 25%
- 2** Business Environment
Weighting: 25%
- 3** Technological Products and Services/Availability
Weighting: 20%
- 4** Policy and political environment
Weighting: 15%
- 5** Product specific considerations
Weighting: 15%



We incorporated the costs associated with the generation of the outcomes used to calculate the impact points. The costs were drawn from the enterprises' financials (based on variable costs and proportions of fixed costs) and served as the assumed cost of generating their outcomes. By breaking down that amount by the volume of outcomes projected, we generate an initial value scheme for these outcomes.

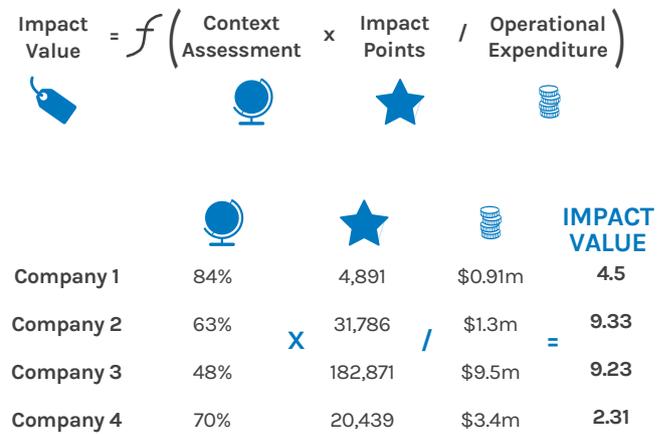
The higher an application's score, the greater the value for money that it indicates for the facility. Alternatively, a low score indicates that the application could be poor value for money.

4.2.3 Benchmarking

The impact value ratings generated above can be used to produce a benchmark score (in this case, for illustrative purposes, by taking an average of the four scores). This benchmark can be used as a basis for comparing enterprises operating in different contexts and at different stages of development. This in turn opens up numerous possibilities for the provision of more targeted support.

Unlike traditional cost-benefit comparisons, our approach does not heavily penalise enterprises currently operating in more difficult contexts or those that are at an earlier stage of development. [This is a major advantage of this approach, and it potentially allows for more support to go to early-stage, local enterprises, even if these do not appear to be the cheapest option.](#) Other development-relevant considerations such as gender elements, enterprise ownership models, or the provision of particularly innovative solutions can be factored in to the suitability assessment.

Figure 11: Calculation of the Impact Value - (Source: Acumen)



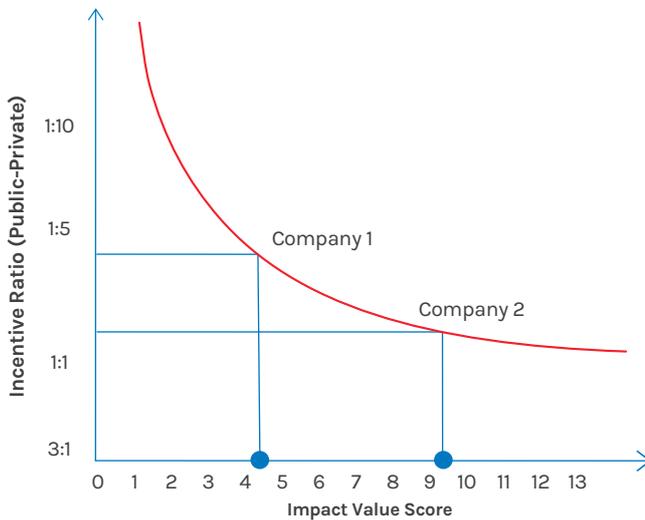
4.2.4 Incentive level bandwidths

At the outset, we considered ways of establishing processes which would provide exact pricing schemes for impact points across different contexts. [What became clear is that a single price for a given outcome is not the optimal solution for an outcomes fund.](#) This is because the objective should be to maximise the impact generated by outcome-based payments while minimising market distortion. A one-size-fits-all price for outcomes usually favour larger organisations and does not sufficiently capture the individual framework conditions.⁷

With this in mind, we have developed an [incentive level bandwidth](#), which can be used to guide decisions on how much an enterprise gets paid for impact points in any given transaction. The objective here is not to exclusively support small players, but to level the playing field for them when they compete for incentives.



Figure 12: The incentivisation bandwidth



In terms of the level of incentivisation that outcome-based payments should provide, the guiding principle is that they should make a business case compelling enough to attract investment, or to deepen the impact of investments made into a commercially viable enterprise. It is thus vital that we consider both the overall costs involved as well as the mix of ‘hard’ and ‘soft’ finance which will be utilised in a transaction. In other words, we recommend that incentive levels be adjusted depending on the amount of other public support which is being utilised by the enterprise.⁸

Once that is considered, the bandwidths described here can act as an initial guide. Along the bandwidth, the level of outcome-based payments is, in turn, informed by the value rating: **The higher the value rating, the higher the outcome-based payments which**

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In terms of leveraging private capital, the outcomes-based funding represents an exciting innovation in the blended finance space. Private capital has a range of risk appetite and return expectations and outcomes-based funding allows for the flexibility to substantially adjust both considerations for a given project or company.”

Richard Ambrose, Managing Partner, Pomona Impact

can be justifiably offered.

Taking our previous example enterprises: Company 1 is an early-stage company operating in an emerging market and received a value score of 4.5. Based on this, the ratio of expected total outcome-based payments to expected private investment would be around 1:4. For Company 2, it would be approximately 1:2.⁹

There may, however, be extenuating circumstances that push the level of payments up or down. For example, Company 1 has a more complete impact model, with local production and a novel integration of female entrepreneurs along the value chain – thereby justifying a ratio of 1:3. On the other side, Company 2 already receives numerous grants and thus receives support at a ratio of 1:3 as well.¹⁰



It is important to note at this point that the setting of incentive levels is agreed case-by-case between the outcomes fund and the enterprise (with potential engagement from investors). The bandwidths and the value ratings serve as a starting point in decision-making around whether and how much support should be provided for a given undertaking. Thus, there is still a subjective component in the decision on incentive levels (supervised by a decision committee).

Both the value scores and the bandwidths will be refined over time. [As a track record of deals is established, and as more and better data become available, the capacity to calculate and interpret the value scores and the appropriate incentive levels will increase.](#) When combined with accurate outcomes data from the enterprises, this will greatly increase the potential for the optimal, increasingly objective, allocation of resources over time.

4.3 ENTERPRISE PERSPECTIVE: PAYMENT TRIGGERS AND TIMEFRAMES

The enterprises (and their investors) will not be involved in the internal calculations described above. The interface to the enterprises will be far less complex.

In their applications, enterprises will be expected to provide information about financing requirements and projected outreach (both in terms of geography and demography) as well as information about their products, operating models, and other relevant (but readily-available) information. This will be processed internally by the facility, with a decision to move forward leading to an exchange to set the incentive levels.

Once the incentive levels have been set¹, the fund and the enterprises will address which payment triggers (metrics) will be used and the timing of these payments. These are key considerations for the enterprises. In line with our position on paying-for-outcomes, there is a set of standardised outcome metrics (e.g., Household Welfare Change) which facilitate comparison of performance and value. Further customised metrics are conceivable but will have to be of particular relevance.

There are two considerations which need to be balanced with respect to the timing of payments: [on the one hand, the enterprises need to be able to plan and rely on certain volumes of cash-flows returning from these transactions; on the other hand, the outcomes we wish to incentivise require a certain amount of time to materialise.](#)

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I could use the incentives to leverage working capital or whatever I need to make the work happen. Given the structure that you just described, you can do work in the last mile the way you envisage.”

**Ajaita Shah, Founder/Co-CEO,
Frontier Markets**



Thus, it makes most sense to back-load the payments in order to best capture the desired outcomes and to provide accurate payments. This would, for example, involve smaller surveys after 12 and 18 months, and then a larger survey after 24 months. This would also give the enterprises a window to address any issues flagged in the surveys.¹²

A further advantage of back-loading the payments is that the enterprises must commit to and execute plans for longer-term relationships, both with their customers and with other actors in the supply chain. This will have auxiliary benefits for both the customers as well as local technicians and distributors.

4.4 VERIFICATION AND THE POTENTIAL OF BLOCKCHAIN

As mentioned previously, one of the greatest obstacles facing the use of outcomes as a basis for a results-based financing mechanisms are the costs and methodological challenges involved in generating and verifying the relevant data. The facility proposed here addresses the data generation issue through the incorporation of Acumen's Lean Data approach. On the other side, the incorporation of blockchain technology or a similar mechanism holds great potential to further reduce the cost of verification and the time of transaction.

While Acumen's Lean Data approach can generate data on the outcomes resulting through funded enterprises, these data (and the resulting payments) must still be monitored. Traditional approaches to the verification of data can be time-intensive and

cost-prohibitive. Truly realizing the potential of an outcomes fund will require the design and implementation of a verification system that is efficient, transparent, and robust while simultaneously respecting the privacy of end customers.

Blockchain technology has the potential to aid in this process through the use of semi-automated analytical processes and the transparency of the data encrypted in the individual blocks. Such processes can also be used to record data generated through multiple data sources. Smart contracts (i.e., systems which automatically release payments upon contract fulfilment) can be incorporated to increase transaction speed and reduce costs further.

An example of such a blockchain solution is the ixo Protocol (IXO 2018), which is specifically adapted to the needs of impact management. Outcome funders, enterprises, and evaluators agree on a set of impact metrics that are publicly registered and open for all to view. Subsequently, data generated through Lean Data and the services delivered to end customers are registered through an impact claim template submitted to the protocol. A public version of this transaction is created, with an evaluator then able to assess whether or not the impact generated matches the agreed-upon metrics. Over time, and with larger datasets, the evaluation process can be automated to an increasing degree without sacrificing robustness, thereby opening up possibilities for reduced costs and increased transaction speed.



The use of blockchain solutions can also make impact data more credible. For example, even in cases where qualitative data is involved, encrypting and storing these data on a credible blockchain protocol makes it difficult to falsify information or to tamper with the system. In other cases, the potential is even greater: the incorporation of blockchain technology into the evaluation protocol offers significant advantages where large volumes of data are being generated, for instance through remote sensors installed in products. The benefits of such a system in the context of outcome payments are immense. Once survey-verified outcomes can be correlated with usage patterns, then the data provided by the end-products can be used to automatically generate payment claims, with blockchain technology providing an added layer of transparency and security. The corresponding verification processes can then focus on testing and refinement to ensure that the correlations accurately reflect positive, material changes in household welfare.



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5. POTENTIAL INSTRUMENTS

There are a range of outcomes-based financial instruments which we have identified or developed in order to address the needs of various stakeholders over the course of the study, and which could play a role in such a facility.¹³

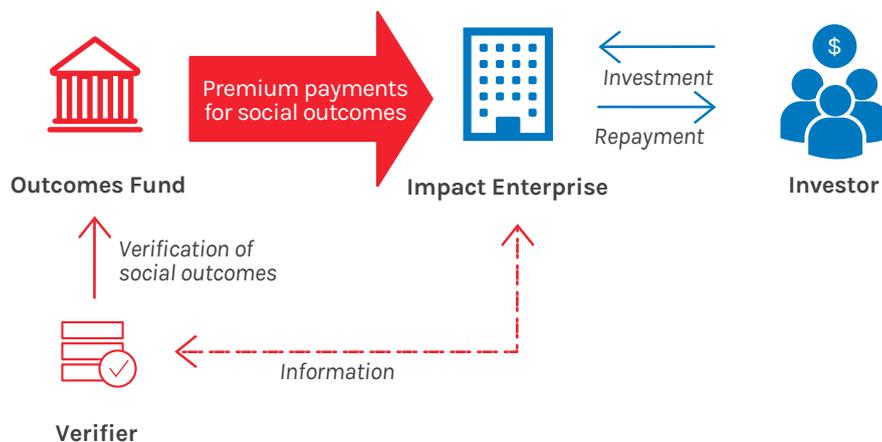
5.1 CORE INSTRUMENT: SIINC

Social Impact Incentives (SIINC) acts as an additional revenue stream that directly improves the P&L of the enterprise and makes it more attractive for investors. It enables the enterprise to continue or accelerate its efforts to generate impact,

while scaling and offering sufficient returns to investors. It involves a bilateral contract between the outcome payer and the enterprise, with ongoing payments based on outcomes performance. There is no predefined investor and all forms of investment can be considered (e.g., equity, debt, mezzanine).

In our case, the outcomes fund will be the outcome payer and will sign agreements to make premium payments to the selected enterprises based on the social contribution generated by their operations.

Figure 13: Social Impact Incentives (SIINC) - Structural Overview





The SIINC model can leverage public or philanthropic funds to catalyse private investment in areas where there is high social impact, but where current conditions would provide financial returns below the market rate. It has already been successfully implemented in various transactions.¹⁴

5.2 OPTION WHERE COMMERCIAL PROSPECTS ARE STRONG: REDEEMABLE SIINC

Much like the standard SIINC model outlined above, the Redeemable SIINC would involve a bilateral, outcomes-based agreement between the outcomes fund and the enterprise. The difference in this case is that if the enterprise (or a specific undertaking) proves to be commercially successful beyond a certain level, then the SIINC funding should be refunded – either in full or partially.

The most obvious scenario is that profitability or revenue triggers are used, tying the reimbursement/conversion to the commercial success of the enterprise.

Using such a model would mean that the facility would be able to recycle its resources, thereby generating further impact. This instrument would only be viable in cases where there is potential for strong mid-term commercial performance and long-term profitability.

Figure 14: Redeemable SIINC - Structural Overview

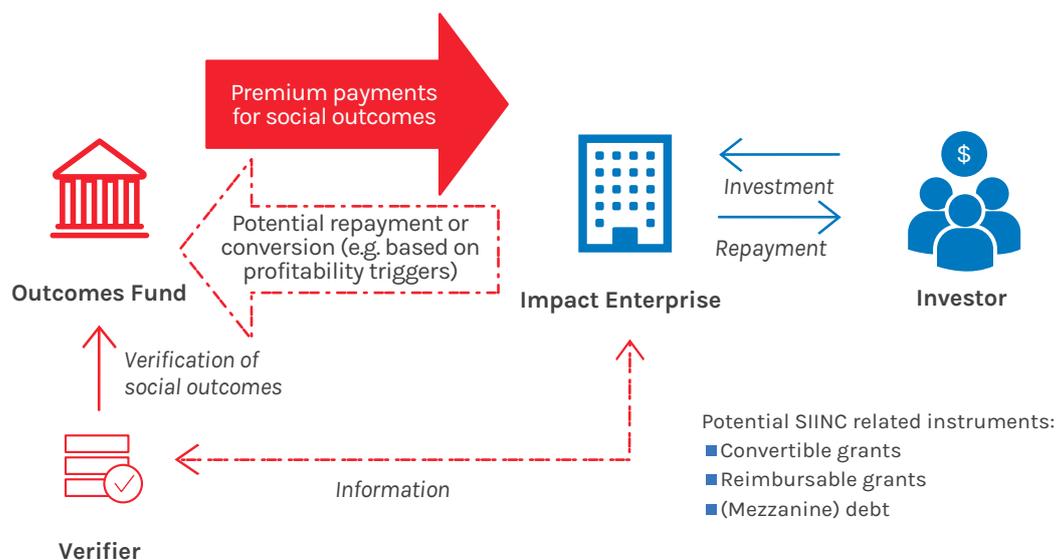
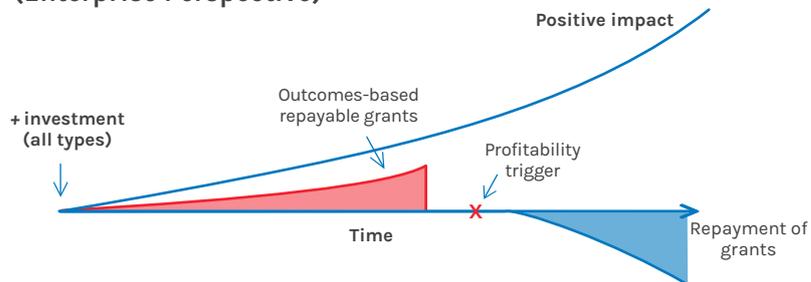




Figure 15: Redeemable SIINC - Cash Flows (Enterprise Perspective)



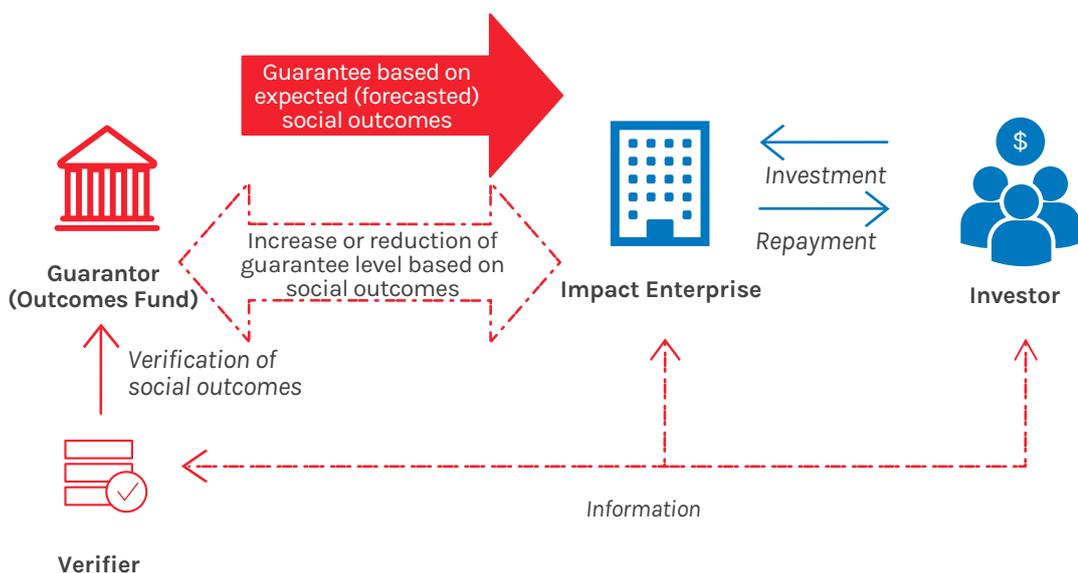
5.3 WHERE RISK IS PARTICULARLY HIGH: IMPACT-LINKED GUARANTEE

The objective of the outcomes fund is to catalyse investment into market segments which would otherwise remain unserved. These markets are generally un- or underserved for a reason, with combinations of factors such as political uncertainty, poor infrastructure, hard-to-reach customers, or environmental risks that deter enterprises and investors from approaching them. In these circumstances, incentives in form of premium payments on their own may not be enough to entice actors into a certain region as the (perceived) risk is too high. In this case, it could make sense to utilise a form

of guarantee to reduce risk - also in combination with outcomes-based payments.

The difference between a standard guarantee and an impact-linked guarantee is that with an impact-linked guarantee, the amount of investment covered by the guarantee is directly related to the expected outcomes performance of the enterprise and will be adjusted on pre-defined dates based on verified outcomes. Thus, the guarantee can be used for targeting and catalysing specific outcomes in specific regions because stronger impact performance means higher guarantee levels.

Figure 16: Impact-Linked Guarantee - Structural Overview





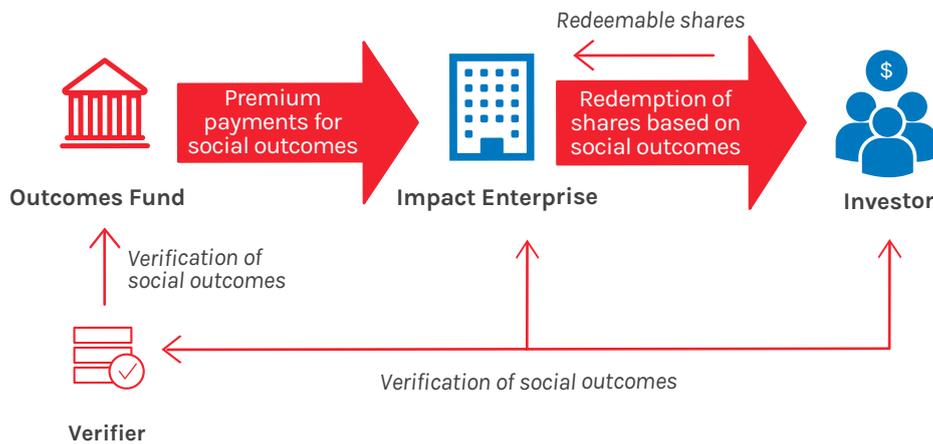
5.4 INSTRUMENTS FOR ENABLING EARLY INVESTOR REPAYMENT (EXIT)

There are further instruments that could be used to secure returns or enable a (partial) exit for investors. These instruments may not be used directly but could be implemented at a later stage when the facility and its other instruments are more established.

Instruments directly involving investors

There are two options for instruments which would tie the investor directly into the transaction. The first of these is the Redeemable Impact Share in which the investor purchases a specific form of share that the enterprise is obliged to buy back should it achieve a certain outcomes performance - which in turn is directly related to the contract between outcome funder and enterprise.

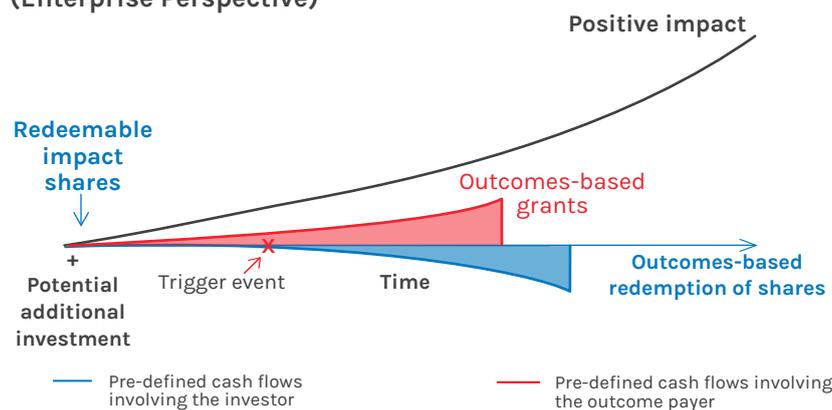
Figure 17: Redeemable Impact Shares - Structural Overview



In this way, some of the outcomes-based funding is transferred through the enterprise, but with a time lag. This helps to address two issues which were highlighted by practitioners and industry experts, namely

cash flow for enterprises and an exit for the investors. To highlight this point, the cash flow of the enterprise in such a case is represented in the chart.

Figure 18: Redeemable Impact Share - Cash Flows* (Enterprise Perspective)



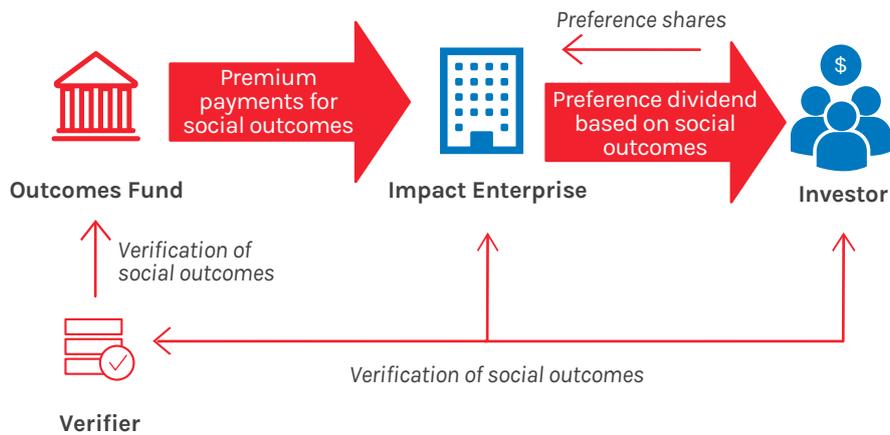
Not considered in this graph: ordinary repayment of investment not defined in Redeemable Impact Shares contract (separate agreement with investor)



Similarly, preference share arrangements can be utilised. In this case, the enterprise pays a pre-defined dividend to the investor based on outcomes-related impact performance. Then, the flows of cash out of the enterprise are more limited, or at least spread over a longer time-frame.

The preference shares may be open-ended, or they may get annulled or converted (e.g., into debt) after an agreed-upon timeframe or dividend cap. In both of these cases, the investors would be involved in the structuring of the transaction.

Figure 19: Preference Impact Shares - Structural Overview

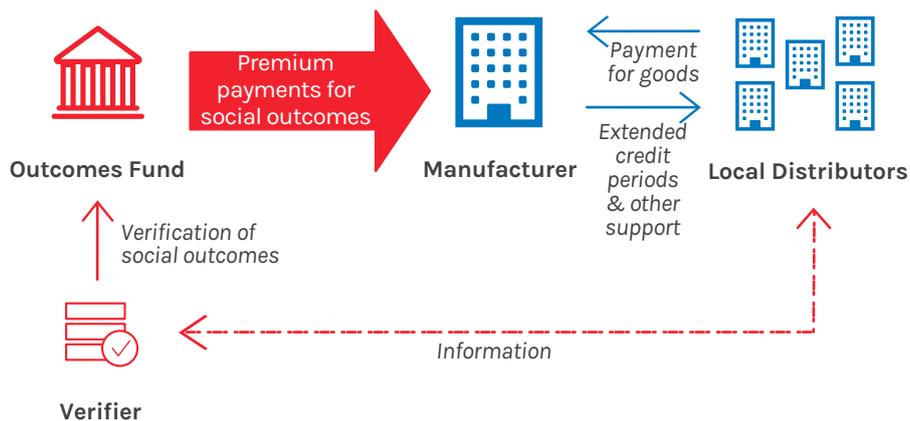


5.5 SUPPLY CHAIN SIINC FOR IMPROVING VALUE CHAIN RELATIONSHIPS

One of the specific characteristics of the off-grid energy market is that there are often a number of actors engaged in getting the product to the market. One of the major questions is how to integrate different actors along the supply chain in a fair and mission-aligned manner.

One possibility would be a 'supply chain SIINC,' which can be configured in different ways to incentivise actors to work together to achieve the outcomes necessary to trigger the outcome payments. In this section's example, we take the case where a large multinational manufacturer works with a number of local distributors to generate the outcomes required.

Figure 20: Supply Chain SIINC - Structural Overview





The manufacturer acts as a quasi-investor by extending favourable credit lines to the distributors and assisting them with processes such as customer relations, data generation, and management systems, and reporting. The outcomes are ultimately generated and tracked by the distributors, hence the need for support from the manufacturer.

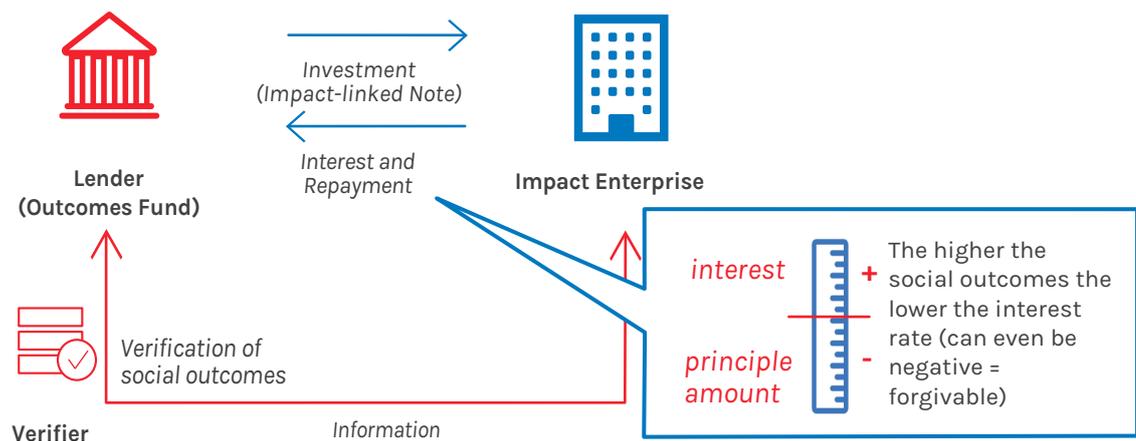
5.6 INSTRUMENTS INVOLVING THE FACILITY AS AN INVESTOR

Finally, there could also be an argument for the facility to be able to provide debt that links the interest rate and repayment obligation to the achievement of outcomes.

With an Impact-Linked Note, the outcomes fund can structure the transaction so that strong impact performance leads to a lower interest rate or even - if a certain level is exceeded - debt being forgiven. The forgivable component may represent some or all of the total debt amount.

Other actors have tested forgivable loans albeit typically with output and fixed targets as opposed to outcomes being used as a trigger for different levels of interest rate reduction and loan forgiveness. The overall impression is that a working capital or quasi-equity variant of this instrument would be a welcome addition.

Figure 21: Impact-Linked Note - Structural Overview





6. INVESTMENT STRATEGY AND INCORPORATION OF TECHNICAL ASSISTANCE

The ultimate investment strategy of the outcomes fund will be influenced by funder preferences that delineate the sectors and geographic areas where the facility should focus. Based on analysis to date, there appear to be natural limits to where the facility could be effective using only an RBF modality. These limits can be pushed by potentially including a technical assistance component.¹⁵

With respect to products, the limits would seem to be set by the feasibility of establishing a cost-effective means of tracking outcomes. More specifically, products which are generally sold for cash and which have low customer service follow-up requirements are less suited for outcomes funding (as there is less intrinsic value for the enterprise to build a relationship with the customer). As we are seeking to catalyse improvements in services to last-mile customers, it seems that there is greater potential in focusing on products from Tier 2 and up.

The geographic focus of the facility can be steered by funder requirements, but the level of development of the market must be taken into consideration. [For any RBF mechanism, including an outcomes fund, there needs to be a minimum level of market development before the approach begins to make sense.](#) In greenfield markets, RBF mechanisms can be too demanding for the existing actors.

“

One of the largest learnings about energy access is that RBF works best if embedded as one component in a more comprehensive market development approach.”

Elina Weber, Head of RBF, EnDev

In these cases, the incorporation of TA funds can open up further possibilities by enabling the facility to build a pipeline of transactions through supporting smaller-scale and earlier-stage actors while they establish the systems and infrastructure necessary to partake in an RBF transaction. In the absence of TA funds, an outcomes fund would best be suited to markets that have had some exposure to output-based aid (OBA), or which have at least achieved a reasonable level of sophistication in customer relations tracking and customer service provision.

Finally, the investment strategy of the facility will also dictate the mix of participating enterprises. There will be open calls, and all market actors will be able to apply. While we have seen that the comparison of various enterprises can be done



through an assessment of their impact value scoring, there will still need to be a clearly defined strategy for guiding the decisions about which transactions and which mix of transactions are desirable and/or necessary to achieve the goals set out for the facility.





CONCLUSION

Ensuring regular and sustainable access to energy is an essential prerequisite for achieving the 2030 SDGs. Off-grid clean energy solutions can be provided by private companies with resources from private investors. The major societal issue is ensuring that these solutions also reach the poorest customers, bridge the last-mile distribution gaps and actually achieve the intended development effects.

The outcomes fund for off-grid clean energy described in this paper offers a potential means of stimulating markets that would otherwise remain under- or unserved. Achieving this in as resource-efficient a manner as possible is, of course, a challenge. New thinking and new solutions are needed, and this blueprint is intended to be a first step in that process. This is part of a broader move towards a new generation of results-based mechanisms, particularly with its shift from an output to an outcomes focus and its aim to align with the operational strategy of the enterprises delivering the solutions.

Particularly challenging is the setting of appropriate incentive levels that are not too high, thereby wasting public resources, but not so low that they miss out on opportunities to secure investment in markets and regions that need it. The plan to establish a context-sensitive approach to setting incentives is

promising but in need of refinement. Furthermore, a one-size-fits-all price for outcomes is unappealing due to the stronger potential for market distortion.

There is real potential to drive down the costs of generating outcomes-related data and to ensure robust verification processes. Acumen's Lean Data approach is an emerging, viable solution to the former, while the integration of blockchain technologies opens up possibilities for verification processes into the future.

The outcomes fund itself would have to utilise a number of different mechanisms for structuring of transactions, and Roots of Impact has designed a number of customised solutions. These outcomes-based mechanisms can be tailored to meet the needs of different stakeholders, while ensuring that the focus remains firmly on generating positive changes in the lives of end-customers.

Ultimately there is no one solution that will apply to all cases. There needs to be a coordinated and impact-aligned effort to achieve the objective of clean energy for all. This blueprint will, hopefully, serve as a starting point and an inspiration for further thought and action.



APPENDIX

ENDNOTES

1. If you would like to receive a copy of the full feasibility study, please contact the authors at info@roots-of-impact.org.
2. Results-based financing (RBF) is a family of financial mechanisms intended to enhance the delivery of and access to services or products through incentives, subsidies, or rewards. In these mechanisms, disbursements from a funder are conditional on the achievement of a pre-defined set of targets, usually verified by an independent evaluator.
3. Up to now, the costs – at least in earlier stages – have been higher when focusing on outcomes rather than outputs, but new developments such as Acumen’s Lean Data have increased feasibility.
4. Taking the example of using output metrics, two common metrics are peak watt and sales of specific products. Using peak watt as payment trigger can lead to a strong focus on ‘bigger is better,’ while pure sales numbers often fail to capture how appropriate a given product is for a region and the focus on maintenance services. Such approaches fix in advance the focus of enterprises and the products they can supply to receive support.
5. Though the Lean Data approach has also been used in regions with weak telecommunications infrastructure.
6. Probably the biggest learning from our simulations was that the context assessment approach here relied too heavily on subjective evaluation. For the next iteration, we will simplify the context assessment and limit it to a smaller number of objectively calculable factors such as The World Bank’s Ease of Doing Business Index (captures institutional factors in the business environment), enterprise stage of development (included as a means of levelling the playing field for earlier-stage enterprises for whom costs are generally higher, but who may represent better value in the medium-term), population density of the target region (key factor in determining the difficulty for an enterprise in sustainably servicing a given geographic region), and a last-mile indicator (to enable a stronger capacity to increase incentivization rates for geo-economically remote areas).
7. The more established players on the market often have in-house grant teams that are tasked with securing as much grant funding as possible. This makes it difficult for new players – who lack such resources – to establish themselves and compete in emerging markets.



8. Outcome-based payments should catalyse and not replace hard (i.e. repayable) investments into an enterprise. The primary reasons are to ensure that there is no crowding out (instead a crowding in) of investment and that there are investors on board who have a concrete interest in the commercial viability of the enterprise.
9. Please note that this representation is for illustrative purposes only and the values must be refined based on a larger number of in-depth analyses.
10. On first indication it seems that younger enterprises will still score less than more established counterparts because of their limited scale. Their inclusion is nonetheless vital in cases where markets are less developed, where new job creation is a priority, and in order to minimize the market distortion potentially generated by providing incentives exclusively for more established enterprises.
11. Potentially after the execution of an initial Lean Data-type survey to establish a baseline.
12. These timelines are based on current methodological and technical capabilities. The ultimate objective is to develop structures capable of more rapid verification and disbursement processes.
13. While the Impact Bond model also focuses on outcomes, the focus on public/non-profit providers and interventions make it inappropriate for support of for-profit enterprises delivering solutions for the off-grid energy market.
14. For more information please see the SIINC White Paper (2016).
15. Technical Assistance (TA) funds would seem to be the most common complementary public support for outcomes-based payments. Publicly-funded guarantees could

also be utilised. While the use of a guarantee does not necessarily influence the amount of investment which will be required, the inclusion of TA certainly would.

- 16 The list does not include several interviewees who requested anonymity. If the reader has a strong interest in gaining knowledge of all interviewees, please send a request to the authors.



CONSULTATION AND INTERVIEWEE LIST¹⁶

Organisation	Contact Person	Title
Acumen Fund	Leslie Labruto	Global Energy Lead
Acumen Fund	Tom Adams	Chief Impact Officer
Africa Clean Energy	Ruben Walker	Commercial Director and Co-Founder
Austrian Development Agency	Gunter Schall	Head of Private Sector and Development
Development Ventures	Andrew Varrow	Program Director
DfID	Radana Crhova	Advisor, Development Impact Bonds
Doen Foundation	Michelle de Rijk	Program Manager, Food Sustainability
Doen Foundation	Saskia Werther	Manager, Circular Economy and Investment Opportunities
Frontier Markets	Ajaita Shah	Founder and CEO
German Federal Ministry for Economic Cooperation and Development	Silvia Heer	Policy Advisor, Private Sector Development
GOGLA	Dieter Poortman	Program Manager, Access to Finance
Hystra	Lucie Klarsfeld McGrath	Project Director (BoP Marketing & Distribution)
Multilateral Investment Fund	Dieter Wittkowski	Head Social Entrepreneurship Program
Philips Lighting Foundation	Prajna Khanna	Director Signify Foundation
Pomona Impact	Richard Ambrose	Managing Partner
Shell Foundation	Gareth Zahir-Bill	Business Manager, Access to Energy portfolio



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SNV	Martijn Veen	Global Coordinator, Sustainable Energy Markets
SunFunder	Nico Tyabji	Director of Strategic Partnerships
Swiss Agency for Development and Cooperation	Reto Thoenen	Programme Officer, Focus Energy
Village Infrastructure Angels	Stewart Craine	CEO



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