Credit: A2EI

Climate Impact Payments Platform (CLIPP)

A new approach to significantly scaling climate smart technologies

May 2021

Open Capital

A2EI

The A2EI thanks its funders for their continuing support, which is enabling this research

FMO
Entrepreneurial Development Bank

STICHTING DOEN
NATIONALE POSTCODE LOTERIJ

IKEA Foundation
IKEA

Good Energies
POWER FOR A BETTER WORLD

Open Capital
A2EI

We would also like to thank the following people for their contributions to this report

This report was co-authored by the Access to Energy Institute (A2EI) and Open Capital Advisors (OCA)

A2EI:
- Thomas Gottschalk
- Thomas Duveau

OCA:
- Duda Slawek
- Amaar Nanabhai
- Jack Mwangi

We want to also thank those who generously contributed their time and knowledge during our consultations*

- **FCDO**: Steven Hunt
- **World Bank**: Dana Rysankova
- **SIDA**: Magdalena Svensson
- **GIZ**: Razvan Sandru and Eva Lee
- **NEFCO**: Ash Sharma
- **SNV**: Martijn Veen and Josh Sebastian
- **SE4ALL**: Damilola Ogunbiyi
- **CLASP**: Jeff Stottlemyer
- **BBOXX**: Tessa Lee
- **Odyssey**: Emily McAteer
- **Lorentz**: Adrian Honey
- **SunCulture:** Samir Ibrahim and Hack Stiernbald

***Notes**: *While stakeholder consultations informed this report, it does not represent the view of any single stakeholder consulted. Opinions expressed are personal and do not express the views or opinions of the organization.*

Contents

Chapter 1: Executive summary

Chapter 2: RBFs: The current approach to SDG7 & 13

Chapter 3: Climate Impact Payments Platform (CLIPP)

Chapter 1: Executive Summary

Credit: A2EI

Climate finance must be mobilized at scale to help achieve universal energy access and net-zero emissions

> ***"We have to recognize that the climate change challenge is inextricably tied to the energy access challenge. We need to seize opportunities to address both, while helping drive economic growth, such as through investments in solar systems for productive use as promoted by A2EI."***

Damilola Ogunbiyi, CEO and Special Representative of the UN Secretary-General for SEforALL, and Co-Chair of UN-Energy

SDG 7: Universal energy access	• 132 million new connections from off-grid technologies delivers 100% HH access • 9.2 million gensets used by enterprises and households displaced with DRE • 39 million new households would cook with modern fuels
SDG 13: Climate access	• Up to 626 million tons of avoided CO2e emissions over the next decade, approximately equivalent to the annual emissions of 160 coal-fired power plants

The climate finance opportunity:
USD 200+ billion

Achieving SDG 7 through promoting use of renewable and efficient energy can catalyse progress on SDG13:
"There is a $200bn market opportunity for climate-first investors to help achieve universal access to energy in Africa and avoid 626 m/t CO2e by 2030"[1]

Sources: *[1]Shell Foundation, How climate investors can accelerate energy access in Africa, link; Shell Foundation, Unlocking Climate Finance to Accelerate Energy Access in Africa, link*

Open Capital A2EI

Despite the promise of current mechanisms, such as RBFs, more is needed to achieve universal energy access

Results-based financing (RBF) instruments have been widely used in the energy sector to boost energy access and market development

Incentivization of access

Enables entry into hard-to-reach segments of the population by incentivising companies to enter new markets, which might be too remote or expensive to be served commercially without RBF support

Ownership of outcomes

Since companies receive funding based on the achievement agreed milestones, they own funder outcomes and bear the risk of failure meaning if the company fails, funds are not disbursed

Market development

Enables market development by supporting the private sector to leverage key services (e.g., financial services). For example, in Tanzania, SNV focuses on the application of existing financial products in the OGS sector to support the development of the market for pico-solar products[1]

Our findings suggest that digitization and automation can increase efficiency and effectiveness

OCA and A2EI conducted consultations with leading thinkers in energy access and RBFs, and uncovered some overarching concerns:

Inherent trade-offs	***"Usually there's a tradeoff on being comprehensive and outcome-oriented or simple and efficient."*** *– Dana Rysankova, World Bank*
Lack of coordination	***"SDG7 finance is clearly lacking but there is a tension in RBFs between donors supporting existing, proven instruments, and always creating something new."*** *– Ash Sharma, NEFCO*
Lack of efficiency and high costs	***"There needs to be a more efficient method to implement RBFs that reduces implementation costs to allow for scale"*** *– Magdalena Svensson, SIDA**

Our analysis and consultations with key stakeholders in the sector led to the development of the Climate Impact Payments Platform (CLIPP), a complementary tool to boost climate impact technologies

Notes: *Opinions expressed are personal and do not express the views or opinions of the organization*
Sources*: SNV, Results Based Financing (RBF): Stage 2 Rural Remote and Vulnerable Solar Market Development in Lake-Central Zones of Tanzania, link*

Open Capital A2EI

Incremental changes will not fix the current challenges facing RBFs as they are inherent in the entire RBF value chain

Funding

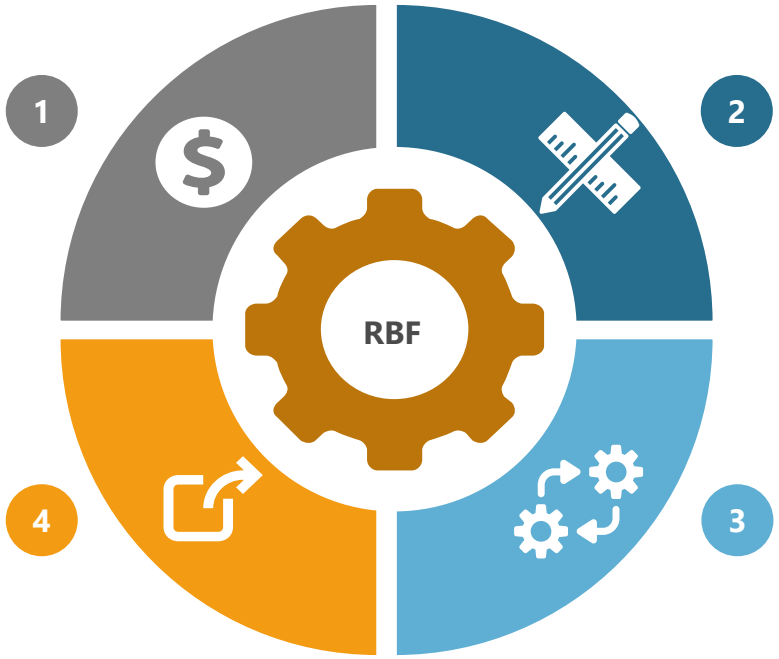
"We need timely and predictable funding cycles, not the fragmented 2–4 year funding cycles that currently exist." *– Ash Sharma, NEFCO*

"Based on the nature of their own funding cycles and reporting processes, it's hard for many donors to commit funding to programs for long enough to drive outcomes that become self-sustaining over the long term." *– Jeff Stottlemyer, CLASP*

Exit Strategy

"Synthesizing impact data is a timely process, and it is helpful to have ICT solutions in place that aggregate and analyze data for increased efficiency." *– Martijn Veen, SNV*

"Programs need to be able to really measure impact with a reasonable degree of confidence." *– Adrian Honey, Lorentz*



Design

"RBFs are never right for very long, even if they were right from the beginning, because the context and market changes as you implement." *– Confidential*

"There is limited knowledge share amongst RBFs, with extensive and expansive program re-design every time." *– Adrian Honey, Lorentz*

Implementation

"Too much manual verification that is not sustainable and data-driven. Sampling thresholds are too high." *– Emily McAteer, Odyssey*

"Current process is complex and manual, one consolidated tool would be fantastic and really lower the cost of running programs." *–Jeff Stottlemyer, CLASP*

In addition to these structural challenges, we've heard from companies that they are often turned away from markets because of RBF set-ups. This is exactly the opposite of what RBFs are trying to achieve.

Notes: *Opinions expressed are personal and do not necessarily express the views or opinions of the organization.*

Open Capital

A2EI

Therefore, A2EI is trialing a new approach to contribute to SDG7 and SDG13: the Climate Impact Payments Platform (CLIPP)

Recognizing the urgent need and synergies between energy access and climate goals, A2EI is trialing a global transaction platform for climate impact payments to radically reduce carbon emissions (SDG13 + SDG7)

Global platform
One platform that centralizes funding from diverse players in both the energy and climate space, allowing for flexibility of technologies and countries funded

Digitized and automated
Every aspect will be driven by tech, creating a lean solution with low transaction costs geared at eliminating manual processes reliant on human intervention

Impact-driven
A platform that connects SDG7 & 13 by automatically collecting and synthesizing data to track progress, analyze impact created, and report insights to key stakeholders

As a non-profit, the A2EI is allowed to fail, while pushing and experimenting with radical changes to ensure that climate impact technologies are being rewarded

We know that change is slow, and that RBFs are more complex under the surface. This is why we have outlined a simple three-step process outlined below:

Working with existing RBFs to test out how much can be improved with a digital platform

Pilot our new approach to deploying funding to achieving SDG7 and 13: CLIPP

Doing advocacy work to bring best practices to the sector more broadly

Our vision is to bring together energy access and climate funding under one umbrella, in a lean and digitized platform with the ultimate goal of accelerating our progress towards achieving universal energy access by 2030 in a climate-friendly way

Open Capital

A2EI

Chapter 2: RBFs: The current approach to SDG7 and SDG13

Credit: A2EI

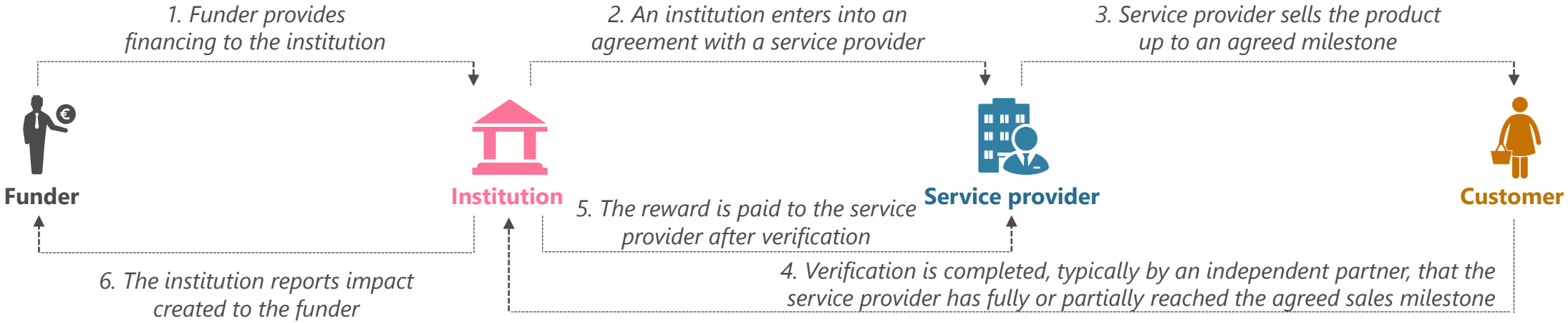
RBFs are a tool in the off-grid solar sector that incentivizes companies to reach unserved populations

Overview of RBFs

Results-based financing is an intervention that rewards service providers once certain agreed results have been achieved and verified. RBFs therefore operate based on three principles:[1]

Principle	Payments are made only after the results are achieved	The recipient may independently choose how to achieve these results	Verification of results is the trigger for disbursement
Advantage	Incentivises companies to enter new markets and serve target customers	Provides companies with the flexibility to identify approaches to reach customers	Risk is borne by the company, i.e., if the company fails, funds are not disbursed

RBFs in action



Sources: [1]EnDev, EnDev's Results-Based Financing Facility – Lessons from 7 Years of applying RBF in Energy Access Markets, link

There is increasing recognition that we need RBFs to reach SDG7 & 13, and sector wide agreement that there is room for improvement

An overview of select RBFs programs (not comprehensive)

	Country/region	Qualifying products	Total funding (USD)	Target beneficiaries
KOSAP RBF[1]	Kenya	Solar home systems (SHS) and Clean Cooking Stoves (CCS)	SHS - USD 12M, CCS- USD 5M	1.2M people
EnDev RBFs (17 RBFs)[2]	Multiple countries in Africa, Asia and S. America	SHS (6), CCS (6), Mini-grids (2), Street lights (1), Gasifier stoves (1), Domestic biogas (2), Solar Water Heaters (1), Solar Water Pumping (1), Grid connections (1)*	USD 55M	5.8M people
GLOBAL LEAP-RBF[3]	Global	Productive Use & Appliances (Solar Water Pumps, Refrigerators, Fans, and TVs)	USD 4M+	1.3M beneficiaries**
REACT RBF[4]	Kenya	Clean energy products, cookstoves and fuel solutions, electricity access products and/or services	USD 4M	87K people
BRILHO[5]	Mozambique	Improved Cooking Solutions (ICS), SHS, and Green Mini-Grids (GMG)	USD ~19M	1.5M people, 15,000 businesses
UEF[6]	Africa (currently just Madagascar, S. Leone)	Mini-grids	USD 500M (target by 2023)	2.3M connections and 0.3M CCS
BGFA[7]	5 countries in SSA	Mainly SHS, mini-grids, with PUE elements	USD 105M	6.7M beneficiaries

Notes: **Numbers mean number of RBF programs; **This figure represents the program beneficiaries to-date rather than the final target/ultimate goal*
Sources: *[1]KOSAP RBF, link; [2]EnDev RBF implementation insights, link; [3]Accelerating the off-grid appliance market with RBF – e-cooking and energy efficiency, link; [4]REACT RBF, link; [5]BRILHO Energy Mozambique, link; [6]Universal Energy Facility, link; [9]BGFA launches the Pre-Qualification stage of its first Call for Proposals, link*

Open Capital A2EI

Scaling RBFs is hard because they are extremely complex

Funding

Funding	The program identifies funders and how much they willing to channel towards the RBF
Funding vehicle	Identifies what investment vehicles will receive funding (e.g., based on funder preference)
Fund mgmt.	The program defines the relevant governance framework for the fund, and approvals required to deploy the RBF

Design

Product selection	Identifies the OGS product to be financed
Targeting	Defines who receives the product based on the target outcomes
RBF amount	Sets the amount to be disbursed post-installation[1]
Admin.	Defines how the program will be run and by whom[2]
Payment mechanisms	Identifies the delivery channel, when, how, and who to pay, as well as the disbursement schedule[3]

Implementation

Partner selection	Partner companies are selected and approved based on set criteria
Pre-Verification	Customers are verified based on target impact outcomes
Installation	Approved companies installs products up to certain earmarked volumes/value[4]
Post-Verification	Installations/ customers are verified
Payment disbursement	Payments are disbursed post-verification
Impact data submission	Companies submit impact data to the program admin.

Exit Strategy

Exit strategy	A sustainable exit strategy that replaces the RBF is rolled out. This strategy can be replaced by an ongoing service such as product maintenance service and managing warranties
Impact reporting	Program admin tracks and reports impact to key stakeholders. This impact is based on the key target outcomes defined in the design phase of the program

RBFs seem really simple until you start designing them. This causes any changes to the process to be incremental and not move the needle on achieving SDG7 and SDG13.

Note: *[1]The subsidy level is set per unit or in tiered thresholds depending on the product. The subsidy level can be also set depending on "customer contribution" portion. Subsidy levels are regularly reviewed to reflect market changes and to ensure sustainability of the program; [2]Administration details key stakeholders, roles/responsibilities for each stakeholder type, procedures for each group, and platforms/systems to be used; [3]Disbursement schedule can be varied for cash sales vs. PAYGo. Payment mechanisms also define the currency/FX rate for payments; [4]Company have to meet earmarked targets, otherwise they may be dropped from the program*

Open Capital

A2EI

Our analysis and consultations with key stakeholders in the sector indicated a number of challenges facing RBFs

Key challenges facing RBFs and stakeholder thoughts	
Fragmented landscape	***"There are too many, too small RBFs."*** *– Confidential* ***"We need larger scaling initiatives."*** *– Magdalena Svensson, SIDA**
Lack of government buy-in	***"Governments are sometimes reluctant to pass grants to the private sector and still don't fully understand the rationale and the mechanics of RBFs; more awareness still needs to be created across Governments."*** *- Dana Rysankova, World Bank*
Lack of coordination	***"Different donor programs have similar but different agendas, preferred partners, country priorities and approval and delivery timelines."*** *– Confidential*
Long timelines	***"Subsidy/RBF money takes so long to get a hold – we need to find a way for relatively small pots of money to be deployed quickly."*** *– Tessa Lee, BBOXX*
On-going re-design	***"There is limited knowledge share amongst RBFs, with extensive and expansive program re-design every time."*** *– Adrian Honey, Lorentz*
Challenging procurement requirements	***"There are some inevitable timeline issues because of the need to ensure procurement requirements that are fair and transparent to project developers and yet consider ESG safeguards and adequately address taxpayer accountability."*** *– Ash Sharma, NEFCO*
Burdensome verification	***"Too much manual verification that is not sustainable and data-driven. Sampling thresholds are too high."*** *– Emily McAteer, Odyssey*
Burdensome impact calculations	***"Synthesizing impact data is a timely process, and it is helpful to have ICT solutions in place that aggregate and analyze data for increased efficiency."*** *– Martijn Veen, SNV*
Reliance on undigitized systems	***"Current process is complex and manual, one consolidated tool would be fantastic and really lower the cost of running programs."*** *– Jeff Stottlemyer, CLASP*
Complex company onboarding processes	***"Applicant companies want a simple, stress free process for accessing funds; they know it will be competitive, but don't want to put a crazy amount of effort at an early stage."*** *– Ash Sharma, NEFCO*

Note: **Opinions expressed are personal and do not express the views or opinions of the organization.*

Chapter 3: Climate Impact Payments Platform (CLIPP)

Credit: A2EI

Improving RBFs is not enough; CLIPP is a complementary mechanism that targets both SDG7 and SDG13

Simply improving RBFs is ineffective due to the weak underlying process framework

Limited geographical coverage
Fragmented funding and localized access limit stakeholders from different geographies and reduce impact

Manual processes
Minimal automation with underlying manual and complex processes that discourage company participation

Minimal data use
Minimal utilisation of data with over-reliance on manually collected data that is not always accurate

- ✗ **Limited impact**
- ✗ **High transaction cost**
- ✗ **Limited scale**

CLIPP re-imagines the future of energy & climate funding and reduced implementation costs of climate-smart technologies

Global platform
One platform that centralizes funding from diverse players in both the energy and climate space, allowing for flexibility of technologies and countries funded

Digitized and automated
Every aspect will be driven by tech, creating a lean solution with low transaction costs geared at eliminating manual processes reliant on human intervention

Impact-driven
A platform that connects SDG7 & 13 by automatically collecting and synthesizing data to track progress, analyze impact created, and report insights to key stakeholders

- ✓ **Maximum impact**
- ✓ **Low-transaction cost**
- ✓ **Sustainable and scalable**

Open Capital A2EI

CLIPP incentivizes companies to drive progress towards SDG7 and support achievement of SDG13

What is the Climate Impact Payment Platform (CLIPP)?

CLIPP provides incentives to companies to deliver high impact products to customers that provide productive electricity in a climate friendly manner

- CLIPP aims to move the needle on achieving both SDG7 and SDG13

CLIPP is designed to measure three main goals:

- Increased energy access measured through quantity of products sold and number of connections achieved
- Reduced carbon emissions determined through CO2 savings achieved within a particular period
- Increased productivity measured through the number of productive hours provided by a product

CLIPP leverages IoT enabled products to allow for automatic tracking of impact data which is uploaded to CLIPP

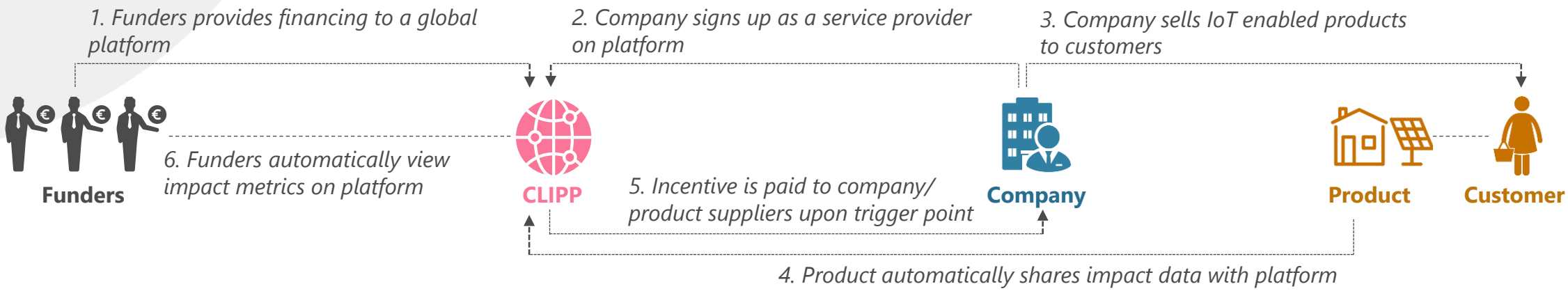
- Application of technology to improve how CLIPP operates will result in a data-driven and easy approach for measuring impact and progress towards SDG7 and SDG13

What is different about CLIPP from current RBFs?

1. **Products**
   - All products must be tech-enabled with remote-metering
2. **Partner selection**
   - All partners are eligible to participate in the program provided their products meet set requirements
   - Shift of focus from companies and long due diligence process to eligible high impact products
3. **Verification**
   - Verification will leverage a simple but digitized approach to show compliance with core requirements
   - No manual verification since impact data is automatically tracked through IoT enabled products
4. **Payment disbursement:**
   - Payment will be triggered automatically only after the installation and performance of the product has been monitored
5. **Impact**
   - The RBF will leverage technology to automatically collect and report data on product usage

A2EI will push the boundaries on automation and data analysis to drive funding more efficiently for each stakeholder

CLIPP in action



What's different

Funders will have a centralized platform to deploy funding

- Energy and climate funding will come together in a single platform
- Funders allocate resources in an efficient manner tech-platform to view progress and identify areas need additional funding
- Impact data is available is real time and can be visualized allowing greater transparency and visibility to funders and governments*

Companies will be able to easily access funding

- All companies who meet certain impact targets are able to receive funding
- Company due diligence and reporting is simplified to minimize admin burden
- Data is automatically transferred from IoT enabled products, allowing for immediate verification and quick disbursement of payments

Potential recipients will access quality OGS products

- More efficient platform means more funding going towards increasing access and affordability to recipients
- On-going automatic data collection from IoT enabled products means quicker identification of system failures to ensure customers receive on-going high-quality service from companies

***Note:** *Impact can be visualized on a friendly Graphic User Interface (GUI) for clear visibility and interpretation of data*

Open Capital A2EI

Our new CLIPP approach is backed by data and technology at every stage

1. Design
- CLIPP allows for flexibility and adaptability during the design window
- Specific funding windows are flexible and can be adapted in real time

2. Funding
- Funder provide financing against reported impact results
- Existing or new funders continuously top-up financing

3.Funder preferences
- **Funder preferences:** Funders can pick funding windows by geography, technologies to fund, duration, etc.
- **Repetition:** Funder can also choose to support multiple programs as many times as they like

4. Implementation
- **Product selection:** Completed based on Verasol or IEC quality standards
- **Verification:** Product installation and usage is verified remotely
- **Payment disbursement:** Automatically triggered by CLIPP when installation and product functionality has been vetted automatically by the algorithms of CLIPP
- **Impact data tracking:** Data is automatically sent from PUE for tracking

5. Impact Reporting
- **Impact reporting:** Impact data is available in real time and will be visualized on a user-friendly GUI. The GUIs are shared with all key stakeholders including government and donors to enable real-time data sharing

Open Capital A2EI

As a non-profit, we are allowed to investigate radical changes without being afraid of failure

We recognize a radical new idea is all good in theory but where the rubber meets the road is in implementation. We don't pretend to have all the answers but instead are looking to systematically test out our approach through a 6-month pilot program where we will test out the following hypothesis:

- Can in-person verification of service delivery be fully eliminated?
- What aspects of the process that were thought to be hard to augment with technology can we change?
- Can we create a fully transparent platform which informs donors and distributors on available funds and impact achievements?
- How can impact data on PUE be precisely described and tracked in real time?
- Can we build on the work that other providers such as Odyssey are doing to digitize RBFs?
- Are processes repeatable and scalable across different RBFs and countries?
- Can we minimize current procurement guidelines and requirements of RBFs with this new instrument?
- Can we prove a faster distribution of climate relevant technologies?
- Can scaling of these technologies lead to massive carbon reductions (SDG13)?
- Can we dramatically increase the number of local distributors to achieve scale at large?

We will first focus on productive use because of its impact and lack of current RBF focus. We hope to extend this approach to other technologies in the future and create a product-agnostic platform.

Open Capital A2EI

Our goal is to catalyse progress toward SDG7 & SDG13, a journey that will begin with our CLIPP pilot

Summary of our approach

Our approach will focus on SDG7 and SDG13

A2EI CLIPP

- SDG 7: Universal energy access
- SDG 13: Climate access

A2EI will push towards closing the energy access gap in a climate-friendly way through a global mechanism that seeks to simplify and transform impact measurement

Next steps and long-term vision

1 Pilot phase

- Test out CLIPP concepts with a pilot focused on PUE

2 Working with other RBFs

- Test out synergies between CLIPP concepts and current RBFs by working with RBF providers
- Potential second CLIPP beyond PUE

3 Global CLIPP

- Fully digital with an agile tech-platform
- Multivariable and flexible funding allocation to companies based on their needs and size
- Company-agnostic and accessible globally regardless of geographical location
- Product-agnostic (for quality off-grid solar products)

Advocacy all-throughout

Come join us on this journey and together we can move towards achieving SDG7 while coming together with the millions of financing already positioned towards achieving SDG 13.

Open Capital A2EI

Thank you

Credit: A2EI

Contacts

Thomas Gottschalk | thomas.gottschalk@a2ei.org

Thomas Duveau | thomas.duveau@a2ei.org

Duda Slawek | dslawek@opencapital.com