

ANNUAL REPORT 2023



TABLE OF CONTENTS

INTRODUCTION	4
HIGHLIGHTS OF 2023	6
FOREWORD	8
WHO WE ARE	9
OUR PROJECTS	12
1. ADAPTATION AND RESILIENCE	13
YOUR VIRTUAL COLD CHAIN ASSISTANT	14
STRUCTURE SOLAR FOR HEALTH IN SUB-SAHARAN AFRICA	18
2. RENEWABLE ENERGY AND ENERGY EFFICIENCY	21
<i>INNOVATIVE BUSINESS MODEL - ENERGY SAVINGS INSURANCE (ESI)</i>	<i>22</i>
ESI EUROPE 2.0	23
ESI MONGOLIA	26
ESI MOROCCO	28
ESI KAZAKHSTAN	28
<i>INNOVATIVE BUSINESS MODEL - EFFICIENCY-AS-A-SERVICE</i>	<i>30</i>
EFFICIENCY AS A SERVICE (EAAS) INITIATIVE	31
SERVITISATION FOR ENERGY TRANSITION (SET) ALLIANCE	34
<i>INNOVATIVE FINANCING MECHANISMS</i>	<i>40</i>
GREEN CREDIT GUARANTEE PERU	40
LEBANON GREEN INVESTMENT FACILITY (LGIF)	43
3. SUSTAINABLE FINANCE	46
<i>SUSTAINABLE BANKING</i>	<i>47</i>
SUSTAINABLE FINANCE STRATEGY AND ESMS - FIRST CITIZENS BANK	47
GREEN FINANCE LINES AND SMES FINANCE LINES FOR DAVIVIENDA	48
SUSTAINABLE FINANCE STRATEGY FOR BANCO GALÍCIA	49
DEVELOPMENT OF THE GREEN TAXONOMY OF ECUADOR'S PRIVATE BANKING SECTOR	50
<i>CIRCULAR ECONOMY FINANCING</i>	<i>52</i>
PROMOTING CIRCULAR ECONOMY FINANCING IN LAC	52

TABLE OF CONTENTS

4. SUSTAINABLE MOBILITY AND CITIES	55
INTEGRATED ON-GRID, ON-SITE, ON-ROAD BUSINESS MODEL DEMO PROJECTS IN MEXICO AND KENYA	56
ELECTRIC AND BIOGAS GARBAGE TRUCKS IN THE DOMINICAN REPUBLIC	59
DEPLOYING ELECTRIC BUSES IN GHANA	62
URBAN PLANNING AND INFRASTRUCTURE IN MIGRATION CONTEXTS (UPIMC)	65
URBAN CLEANER ENERGY INVESTMENT IN AFRICA	68
KNOWLEDGE SHARING	71
REPORTS	72
CLIMATE FINANCE FOR FINANCIAL INSTITUTIONS AND VENDORS: LESSONS LEARNED FROM ON-WAGE AND ON-BILL FINANCING IN AFRICA	72
SUPPORT TO TUNISIA ON EE LABELLING AND FINANCIAL INSTRUMENTS FOR THE TRANSFORMATION OF MANUFACTURERS TO LED IN TUNISIA	74
ENERGY SAVINGS INSURANCE WHITE PAPER	75
IFC SERVICISATION PROGRAM: CREATING EAAS MARKETS IN PUBLIC AND PRIVATE BUILDINGS IN EMERGING CITIES	76
WEBINARS	77
GENDER RESPONSIVE COOLING: USING DATA TO BUILD RESILIENT LIVELIHOODS	77
UNLOCKING FINANCE AND SCALABILITY FOR COOLING-AS-A-SERVICE COLD ROOMS	78
COP28 KNOWLEDGE SHARING	79
PODCAST	81
COLLABORATIONS WITH UNIVERSITIES	82
EVENTS	83
LEGACY REVISITED	89
TESTIMONIALS	92
OUTLOOK OF 2024	96



INTRODUCTION



Muhammad Amdad Hossain / Climate Visuals



PLANET IN PERIL

Despite increased investment in climate change over the last decade, the world is still falling short of the financial commitments needed to achieve meaningful mitigation and adaptation goals. To avoid the worst effects of climate change, some **USD 8 trillion a year** is needed, six times current investment levels. The stakes of inaction are even higher: according to the Climate Policy Initiative, the cost of a “business-as-usual” approach could exceed **USD 2,300 trillion** by the end of the century, a figure the organisation warns is likely to be a “dramatic underestimate”. Each year, abnormal weather events and natural disasters further illuminate the widening financing gap.

There is an urgent need to redirect investments towards climate solutions. The private sector and global financial institutions have the potential to be powerful catalysts for this transition, supporting ecosystem regeneration and restoration initiatives. While the annual amounts required seem daunting, they are not insurmountable when compared to investments in other sectors. For example, global healthcare spending was **USD 12 trillion in 2022**, the global e-commerce market was valued at **USD 18.98 trillion in 2022** and the global commercial real estate market reached **USD 34 trillion in 2021**.

The private sector, public sector, and financial institutions are increasingly aware of and interested in getting involved in decarbonisation efforts and contributing to the UN’s Sustainable Development Goals (SDGs), such as the circular economy and gender equality. However, there are significant barriers and a lack of understanding regarding areas of opportunity.

WORLD OF ANSWERS

This is where the work of BASE is becoming increasingly relevant and can make a substantial impact by aligning the interests of diverse stakeholders, testing innovative strategies, and building capacity across sectors.

In 2023, BASE and its partners strived to scale up the mobilisation of climate finance through various means. Firstly, throughout an array of projects, business model innovation played a key role to advance the adoption of cleaner energy systems via financial and non-financial incentives, supporting decarbonisation but also the resilience of the targeted economies.

This past year, the team also put an unprecedented emphasis on initiatives enabling sustainable investments and circular economy financing, collaborating with governments and multilateral banks to accompany the private finance sector’s transition and develop frameworks for informed decision-making. Additionally, substantial efforts were directed towards the construction of financing strategies, comprising mechanisms to finance the deployment of electric vehicles, instruments dedicated to facilitating the funding of green urban infrastructure and a facility to catalyse public-private investments in energy projects.

As another core component of BASE’s work, 2023 was rich in the creation and dissemination of knowledge across all the organisation’s areas of activity, ranging from white papers aggregating the team’s expertise and reports consolidating valuable lessons learned from its experience. This report sheds light on the essence of BASE Foundation’s 23rd year of activity.



HIGHLIGHTS 2023

By fostering collaboration and initiating movements, BASE aims to drive systemic change towards sustainable solutions and accelerate decarbonisation efforts. Inspired by surrounding events and trends, anticipating future challenges, and building on a legacy of past experiences, BASE's work in 2023 underscores its commitment to serving all areas where it can bring the most benefits:

- To leverage financial institutions' potential to enable solutions that truly benefit people and nature, it is essential to create comprehensive sustainability strategies. Supporting this process with the knowledge and experience of sectoral specialists is crucial to ensure a thorough understanding of the sustainability principles and an effective application into the organisation's operations. In context, BASE pursued its efforts to accelerate the transition to sustainable banking by collaborating with three banks, producing future-proof strategies, creating green credit lines and developing categorisation tools. In Ecuador, the team focused on establishing a Green Taxonomy providing the finance sector with common definitions and criteria to identify investment opportunities that can benefit the environment.
- Recognising the need to foster a common understanding of the circular economy principles, BASE started to engage in the development of categorisation systems designed to support the financial sector in identifying investment opportunities embracing circularity.
- De-risking investments with uncertain returns is another key strategy for catalysing climate finance. The lack of confidence in the financial benefits of climate-friendlier technologies often prevent their adoption. Over the past year, BASE rolled-out the Energy Savings Insurance (ESI) model in Mongolia and Europe. The ESI model builds trust in energy efficient appliances and renewables by providing a guarantee on the energy savings such solutions yield.
- Striving to provide an actionable solution to the race towards cleaner energy systems, and mobilising the momentum around the servitisation business model, BASE kicked off a new initiative to drive the decarbonisation of buildings via Efficiency-as-a-Service models in Switzerland. Servetia, an initiative part of BASE-administered Servitisation for the Energy Transition (SET) Alliance, is poised to substantially widen access to energy-efficiency and renewables in the country, thanks to an innovative pay-per-use approach which lowers the most important barriers hindering the shift.

In 2023, Colombia's first categorisation, created by BASE and IDB Invest, was published, accompanied by an exhaustive training programme to ensure an effective uptake of the tool. Building on this success, projects with similar objectives were rolled out in Peru, Chile, Uruguay and Costa Rica, successfully adapting the system to the local markets and building the capacity of the finance and microfinance sectors. These achievements set the ground for expanding the work in other countries.





- Building on a long-standing experience in the deployment of electric mobility solutions, BASE expanded its efforts in producing robust financial models to enable the acquisition of electric buses and waste management trucks respectively in Ghana and Dominican Republic. On top of replacing diesel garbage collection vehicles with zero-emission ones, the latter project aimed at harnessing landfill biomass to generate clean fuel.
- In response to Lebanon's urgent need for green investments, BASE started to collaborate with the NDC Partnership to lay the foundation for a special investment facility that. In the midst of a complex economic and geopolitical situation, the facility would bring together public and private financiers to direct substantial fundings towards mitigation and adaptation objectives.
- As cities play a primary role in global warming and find themselves on the frontline of its effects, integrating sustainability principles into urban planning to achieve both social and environmental goals represent a crucial challenge. As part of a strengthened collaboration with UN Habitat, BASE worked on developing different approaches to ensure the financial viability of sustainable infrastructure projects in major conurbations located in three countries.
- Fostering stakeholders collaboration and education around the climate crisis, and especially through the creation and sharing of knowledge, also constitutes one of BASE's key mission. Through unique webinars, collaboration with universities, a guest articles series, the production of reports and launch of a podcast show, the team was able to reach different audiences with content of various formats.

OVERVIEW OF BASE'S PROJECTS IN 2023.





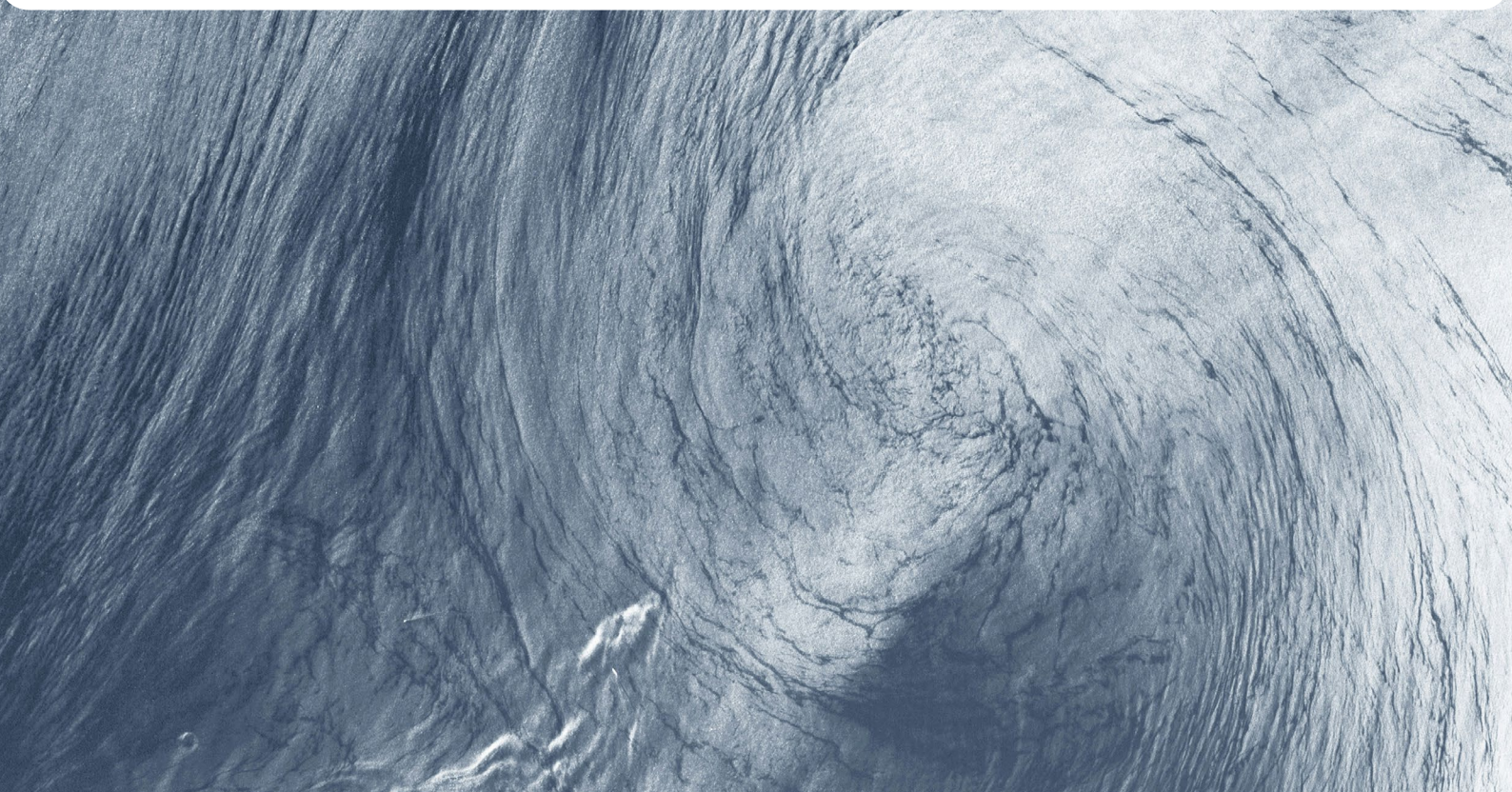
FOREWORD



“As President of the BASE Foundation Board, I am proud to witness our relentless drive to scale clean technologies and sustainable practices through innovative business models and smart financing strategies. BASE objective is to make sustainable solutions affordable, competitive, and self-sustaining across various markets by providing technical expertise, testing these strategies, and fostering collaboration. The BASE goal is to catalyse market systemic change and at the same time contribute to address the challenges of climate change, ensure a just transition, and securing a sustainable future for all.”

GINA DOMANIG

*President of BASE’s Foundation Board, and
Managing Partner at Emerald Technology Ventures*





WHO WE ARE



Our Mission



Established in 2001, BASE is a Swiss not-for-profit foundation and a Specialised Partner of the United Nations Environment Programme.

Our core mission centres on developing innovative and actionable financial strategies and market-driven solutions aimed at unlocking investments in climate change solutions. We operate globally, working across all markets and segments, including those that are typically considered challenging and underserved. Our expertise lies in addressing climate change through innovative and practical financial mechanisms.

Our vision



At BASE, we work towards building an environmentally conscious and resilient world, where sustainability becomes an inherent part of how businesses and markets operate. By facilitating the adoption of climate change solutions, we aspire to drive positive change and contribute to building a better future for our planet and future generations.

Our values



Integrity and commitment

Our work at BASE is powered by our passion and commitment on climate action for the common good. We deliver long-lasting impact through iterative innovation and continuous learning from feedback, and by building trustworthy relationships within the team and with our partners.



People-centric and Diversity

At BASE, open hearts and minds come together. We embrace diversity, recognising that it is key to fostering an inclusive and fun working environment where every individual feels valued, resilient, and empowered to contribute their unique perspectives and talents for our collective growth.



Co-creation

Our solutions are born from collective creativity. We nurture connections, exchange, and collaborations between different segments of society to improve our solutions and pass the learnings forward.



OUR TEAM



Top row (from left to right): Daniel Magallon, Dimitris Karamitsos, Aurélien Pillet, Yannick Heinrich, Sandra Makinson, Thomas Fuhr, Camille Boscher, Pablo Osés, Celina Schelle, Carla Della Maggiora. Bottom row (left to right): Hugo Manticello, Francisco Ramirez Cartagena, Viola Buli, Roberta Evangelista, Emma Wink, Alana Valero, Simran Singh, Livia Miethke Morais.

Not featured in the picture: Anna Hausser, Alain Schilli, Jina Yazdanpanah

OUR BOARD



GINA DOMANIG

President of the Foundation Board

Managing Partner, Emerald Technology Ventures



ERIC USHER

Member of the Foundation Board

Head, UN Environment Programme Finance Initiative



DANIEL WIENER

Member of the Foundation Board

Co-Founder and President Global Infrastructure Basel Foundation



MAXINE GHAVI

Member of Foundation Board

Senior Vice President, Head of Grid Edge Solutions Business, Hitachi ABB Power Grids



OUSSEYNOU NAKOULIMA

Member of the Foundation Board

Director at IFC - International Finance Corporation



OUR PROJECTS

01

AREA OF WORK

ADAPTATION AND RESILIENCE

YOUR VIRTUAL COLD CHAIN ASSISTANT





Setting The Context

Agriculture serves as a cornerstone in the economies of many developing nations, with rural communities relying heavily on it for sustenance. Within the project's focus regions, namely India and Nigeria, smallholder farmers constitute 80-90 percent of the agricultural workforce, typically working on plots of land spanning less than two hectares.

Despite the ongoing efforts to increase food production and ensure food security, 30-40 percent of agricultural produce is lost postharvest due to gaps in the cold chain. Even when climate-friendly cooling technologies are available, they remain underutilised due to poor energy access, maintenance issues, limited financing, and technical knowledge gaps.

In 2021, BASE and [Empa](#) launched [Your Virtual Cold Chain Assistant \(Your VCCA\)](#) under [Data.Org's Inclusive Growth and Recovery Challenge](#). The project, initially implemented in India and then replicated in Nigeria with support from [GIZ](#), focuses on reducing postharvest losses and improving farmers' livelihoods by easing access to sustainable cooling solutions.

The initiative leverages 'Cooling-as-a-Service' (CaaS) to enable access to solar-powered cold rooms on a pay-per-kg, per-day basis, and Coldtivate, a free-to-use mobile application that makes cold room operations more efficient, as well as gender-sensitive capacity bridging material to optimally manage multicommodity cold rooms and inform farmers of the benefit of cooling.

Review of 2023

Your VCCA partners with cooling service providers who own, maintain, and operate solar-powered, decentralised cold rooms. Smallholder farmers do not need any upfront investment and pay a small cooling fee for each crate of produce they store. Cooling companies struggle to attract investments to install new cold rooms, and a key obstacle is the lack of trustable data they can use to prove their creditworthiness to financial institutions. In 2023, Your VCCA focused on integrating in Coldtivate an *Impact Dashboard* displaying summary statistics on room performance, finances, and evolution of key impact metrics based on in-app user surveys. The information is presented in a clear and visually appealing manner to the cold room management team and operators,



PERIOD

2021-2024

COUNTRIES

India, Nigeria, Philippines

PARTNERS

Empa

FUNDERS

German Development Cooperation (GIZ), Climate Ledger Initiative

ACHIEVED IMPACT



NUMBER OF BENEFICIARIES:

535 farmers (who have at least 1 crate checked-in in Coldtivate). 30% are women.



CO₂E EMISSIONS REDUCTION:

201.6 tCO₂e/year (from reduced crop spoilage and storage in solar-powered units for 1 year, based on LCA analysis).



ENERGY SAVINGS:

37511 kWh/year (replacing fossil fuels with solar power for 19 rooms for 1 year).



FOOD LOSS EVOLUTION:

-14% food loss (before / after using cold storage).



AVERAGE CROP SELLING PRICE:

+55% selling price (before / after using cold storage).



REVENUE / TURNOVER EVOLUTION FOR COMPANIES ENGAGED:

+18% cooling company revenue.



and can be exported to showcase the viability of the cooling business to financiers and investors. Similarly, cooling users have access to a *Farmers Dashboard*, where they can visualise their storage history and the impact of cooling on their postharvest losses and revenues. By generating a track record of successful cooling payments, the dashboard can be used to strengthen farmer's credit history, enabling them to access microfinance and loans in absence of other collaterals. The two dashboards also feature estimates on the evolution of room-specific CO₂e emissions, calculated by comparing quantities emitted with and without cooling with a Life Cycle Assessment method developed by Empa.

Throughout 2023, Your VCCA consolidated pilot activities across 19 cold rooms in India, Nigeria, and the Philippines, in collaboration with 6 cooling companies. In Nigeria, local trainers were hired to deliver tailored capacity-building sessions and regularly collect feedback from cold room operators and farmers. Their presence enabled the team to get deeper insights into the challenges operators face when managing multicommodity rooms, how to best engage farmers and first-time cooling users, and refine user surveys for improved impact tracking. Tips on how to optimally manage multicommodity cold rooms have been summarised in Your VCCA [Operators Manual](#) and in Coldtivate's updated Knowledge Hub. The Coldtivate app has been further developed to feature a market price forecast model for Nigeria, improved language support, digital crate management, and more flexibility in setting a crop-specific cooling fee.

In November 2023, the Your VCCA team travelled to Nigeria to visit pilot locations and engage with local stakeholders like OTACCWA (the Organization for Technology Advancement of Cold Chain in West Africa), and NSPRI (Nigerian Stored Products Research Institute). As a result of these



COLDTIVATE APP ACTIVITY:

357 downloads, 13494 check-in operations for 647 tonnes of produce stored.



REACH OF CAPACITY BUILDING ACTIVITIES

3,427 direct and 2,472 indirect beneficiaries.



AMPLIFICATION REACH

The project was featured in 17 different media or magazines.



Taking a tour of the Coldtivate app at the Ibeju Lekki cooling unit of ColdHub



interactions, the Your VCCA initiative was presented to 20+ Nigerian cold chain and logistics companies at the Coldtivate Demo Day in December 2023, at the [West Africa Cold Chain Summit and Exhibition](#) in March 2024, and at the [1st Postharvest Connect Conference and Exhibition](#) in April 2024. A [project video](#) has been released to document the activities in Nigeria in collaboration with the cooling companies ColdHubs and LeapEnergy.

To tackle the financing gap for agricultural cold storage solutions, Your VCCA has joined forces with the SET Alliance to organise in November 2023 a three-part [webinar series](#) titled 'Unlocking Finance and Scalability for Cold Room-as-a-Service', which engaged more than 316 participants and highlighted the importance of assessing the commercial viability of cold rooms in different contexts and the key role that digital tools play in supporting financiers' due diligence process.

Future of the project

While the experience of the past years proved that Your VCCA is an initiative that can critically support the mainstreaming of decentralised cooling solutions, BASE is now focusing on better understanding what are the key ingredients needed to ensure its long-term sustainability.

As a crucial aspect is making sure that the cold rooms are properly managed and widely utilised to swiftly payback the room investment, the Your VCCA expansion to Guinea-Bissau that started in February 2024 with the support of [ECOWAS](#) and [BMZ](#) will commence by conducting an assessment of the cooling needs of rural communities and by selecting of the most appropriate type of (passive or active) cooling solutions and governance structure to meet the local needs.

Furthermore, cooling users often lack a market linkage to directly commercialise their crops, and might thus prefer to sell to intermediaries at lower prices rather than maximising their revenues by preserving their crops in cold storage and selling at higher rates.

To support the transformation of cold rooms in safe storage, aggregation, and market centres, BASE is starting a pilot project in Nigeria, supported by the [REPIC](#) platform, that focuses on directly connecting farmers and potential buyers via the Coldtivate app to boost room utilisation and farmers revenues.

The efforts to establish a solid ecosystem around cold room management will ensure that cooling is integrated in a comprehensive approach to drastically reduce post-harvest losses and support the improvement of farmer's livelihoods.



Nigerian farmers learn about pay-per-use cold storage through Your VCCA's comic strip at Farin-Gada Market, Plateau State. (Credits: Harriet Ijeomah, ColdHubs).

STRUCTURE SOLAR FOR HEALTH PROGRAMME IN SUB-SAHARAN AFRICA





Setting The Context

In 2021, BASE, in partnership with the [SADC Centre for Renewable Energy and Energy Efficiency \(SACREEE\)](#), was contracted to support the [United Nations Development Programme \(UNDP\)](#) in developing a [Green Climate Fund \(GCF\)](#) Funding Proposal package for the Solar for Health Programme. This initiative aimed to equip up to 2,000 rural and urban public healthcare facilities (HCFs) in Malawi, Namibia, Zambia, Zimbabwe, and Liberia with performance-based renewable energy services and complimentary climate adaptation measures. The project proposal is designed to address the climate change challenges faced by the health sector in Sub-Saharan Africa, incorporating insights from pilot projects and aligning with the specific needs of each country. The programme leverages the expertise and collaboration of UNDP, the [World Health Organization \(WHO\)](#), [Sustainable Energy for All \(SEforAll\)](#), and local governments for effective implementation.

The health sector, like many others, is deeply interconnected with the climate crisis. Climate change poses significant threats to public health, exacerbating existing health challenges and increasing the vulnerability of communities. Without operational and informed healthcare facilities, people are left to cope with the adverse effects of climate change on their own.

Lack of access to electricity or climate and disease information can hinder the capacity to respond effectively to health risks, leaving individuals and communities more susceptible to harm. Operational and climate-informed health facilities are vital for protecting public health and reducing the burden on communities affected by climate change.

By integrating climate change adaptation and renewable energy solutions, the Solar for Health Programme serves as a comprehensive intervention, simultaneously addressing climate mitigation and adaptation needs in public health centres.

The Energy-as-a-Service business model has been tailored to suit the requirements of healthcare facilities and energy service providers, ensuring continuous, affordable and clean energy supply. At the same time the programme will strengthen existing health surveillance and information systems to enhance the adaptive capacity of health services, enabling better understanding and prediction of the impacts of climate change



PERIOD

2021-2023

COUNTRIES

Liberia, Namibia, Zambia, Zimbabwe, Malawi

PARTNERS

SACREEE

FUNDERS

UNDP

EXPECTED IMPACT



FINANCE MOBILISED:

USD 250 million for the provision of low-carbon and climate informed health services.



EMISSION REDUCTION:

Up to 680,000 tonnes of CO₂e emissions over the programme's lifetime.



NUMBER OF HEALTHCARE FACILITIES (HCFs) BENEFITING FROM CLEAN, RELIABLE AND AFFORDABLE ENERGY PROVISION:

Up to 2,000.



NUMBER OF HCFS EQUIPPED WITH CONNECTED INFORMATION SYSTEMS:

12 per country.



NUMBER OF NEW JOBS CREATED:

Over 10,000 including employment opportunities for the installation of PV systems, energy services, and local support teams at HCFs.



NUMBER OF BENEFICIARIES:

Around 14,985,000 direct and 14,245,000 beneficiaries from the improved healthcare access and services provided are estimated over the programme lifetime.



on diseases and disease outbreaks to create conditions for preventive early actions to safeguard public health.

Review of 2023

Throughout 2023, significant milestones were achieved within the Solar for Health Programme:

- i) Upon designing and structuring the programme, developing the funding proposal package and conducting four in-country missions during 2022, the fifth and final in-country mission to validate the funding proposal with relevant stakeholders took place in January 2023. Discussions were held with ministries, banks, and technology providers to refine the programme targets, co-financing contributions, and the Energy-as-a-Service business model.
- ii) Validation workshops were conducted in each of the target countries to finalise and confirm the funding pro-

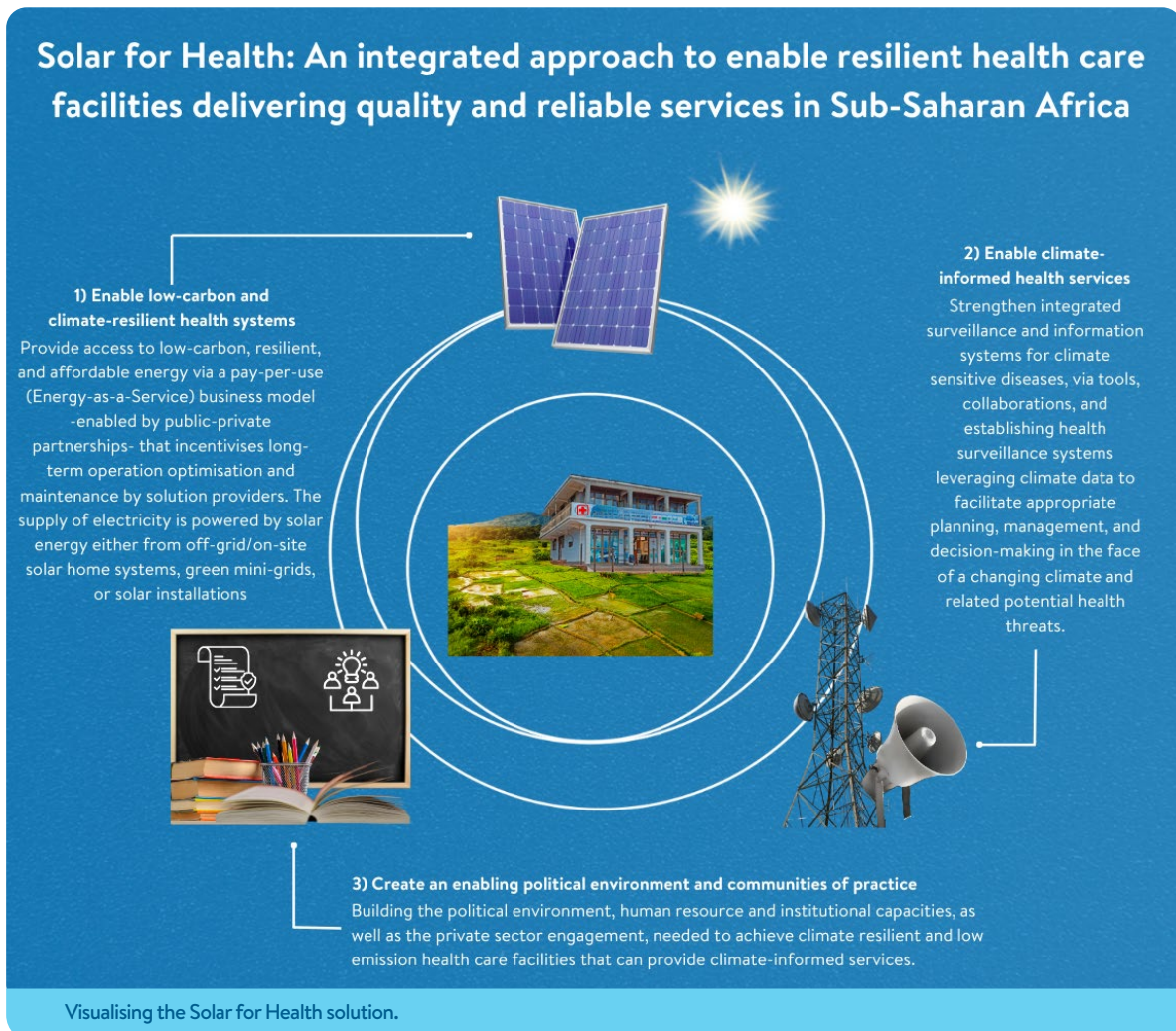
posal package before its submission to the GCF. BASE guided the validation workshops.

The funding proposal package was validated by key stakeholders and submitted to the GCF.

Future of the project

The funding proposal is currently undergoing the due diligence process at the GCF. Upon approval by the GCF Board, the programme implementation is expected to commence toward the end of 2024.

BASE currently explores further opportunities at the intersection of climate change, energy and health and seeks to build upon the vast learnings and connections with key national and international entities like SEforAll and WHO.



02

AREA OF WORK

RENEWABLE ENERGY AND ENERGY EFFICIENCY

I) THE ENERGY SAVINGS INSURANCE (ESI)

About ESI

At an individual level, small businesses' energy consumption seems relatively negligible compared to larger industries. However, at an aggregate level, promoting energy efficiency improvements in SMEs globally can be greatly significant as they represent **90 percent of businesses worldwide**. To increase adoption of efficient energy systems, SMEs still need to overcome a plethora of challenges, such as higher upfront costs, competing investment opportunities, and low trust in energy-savings promises that hold them back from prioritising energy efficiency considerations in their operations.

The ESI model was created to increase SMEs' trust in energy-efficiency investments, de-risking them via, notably, an energy savings guarantee. Consequently, the model also alleviates financial institutions' risk when funding energy-efficiency projects, as ESI projects grant the user of the insured equipment an added protection. The ESI model is adaptable and scalable to market and technologies presenting interest and energy savings potential, and as a fully market-driven model, does not require additional non-debt financing such as grants or subsidies.

The idea of the Energy Savings Insurance (ESI) model was firstly shaped by BASE and set into motion with the **Inter-American Development Bank (IDB)** in Colombia and Mexico. After raising interest among stakeholders in other parts of the region, the ESI model was brought to El Salvador, Nicaragua, Brazil, Peru, Chile, Argentina, and Paraguay.

Following its success in Latin America, the ESI model made its way to Europe in 2018 through the funding of the European Commission Horizon 2020 (H2020) Research and Innovation Programme. Currently, ESI Europe is spread in Croatia, Greece, Italy, Portugal, Slovakia and Spain. Worldwide, counting with the collaboration and funding of other stakeholders it has been further implemented in Mongolia, Morocco, and Kazakhstan.



INNOVATIVE BUSINESS MODELS

ESI EUROPE 2.0





Setting the Context

Starting in 2018, the implementation of the ESI model in Europe saw two different phases, with a first project funded by the European Commission Horizon 2020 (H2020) programme which enabled the model to touchdown in Spain, Italy and Portugal. Since 2021, and through the same fundings, the model is being also deployed in Croatia, Greece, and Slovakia.

The ESI Europe 2.0 project is targeting mainly investments from small and medium enterprises, considering that they consist of more than **99 percent of companies in Europe**, are responsible for **13 percent of total energy consumption on average in the EU**, and in the 3 countries of focus, demonstrates above-average energy-intensity levels.

Review of 2023

2023 was a key year for the ESI Europe 2.0 project where the main activities focused on engaging the main market stakeholders such as technology providers, SMEs, insurance companies and banking institutions, to collaborate with the ESI model. Six consultation workshops were organised in the three countries throughout the year. During these events the model was introduced in detail to suppliers of efficient technologies, and many discussions were held on the benefits of adopting the model into their daily business and concrete steps on how to implement it.

Over 200 technology providers across the three countries were reached through this activity and were introduced to the ESI model. This provided a great first market feedback on the model and the basis for the further engagement of these stakeholders. During 2023, dozens of bilateral meetings were held with this target group, in order to move forward with the potential adoption of the ESI model and the creation of pilot projects.

Considering the novelty of the model in these three countries, and the difficulty that business models in general face to break into new markets, the ESI model was received from the supply side with a lot of interest to know and understand more, and as well with many questions and market-specific feedback on how to best adapt it to the local needs. From the demand side, workshops were held as well with small and medium enterprises, associations of such businesses, and the model was presented in different events that targeted SMEs.



PERIOD

2021-2024

COUNTRIES

Croatia, Greece and Slovakia

PARTNERS

Door, CRES, SIEA

FUNDER

European Commission

ACHIEVED IMPACT



NUMBER OF ORGANISATIONS ENGAGED

3 partners and 5 financial institutions engaged.



REACH OF CAPACITY BUILDING ACTIVITIES

300 technology providers and SMEs and 35 financial institutions.



AMPLIFICATION REACH

The project was featured in 14 different online media or magazines and 2 webinars.



Regarding the involvement of financial institutions with the project, most of the largest insurance companies and banks were contacted in Croatia, Greece and Slovakia. Finding a surety product that fit to the needs of the model proved to be challenging, as providing a performance insurance of energy-efficient systems was rather a new product for the local insurance companies in the three markets.

Through the many discussions that were held with insurance companies throughout 2023, we saw a high interest from them in providing such products and expanding their business in these three markets, nevertheless setting the framework to start a new product requires quite some resources and time.

After introducing the model to all the large insurance companies in the three countries, and to a few international insurance companies and brokers, four insurance companies saw a high potential in the ESI model and were eager to collaborate with the project by providing a surety product in the three markets. Engaging local Banks started later in 2023 and we are currently still reaching out to the large local financial institutions, where the ESI model is introduced as a de-risking instrument for issuing credit to energy-efficient investments from the SME sector.

In addition to the activities linked directly with the engagement of the key market stakeholders, numerous international dissemination activities took place in 2023. The aim of these activities was to increase awareness of the market need for such innovative business models that aim at unlocking investments in energy-efficient systems. All this was complemented by different marketing and

communication activities that firstly supported the further engagement of the key market stakeholders, and secondly increased the dissemination outreach.

Future of the project

2024 will mark the last year of the project and therefore the main focus will be on strengthening the core activities on engaging SMEs and technology providers in adopting the ESI model, and potentially creating pilot projects in each of the countries.

The main objective will be on moving forward with the technical steps of ESI model implementation with the already interested technology providers, and increasing the outreach in the market to capture the interest of more key stakeholders. Parallel activities such as marketing, communication and dissemination will continue to support this goal.

Further to this, 2024 will as well finalise the adaptation of the Management Information System (MIS), which is thought to serve as a digital facilitator of communication and documentation between the key stakeholders during the whole energy efficiency project.

This will be complemented by the development of a tool that aims at calculating the avoided CO₂ emission from each energy efficient investment from the SME sector. Such data will be available for use by any stakeholder interested to capture such information for their own sustainability reporting.



The ESI Europe team annual meeting in March 2023, Basel, Switzerland.

INNOVATIVE BUSINESS MODELS

ESI IN CENTRAL ASIA AND AFRICA



PERIOD

2021-2023

COUNTRIES

Mongolia

PARTNERS

URECA, Tenger Insurance, Energy Regulatory Commission

FUNDER

XacBank

ESI DEVELOPMENT IN MONGOLIA

Ulaanbaatar, recognised as one of the world’s most polluted capitals, consistently experiences air pollution levels that surpass the World Health Organization’s safety limits.

Adopting energy-efficient technologies could significantly cut emissions and prove cost-effective compared to other methods. However, these technologies often face skepticism regarding their cost-effectiveness and the actual energy savings they provide. As an insurance-based model designed to de-risk investments in cleaner energy solutions, the Energy Savings Insurance (ESI) model holds a significant potential to address these concerns.

BASE is collaborating with Xacbank and the Green Climate Fund (GCF) to develop and implement the ESI program in Mongolia, aiming to facilitate the transition to energy-efficient solutions.

Review of 2023

The Energy Savings Insurance (ESI) model provides financial and technical assurances to overcome market barriers and facilitate investments in energy efficiency. Originally developed by BASE and the [Inter-American Development Bank](#) in Latin America, this model has been adapted for Mongolia with support from the Green Climate Fund. Key stakeholders such as [XacBank](#) and [Tenger Insurance](#) have been pivotal in deploying tailored financial and insurance products. In February 2023, a workshop to introduce the ESI model attracted around 120 attendees, including representatives from the associative sector and technology providers. Topics covered included financing sustainable futures, best practices for ESI, energy efficiency measurement, validation, and the benefits of Energy Savings Insurance.

ACHIEVED IMPACT



REACH OF CAPACITY BUILDING ACTIVITIES

over 200 participants in the 2 workshops including Technology providers and SMEs, financial institution, government officials and over 25 local technology providers approached and introduced to ESI.



PILOTS:

2 pilot projects realised in 2023.



FINANCE MOBILISED:

Around USD 110.000 in the first 2 pilot projects.



CO₂E EMISSIONS REDUCTION:

92 CO₂ tonnes/year.



ENERGY SAVINGS:

USD 6000 per year between the 2 pilot projects.



A significant portion of the event was dedicated to a Q&A session where participants discussed the benefits of ESI in accessing financing, the potential use of the model within the ESCO format, challenges of the model in other countries, international certifications, costs of validation, and mechanisms to protect against unfounded claims. Following the feedback from the first workshop, a more focused session was organized for technology providers that showed a strong interest in the ESI model. Seven technology providers attended this workshop at XacBank's offices. The session featured a detailed presentation on the validation process and discussions on the methodologies used for energy savings evaluation, the role of the validation entity, and the functioning of the insurance model.

In November, another workshop focused on presenting the Energy Savings Insurance (ESI) model with updates from the implementation of pilot projects. The event was attended by representatives from the associative sector and technology providers who had been identified as potential users of the ESI model.

During 2023 two notable photovoltaic projects were installed in UlaanBaatar.

The first project, the XacBank Central Offices PV Project, features the installation of a 19.6 kWh photovoltaic system at the bank's central offices. Now fully operational, this system generates approximately 22,028 kWh annually, fulfilling around 20 percent of the building's internal energy requirements. This initiative involved an investment of approximately USD 48,000.

The second project took place at an E-mart supermarket location in Ulaanbaatar, where 32 kW of solar panels

were installed. This system is projected to generate about 80,000 kWh each year, with an investment close to USD 62,000.

Combined, these initiatives amount to an investment of approximately USD 110,000 in renewable energy infrastructure. They are expected to yield significant environmental benefits, including a reduction of around 92 tons of CO₂ emissions per year and considerable energy savings. These projects exemplify XacBank's dedication to environmental sustainability and innovative energy solutions

Future of the project

Future directions for the project include:

- **Scaling up In the private sector:** Expanding the ESI model's reach to additional private sectors and regions within Mongolia, thus increasing the number of SMEs benefiting from energy-efficient technologies.
- **Public Sector Integration:** Exploring the application of the ESI model in public procurement for energy-intensive designated consumers is a new strategic direction. This application of the ESI model was initially explored during the implementation of the project with XacBank, although it was not a requirement of the contract with them. With the support of additional funding from UNEP and conducted in cooperation with the Energy Regulatory Commission and the Ministry of Finance, this initiative that aims to integrate the ESI model under the new Green Public Procurement Law will be further explored.

Solar installation at XacBank central offices, Ulaanbaatar, Mongolia.





ESI DEVELOPMENT IN MOROCCO

Morocco aims to achieve 25 to 30 percent energy savings by 2030 through increased private sector investment in energy efficiency (EE) across all sectors. Innovative financing schemes can create favourable conditions for private finance, stimulate demand, and reach new market segments. BASE is partnering with Société d'Ingénierie Énergétique (SIE) to expand the benefits of its Energy Savings Insurance (ESI) model to the Moroccan market, supported by funding from the [Climate Emergency Collaboration Group](#).

Review of 2023

The project team worked closely with a competitively selected law firm and validation entity based in Morocco to develop the critical components of the ESI approach, namely the standard contract and the technical validation processes and templates, in alignment with the local context. The project aimed at presenting a new market segment for existing market-based instruments, such as surety bonds tailored for the EE project's purpose specifically and green credit lines and loan products targeting energy efficiency projects to create a long-term business for the actors mentioned above.

Various resources were created tailored to the Moroccan market, such as a standardised contract, an insurance product, a validation mechanism and documents, a consolidated lists of financial institutions offering green financing products and potential clients and technology providers for pilot projects, guidance documents on MIS processes, and dissemination material.

The project came to a close in June 2023. It is anticipated that SIE will continue engaging key stakeholders and eventually leverage partnerships to select a few relevant energy efficiency pilot projects to showcase the ESI approach's benefits in Morocco.

ESI DEVELOPMENT IN SOCIAL HOUSING PROJECT IN KAZAKHSTAN

Kazakhstan faces the dual challenge of providing affordable housing for a growing population and addressing significant environmental concerns due to inefficient district heating networks powered by coal plants. To address these challenges, the [Kazakhstan Housing Company \(KHC\)](#), supported by the [Asian Development Bank \(ADB\)](#) and BASE, is promoting energy-efficient, affordable residential buildings. BASE is part of ADB's expert team looking at optimising building designs that meet both KHC's cost requirements and ADB's green criteria.

Review of 2023

The role of BASE is to focus on developing new de-risking mechanisms to ensure the proper implementation of energy-efficient measures and standards, particularly in a construction industry still becoming familiar with

PERIOD

2022-2023

COUNTRIES

Morocco

PARTNERS

Société d'Ingénierie Énergétique (SIE)

FUNDER

Climate Emergency Collaboration Group (CECG)

ACHIEVED IMPACT



ORGANISATIONS ENGAGED

33 financial institutions, insurance companies, validation entities and technology providers were engaged throughout the development phase.

PERIOD

2023-2024

COUNTRIES

Kazakhstan

PARTNERS

Kazakhstan Housing Company (KHC), ADB team of consultant experts, Project Developers, Reinsurance Companies, Banks

FUNDER

Asian Development Bank (ADB)



these green concepts. BASE is also addressing this issue by supporting ADB in adapting the Energy Savings Insurance concept. The goal is to evolve the existing “Construction Completion Guarantee”—a government mechanism similar to a surety bond that covers the risk of building completion—into a “Green Guarantee.” This new guarantee will not only ensure the completion of construction projects but also incorporate energy efficiency and sustainability standards.

The project involved several key activities aimed at developing and implementing the Green Guarantee Instrument, such as analysing the existing KHC guarantee framework, incorporating green building certification standards, construction quality tests related to the skin and structure energy efficiency, and the definition of a compensation mechanism for buyers in case developers fail to meet the required standards. Stakeholder engagement and capacity building have been also conducted among project developers, reinsurance companies, and banks to obtain feedback on the accessibility and feasibility of the proposed Green Guarantee Instrument.

These training sessions and meetings also explored collaboration opportunities for implementing the new instruments.

Future of the project

The project activities foresee preparing all the necessary information for testing and implementing these learnings and the green building design into a pilot project, initially planned for Astana but potentially relocated due to bureaucratic challenges in securing an adequate plot. BASE is finalising its proposal for the compensation mechanism and amounts, which will be presented to KHC.



ACHIEVED IMPACT



ORGANISATIONS ENGAGED

7 organisations, including a validation entity, reinsurance companies, associations of financiers, construction companies and insurers were engaged.



REACH OF CAPACITY BUILDING ACTIVITIES

- *8 insurance companies and 16 financial representatives during the first workshop organised in collaboration with the Association of Financiers.*
- *45 participants in the second workshops organised in collaboration with Association of Financiers.*
- *Over 20 local stakeholders including developers, construction companies representatives, architects and representatives of local associations.*
- *Over 20 KHC representatives.*

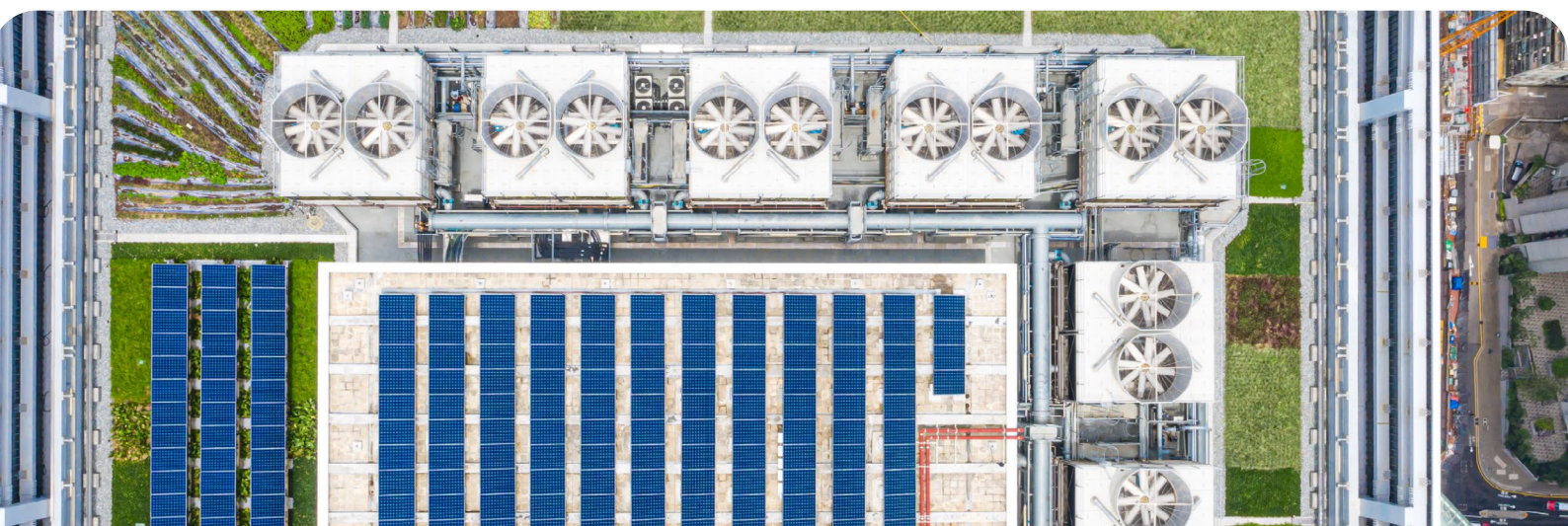
II) ENERGY EFFICIENCY-AS-A-SERVICE

About servitisation

According to the International Energy Agency (IEA) more than a third of all emissions reductions required to achieve the Paris Agreement target and limit global warming by 1.5°C can be solely achieved through energy efficiency. But the uptake of modern, efficient energy systems is facing several barriers, from higher upfront costs compared to conventional equipment to perceived performance and maintenance risks of new and unfamiliar technologies.

Servitisation refers to an innovative business model where customers engage with solutions on a pay-per-use model (focused on OPEX) rather than purchasing the physical asset (traditional CAPEX model). When applied to energy-efficient and renewable energies, clients benefit from the advantages of high efficiency and state of the art solutions, while solely paying for the amount of service they consume, while the technology providers retain the ownership and maintenance responsibilities. Hence, this approach encourages the uptake of modern, efficient systems by sparing end-users the costs of acquiring and operating the equipment as well as any associated risks.

BASE started to leverage the servitisation business model as part of the Cooling-as-a-Service (CaaS) Initiative, on behalf of the Clean Cooling Collaborative (formerly K-CEP) with the objective to scale-up the demand for efficient, clean cooling systems, through the use and promotion of the innovative CaaS business model. Building on this success, BASE pursued the deployment of the model through the Efficiency-as-a-Service (EaaS) Initiative, focused on three European countries, the Servetia Initiative, focused on Switzerland, and the Servitisation for the Energy Transition Alliance, aiming to promote the model globally.



INNOVATIVE BUSINESS MODELS

EFFICIENCY-AS-A-SERVICE IN EUROPE





Setting the Context

The **Efficiency-as-a-Service model (EaaS) initiative**, launched in 2020 and funded by the European Union's Horizon 2020 research and innovation programme, focused on tailoring and mainstreaming the innovative business model of servitisation in energy-intensive applications in Belgium, The Netherlands and Spain.

The programme, under the coordination of BASE and in partnership with Agoria (leading EaaS in Belgium), EiT InnoEnergy (leading EaaS in The Netherlands) and Anese (leading EaaS in Spain) focused on developing and deploying the model of EaaS to enable and facilitate the market transition and adoption to energy efficient equipment-as-a-service in the built infrastructure for SMEs (Small and Medium Enterprises) and large companies.

Strong market barriers slow down market adoption of energy-efficient equipment; these include the complexity of systems to be installed, lack of expertise, performance uncertainty risks, investment requirement (CAPEX) as well as conflicts in investment priorities. EaaS offers an appealing solution to tackle all of these barriers by supplying energy-efficient systems as a service instead of requiring the client to purchase the asset.

Especially with energy prices fluctuating considerably, and climate change impact being on the rise, it is key for European markets to shift to more sustainable technologies through energy efficiency and renewable solutions. Efficiency as a Service offers an interesting solution that can also incentivise the implementation of a circular economy, benefiting the economy, the people, and the planet.

Review of 2023

In 2023, the EaaS initiative entered its final year during which BASE and the consortium partners focused on building the EaaS pipeline, creating case studies, finalising the project tools and deliverables, and continuing efforts on capacity building. More particularly, the team looked into improvements that were required in each of the standardised EaaS contract designs, the pricing model, the risk mitigation report, and the documentation material.



PERIOD

2020-2023

COUNTRIES

Belgium, The Netherlands, Spain

PARTNERS

Agoria (BE); Innoenergy EIT (NL), ANESE (ES)

FUNDER

European Commission

ACHIEVED IMPACT



REACH OF CAPACITY BUILDING ACTIVITIES

over 300 among technology and solution providers, over 80 financial institutions, over 70 potential clients of EaaS (including SMEs) and over 160 from other sectors.



RESOURCES CREATED

5 case studies available on [EaaS' website](#).



AMPLIFICATION REACH

Over 500 video and article views



To support the dissemination of the results of the project, the consortium also wrote a briefing paper which was published in September 2023.

The case studies can be consulted here:

1. [Light-as-a-Service in Retail in Belgium and the Netherlands](#)



A Brighter Future: How Light-as-a-Service is Revolutionising Retail

2. [Circular Light-as-a-Service in a school campus in Belgium](#)



Bringing sustainable lighting and circular economy together with C-LaaS

3. [Light-as-a-Service in the industry in Switzerland](#)



Accelerating Light-as-a-Service and Circular Economy in Switzerland

4. [Refrigeration-as-a-Service in Retail in Norway](#)



Driving Efficiency in Retail with Refrigeration-as-a-Service in Norway

5. [Battery-as-a-Service in the industry in Germany](#)



Bringing sustainable solutions together with Battery-as-a-Service

Future of the project

An increasing number of companies are showing interest in the model and others confirming its implementation.

The team is confident that with continuous efforts the model will be adopted by more companies, enabling a faster and fairer transition to a decarbonised economy. BASE will keep track of the progress on the market, and record these activities within the SET Alliance.

To continue supporting the market above and beyond the EaaS initiative, the consortium integrated the learnings of the programme into the global Servitisation for Energy Transition (SET) Alliance.

This strategic alliance has been designed by BASE and is dedicated to sustaining momentum in markets, facilitating the widespread adoption of the Servitisation model, and expediting the transition to a more sustainable future.

Composed of forward-thinking companies and individuals, the SET Alliance invites organisations enthusiastic about embracing the Servitisation model to become part of this transformative movement.

INNOVATIVE BUSINESS MODELS

SERVITISATION FOR ENERGY TRANSITION ALLIANCE





Setting The Context

To institutionalise the work completed by the Cooling-as-a-Service (CaaS) Initiative (2018-2021) and the Efficiency-as-a-Service (EaaS) Initiative (2020-2023), BASE, together with a Steering Committee formed of key partners from the CaaS Alliance (in alphabetical order: [Aston Business School](#), [ATMOsphere](#), [Energy Partners](#), [KAER](#), [The Advanced Services Group](#) and The University of Oxford), launched the global [Servitisation for Energy Transition \(SET\) Alliance](#) in May 2022.

The aim of the alliance is to support companies in scaling up the adoption of the as-a-Service model across sectors, and accelerating the path to a climate-resilient future. The Alliance is designed as a self-sustaining initiative, with activities funded by annual membership fees, and it embeds the learnings from CaaS and EaaS, but also all activities of BASE within the servitisation sector, which include Your VCCA as well as the Servetia programme in Switzerland.

Review of 2023

Since its launch, the activities of the SET Alliance have been adapted to bring value to its members. The activities focus on four key pillars: Capacity building, Marketing, Consulting and Special Projects.

For capacity building, the team hosted several webinars, including on the value of servitisation to decarbonise the built environment, to accelerate circularity and the value digitalisation unlocks within Servetisation. Beyond online activities, the team joined in-person events such as the Smart Services Summit or the Spring Servitisation Conference, engaging with stakeholders from solution providers, financiers, customers and academia.

Within marketing, the SET Alliance released multiple articles and case studies on the lighting, large cooling, and cold rooms sectors. The aim of each case study is to outline the challenges and opportunities of deploying the model as well as how such projects perform. As the alliance is growing in number of members, further case studies will be released for compressed air technologies, solar and energy storage solutions.

The consulting activities of the SET Alliance have been focused to support companies designing or selling energy-intensive equipment (such as cooling, heating, lighting, energy storage and solar) to adopt the model

PERIOD

Since 2021

COUNTRIES

Global

PARTNERS

CaaS members, EaaS members, Your VCCA partners,

FUNDERS

SET Alliance members, Clean Cooling Collaborative, European Union's Horizon 2020 research and innovation programme, Circular Building Coalition.

ACHIEVED IMPACT



FINANCE MOBILISED:

Over USD 115 million.



EMISSION REDUCTION:

Over 61,000 tonnes of carbon emission per year from energy efficiency improvements.



ENERGY SAVINGS:

Over 97 GWh.



REACH OF CAPACITY BUILDING ACTIVITIES

Over 40 organisations.





into their products, operations and to deploy it with their customers. In addition, the team has focused on the demand side (airports, hotels, sports centres, etc), supporting entities on how to procure “as-a-Service” offers.

The “special projects” of the SET Alliance are a new initiative, aimed to bring innovation into the network of the stakeholders interested in the model. As such, the alliance started collaborating with the Circular Building Coalition (CBC) to evaluate how to integrate circularity into Product-as-a-Service (PaaS) offerings.

The first phase of this programme consists of writing a white paper with the need, challenge and opportunity of focusing on this work; should the white paper be successful, the CBC will select the team to engage in the second phase of the blueprint project which consists of designing the contractual guidelines to drive the integration of circularity for PaaS offers within energy-intensive applications.

As acting Secretariat, BASE together with the Steering Committee aim to continuously improve the activities of the Alliance to bring as much value as possible to the market to ensure an impactful, sustainable and circular implementation of the model across regions and sectors. Membership is open to a range of entities such as technology providers, financiers, as well as customer associations.

The Alliance also aims to secure strategic outreach partners for dissemination and collaboration.

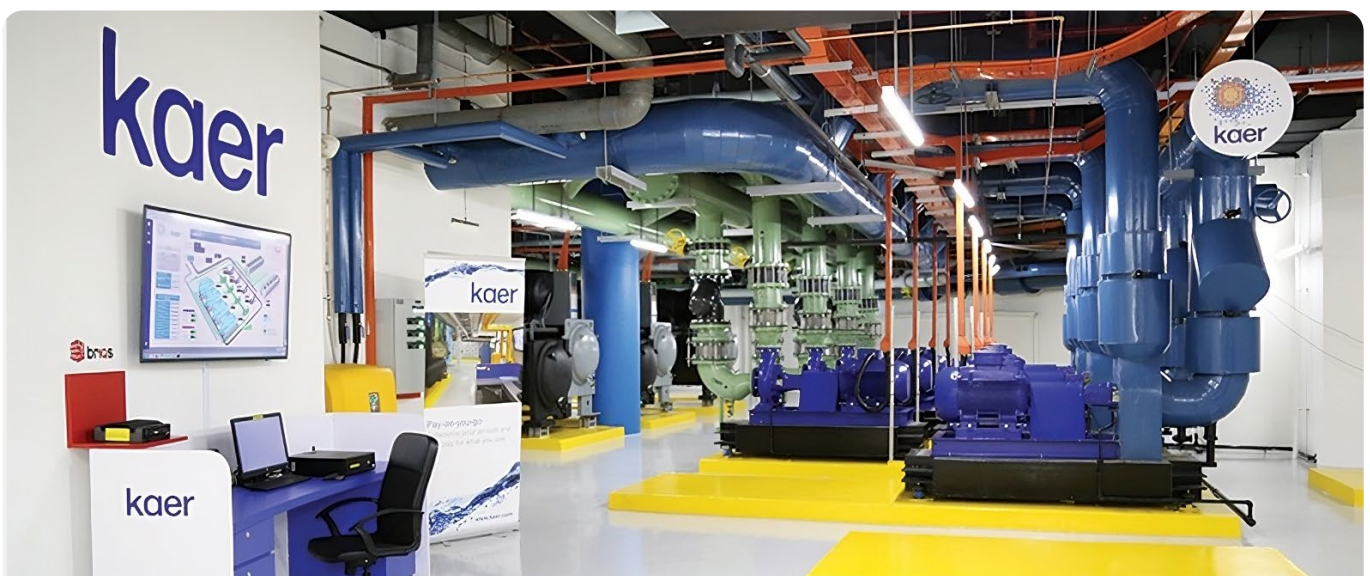
Future of the project

In 2024, the Alliance will continue to monitor the development of the as-a-Service market, identifying new players, potential members and opportunities for collaboration.

The alliance will onboard partners that enable the market of servitisation (digital platforms, financiers, consultancies) as well as entities driving the demand side (real estate owners, architects and public entities).

Planned activities will include supporting companies successfully transitioning to as-a-Service offers, publishing case studies to showcase successful projects, articles on relevant topics, and webinar series focusing on relevant topics such as digitalisation, operations and financing. With the support of the Steering Committee, tools a

nd materials will continuously be improved, and if successful, BASE will engage in the second phase of the Blueprint project in collaboration with the CBC. In addition, as the Servetia and the Your VCCA programmes mature, partners from each initiative, tools and materials will be integrated into the SET Alliance to support the dissemination of this material across regions.



CaaS models present a unique opportunity to broaden the adoption of more sustainable cooling solutions.

INNOVATIVE BUSINESS MODELS

SERVETIA





Setting The Context

Not enough building owners are doing the energy retrofits needed to achieve Switzerland's climate targets. Switzerland's building stock consumes approximately 90 TWh, accounting for **40 percent of the total end energy demand in the country.**

Buildings also contribute about **one-third of Switzerland's CO₂ emissions.** Despite the clear need for energy efficiency improvements, less than 1 percent of buildings undergo retrofits annually. This figure refers to the entirety of energy retrofits (incl. envelope), but it does not change the fact that only CHF 13 billion is spent annually on retrofitting, far below the required levels.

This slow renovation rate is compounded by varied energy regulations across cantons and insufficient investment. The Servetia initiative seeks to address this backlog by promoting energy efficiency-as-a-service (EaaS), offering a financially viable model for building owners to upgrade their facilities without upfront costs, thus aiding Switzerland's transition to a more sustainable energy infrastructure.

Review of 2023

Over the past year, Servetia has conducted extensive market research to understand the barriers Swiss building owners face in undertaking energy retrofits. This research has revealed significant hurdles in financing and a general lack of awareness about the potential benefits of such investments. To overcome these obstacles, Servetia made a significant effort to promote the initiative and its benefits across Switzerland.

Key milestones included presentations at forums such as Showcase2030 at the EPFL Innovation Forum, the Energy & Resources Forum at the Rolex Learning Centre in Lausanne, and Building Bridges in Geneva. These platforms enable access to a wide audience, ranging from industry stakeholders to potential clients and financiers, and to illustrate the transformative potential of the EaaS model in this context.

Direct interactions with end-users and potential clients have been crucial in advancing our goals. These discussions have helped us tailor our approach to meet their specific needs and in understanding the financial and environmental benefits of service-oriented solutions. Our engagements with providers of energy solutions have been equally important, guiding them through the complexities of EaaS models and highlighting their potential profitability and sustainability benefits.



PERIOD

2023 - 2025

COUNTRIES

Switzerland

PARTNERS

Enterprise for Society (E4S)

FUNDERS

Fondation Valéry



One of the key outcomes of these interactions has been the identification of pilot locations, such as the Zollikerberg Hospital campus. Here, Servetia supports the implementation of a comprehensive decarbonisation pathway. This includes the possible deployment of integrated EaaS solutions—ranging from heating/cooling systems to lighting and photovoltaic installations. The Servetia team is currently conducting thorough economic and environmental analyses and plans to implement an MRV (Monitoring, Reporting, and Verification) mechanism to independently track and report on the progress towards the set goals.

Lastly, the Servetia Initiative has called the attention of various companies, public utilities and even cities, who have asked to learn more about the potential implementations of the model behind Servetia and its benefits. These interactions and upcoming workshops are an important indicator of the need for innovative solutions and business models to achieve the energy transition.

Future of the project

Moving forward, Servetia will continue to support and expand its services at pilot locations while aiming to make publicly available its findings, best practices, case studies, and results through various channels.

These include Servetia's own and BASE's websites and upcoming conferences such as Solar&Storage in Zurich and Building Bridges in Geneva in 2024. The purpose of this effort is to further encourage the broader adoption of EaaS solutions where they are most impactful.

Moreover, the Servetia team is in the process of developing a streamlined online platform through the initia-

tive's website. This platform will facilitate access to EaaS solutions for those buildings most likely to benefit from them, to maximise synergies between stakeholders and scale the model to the wider market.

As we expand our pilot locations, this platform will play a crucial role in accelerating the adoption of EaaS models across Switzerland, ultimately contributing to its energy efficiency and sustainability goals.

Past and projected outcomes

Expected Energy Savings: While full deployment has not yet been achieved, pilot locations transitioning to renewable energy solutions are expected to significantly increase energy efficiency and reduce reliance on gas and oil, leading to substantial reductions in carbon emissions.

Financial Innovation: Servetia introduces financial models that allow building users to upgrade their energy systems without upfront investments, while enabling investors to support decarbonisation efforts without needing to own the infrastructure.

Educational Impact: Beyond collaborations with E4S and the hiring of an intern, Servetia actively promotes energy efficiency education through public forums, workshops, and presentations, enhancing understanding and support for sustainable building practices.

Partnerships and Collaboration: Established strong partnerships with energy providers, financial institutions, and technology companies, enhancing the quality and reach of EaaS solutions.



The Stiftung Diakoniewerk Neumünster, which includes the Zollikerberg Hospital (Spital Zollikerberg), is working hand in hand with the Servetia team, exploring options towards decarbonisation through as-a-Service models, from heating and cooling to lighting systems and photovoltaic solutions.

INNOVATIVE FINANCING MECHANISMS

GREEN PARTIAL CREDIT GUARANTEE IN PERU





Setting the context

Peru has substantial potential for renewable energy and energy efficiency investments, but SMEs face regulatory and financial barriers. As a result, financing is limited and primarily directed at larger enterprises. Existing green credit lines mainly target large infrastructure projects, with no specific offers for SMEs.

For the past two years, BASE has been collaborating with SECO to provide advisory services for the development and implementation of a partial credit guarantee, aimed at helping SMEs access financing for green solutions.

Review of 2023

BASE has provided technical advice to FOGAPI, a nonprofit organisation that manages guarantees in Peru. BASE's advisory role has encompassed guidance on the financial structuring of the guarantee, the creation of an operational manual, the development of a green taxonomy (including eligibility criteria and KPIs), and the establishment of mechanisms for monitoring, reporting, and verification (MRV).

Additionally, BASE has been instrumental in advising and guiding the establishment of governance structures and supporting negotiations and contractual agreements between the guarantee fund manager and SECO.

The team has also provided advice on the pricing of the guarantee to ensure its long-term sustainability, as well as on risk mitigation mechanisms.

One of the team's key achievements during this process was playing a crucial role in the negotiations and successfully leveraging SECO's allocated funds fivefold, resulting in a total fund of USD 35 million for guarantees.

In 2023, the financial structuring work and operational manual for the guarantee were completed with our guidance.

Future of the project

By 2024, with our continued support in guiding and advising, FOGAPI aims to finalise the MRV tool and commercial strategy and begin implementation with initial pilots.



PERIOD

2021-2025

COUNTRIES

Peru

PARTNERS

FOGAPI

FUNDER

SECO

EXPECTED IMPACT



NUMBER OF BENEFICIARIES

The guarantee aims to finance approximately 2,000 SMEs over a five-year operational period.



MOBILISED FINANCE

The guarantee aims to mobilise USD 100 million for green credits and allocating guarantees up to USD 60 million in revolving funds.

This will leverage SECO's funds for the guarantee at a ratio of 20 times, creating a movement and engaging key stakeholders to drive impactful change.



This guarantee aims to make it easier for SMEs in Peru to secure credit for investing in green solutions. Access to credit is often challenging for this market segment due to stringent requirements from financial institutions.

Currently, there is no standardised partial credit guarantee in Peru to support SMEs, making this mechanism crucial. Additionally, it encourages financial institutions to fund green solutions, aligning with the national push towards combating climate change and supporting economic decarbonisation.

The impact of this project has been significant in positioning the relevance of the risk-sharing guarantee among various banks and savings institutions.

By involving an expert organisation in guarantees to specialise in green financing and implement eligibility criteria, we have bridged this project with political dialogue, engaging the Ministry of Production and the Ministry of Finance.

This emphasises the importance of financing green solutions for SMEs to boost their productivity and sustainability. The project has successfully involved a wide range of public and private stakeholders who are now collaborating on its implementation.

INNOVATIVE FINANCING MECHANISMS

LEBANON GREEN INVESTMENT FACILITY





Setting the Context

Lebanon is a densely populated, urbanised nation that has grappled with many economic, climate change, and humanitarian challenges in recent years. These adversities have resulted in significant economic shortfalls and increased financial strain on the government, the private sector and its populace to opt for sustainable paths.

The widespread dependence on generators running on fossil fuels exacerbates the emission of greenhouse gases like carbon dioxide into the atmosphere. Compared to 1994, Lebanon experienced a staggering threefold increase in greenhouse gas emissions. Energy production accounted for most of these emissions, with transport, industrial processes, waste management, and agricultural practices following suit in contributing to the increase.

Even against this tumultuous backdrop, Lebanon is trying to improve its environmental responsibilities. In collaboration with the UNDP's Climate Promise initiative, the country has revised its Nationally Determined Contributions (NDC) and established ambitious goals.

These goals encompass a 20 percent reduction in greenhouse gas emissions compared to baseline projections and a substantial increase in the use of renewable energy sources in the electricity and heating sectors by 2030. The updated NDC also incorporates a comprehensive adaptation strategy that prioritises measures such as agricultural resilience, sustainable resource management, and nature-based solutions to mitigate the impacts of climate change and safeguard public health.

Review of 2023

This project aims to assist the Lebanese government in developing and structuring the Lebanon Green Investment Facility (LGIF) in partnership with [UNDP](#) and [Cedar Oxygen](#). It involves developing a robust Green Climate Fund (GCF) Funding Proposal to mobilise concessional funds from the GCF for LGIF. The objective is to enable Lebanon to achieve its NDC through private sector investment and a blended finance approach.

BASE is collaborating with Lebanon-based OTB Consult in designing and structuring the LGIF project for GCF consideration that is rooted

PERIOD

2023-2025

COUNTRIES

Lebanon

PARTNERS

OTB Consult, UNDP, Cedar Oxygen

FUNDER

NDC Partnership





in local realities and needs. Drawing on key inputs from UNDP Lebanon, the Lebanese Ministry of Environment, and Cedar Oxygen, LGIF's proposal will comply with GCF requirements and support Lebanon's climate objectives.

The funding proposal will comprehensively evaluate the projected impact on emission reductions and social benefits, demonstrate market potential, ensure long-term sustainability, consider gender considerations, highlight opportunities for scaling up, and ensure that the views of marginalised groups, such as women and refugees, are accounted for.

Given the depleted public funds, withdrawal of most international donors and collapsing financial system, LGIF strives to emerge as a pivotal force and investor in climate change mitigation and adaptation for the country. Its objective is to stimulate climate financing to facilitate Lebanon's energy transition by providing financial resources and mechanisms to diverse industrial and commercial sectors to attain national sustainable and low-emission development goals.

Future of the project

BASE is collaborating with Lebanon-based OTB Consult in designing and structuring the LGIF project for GCF consideration that is rooted in local realities and needs. Drawing on key inputs from UNDP Lebanon, the Lebanese Ministry of Environment, and Cedar Oxygen, LGIF's proposal will comply with GCF requirements and support Lebanon's climate objectives.

The FP will comprehensively evaluate the projected impact on emission reductions and social benefits, demonstrate market potential, ensure long-term sustainability, consider gender considerations, highlight opportunities for scaling up, and ensure that the views of marginalised groups, such as women and refugees, are accounted for.

03

AREA OF WORK

SUSTAINABLE FINANCE

SUSTAINABLE FINANCE STRATEGIES AND TAXONOMY IN LATIN AMERICA AND THE CARIBBEAN



SUSTAINABLE FINANCE STRATEGY AND ESMS - FIRST CITIZENS BANK, TRINIDAD & TOBAGO

First Citizens Bank embarked on a journey to become a sustainable finance institution and prepare for a low-carbon and climate-resilient economy. The Bank envisions to become a pioneer in green finance in the Caribbean and establishing green lending lines. To achieve this, it has collaborated with BASE in creating a sustainable finance strategy and action plan.

Review of 2023

First Citizens Bank operates in Trinidad and Tobago and the Eastern Caribbean. Beginning in late 2022, this consultancy aimed to develop a sustainable finance strategy and roadmap, as well as to enhance the institution's capacity to implement it. The goal was to expand the green finance portfolio and create a customised green financial product.

BASE facilitated the creation of a sustainability framework, established a sustainability policy and designed a methodology to build a sustainable portfolio. Following the analysis of the Bank loans' portfolio and a market assessment, we implemented innovative tools including a green loans categorisation methodology, tailored to the bank's unique needs and to support project and supplier eligibility criteria.

This set the stage for expanding their green finance portfolio and pioneering sustainable financial products. Ultimately, the methodology facilitates

PERIOD

2022-2024

COUNTRIES

Trinidad and Tobago

PARTNERS

First Citizens Bank

FUNDER

IDB Invest

ACHIEVED IMPACT



REACH OF CAPACITY BUILDING ACTIVITIES

32 persons within the bank.



informed decision-making, improved portfolio management, and anticipates regulatory compliance, impact tracking and reporting for stakeholders.

The advisory included the development of an Environmental and Social Risk Management System (ESMS), in alignment with international best practices in sustainable finance. The support encompassed guidance for the implementation of the products and capacity building of the management and specific areas of the Bank. The project was completed in March 2024.

GREEN FINANCE LINES AND SMES FINANCE LINES FOR DAVIVIENDA COSTA RICA

Davivienda is a Latin American bank headquartered in Colombia and a well-advanced bank group on the topics of sustainability. [IDB Invest](#) granted financing to Banco Davivienda de Costa Rica to support this financial institution in the growth of its green credit portfolio, which included the delivery of technical assistance in line with the proposition.

Review of 2023

The project's main objective is to support Davivienda Costa Rica in designing its green business line and strategy for financing construction and renewable energy, as well as establishing a monitoring system and a strategy for a high-impact thematic portfolio that allows segmentation, traceability in resource use and monitoring of impact measurement of such portfolio.

For this BASE's team of consultants developed a market study on sustainable construction and renewable energy to identify the most interesting financing opportunities:

- Corporate and commercial sustainable construction in the residential sector, targeting houses of 100m² or larger
- Electromobility
- Renewable energies, with a focus on photovoltaic solar energy for commercial and services
- Sustainable Small and Medium-Sized Enterprises (SMEs), as they represent 35.7 percent of the country's GDP and can become more sustainable with comprehensive solutions in energy efficiency and energy generation with alternative sources (solar panels)
- Circular economy, cleaner production, and certifications with support through strategic allies that allow them to have more opportunities to meet requirements when offering their products and services mainly in the public sector.
- In the second stage of the project, BASE reviewed, adjusted and supported the design of financial products applicable to the SME market, including a focus on financing sustainability and social aspects.

PERIOD

2023 - 2024

COUNTRIES

Costa Rica

PARTNERS

Davivienda Costa Rica

FUNDER

IDB Invest

ACHIEVED IMPACT



REACH OF CAPACITY BUILDING ACTIVITIES

Over 60 Davivienda Costa Rica staff participated in workshops and capacity-building sessions delivered by BASE on sustainable construction, renewable energy and e-mobility, and for the design and creation of value proposition and financing product development in these areas.



Product design workshops and capacity building to key bank personnel were delivered in two different opportunities at in-person meetings in Costa Rica in June 2023 and April 2024.

The project is in its final stages and it will be closed by mid-2024.

SUSTAINABLE FINANCE STRATEGY AND DECARBONISATION TOWARDS NET ZERO FOR BANCO GALÍCIA IN ARGENTINA

Banco Galicia was founded in 1905 and is the largest private domestic bank in Argentina. Its commitment to sustainability management comes from the understanding that the bank can only grow under a long-term strategy that takes both the social situation into consideration. This is translated in the adherence to the Equator Principles and the Carbon Disclosure Project (CDP), an Environmental Management System that achieved the ISO 14001:2004 certification and becoming one of the founding members of the Principle of Responsible Banking (PRB) initiative convened by UNEP-FI.

Review of 2023

The project aims at designing a sustainable finance strategic plan to reinforce the decarbonisation of Banco Galicia's portfolio and operations, as well as deepen the segmentation of the climate portfolio, analysing governance, clarifying processes and responsibilities with the intention of implementing TCFD recommendations and setting decarbonisation targets based on NZBA principles.

A diagnostic of the bank's portfolio, strategy, and processes has been conducted and an initial mission trip of BASE consultants took place in September 2023. In October 2023, TCFD as an initiative led by the Financial Stabilization Board (FSB) fulfilled its remit and disbanded. Its recommendations are fully incorporated into the IFRS S1 General Requirements for Disclosure of Sustainability-related Financial Information and IFRS S2 Climate-related Disclosures the ISSB Standards.

Nevertheless, the gap analysis and recommendations presented by BASE will still apply for this new context of climate-related disclosure aimed at the project proposal. Argentina is also undergoing changes within the political context, which is also being taken into consideration in the project development and strategy.

Scenario analysis with decarbonisation strategy and targets, as well as a roadmap for the implementation of recommendations of (former) TCFD will be delivered by mid-2024 in a second mission trip in Argentina to close the project.

PERIOD

2023 - 2024

COUNTRIES

Argentina

PARTNERS

Banco Galicia

FUNDER

IDB Invest

ACHIEVED IMPACT



REACH OF CAPACITY BUILDING ACTIVITIES

Over 35 Galicia bank staff from commercial, corporate risk and higher-management level have participated in sessions led by BASE on sustainability and decarbonisation topics.



DEVELOPMENT OF THE GREEN TAXONOMY OF ECUADOR'S PRIVATE BANKING SECTOR

Ecuador's diverse ecosystems face serious environmental challenges due to recent climate changes.

Recognising the link between environmental sustainability and financial stability, **Asobanca**, the Association of Private Banks of Ecuador, in November 2016, initiated the signing of the Sustainable Finance Protocol, launching a sustainable finance strategy in Ecuador's private financial sector.

One of the many obstacles to expanding sustainable finance is a lack of clarity in definitions of what is understood and what qualifies as green. To address the need among financial market participants for clarity and transparency, Asobanca is spearheading the development of a Green Taxonomy for private financial institutions in Ecuador.

The **Inter-American Development Bank (IDB)** and its private sector arm, **IDB Invest** have engaged BASE to provide technical assistance to Asobanca and its affiliates.

Review of 2023

The Green Taxonomy is a comprehensive framework enhancing the sustainability and transparency of financial activities. It helps organisations understand and disclose their exposure to sustainable investments, serving as a reference to develop non-binding regulations aligned with sustainable finance principles. Overall, the Green Taxonomy fosters a robust, transparent, and efficient green finance ecosystem.



The Amazon rainforest, Andean highlands, the Pacific coastline, and prominent volcanoes are some of Ecuador's biodiversity-rich biomes.

PERIOD

2023 - 2024

COUNTRIES

Ecuador

PARTNERS

Asobanca (the Association of Private Banks of Ecuador)

FUNDER

IDB Invest

IMPACT



NUMBER OF BENEFICIARIES

14 banks members of Asobanca.



REACH OF CAPACITY BUILDING ACTIVITIES (EXPECTED)

Around 30 people.



The primary objective of this project is to develop and implement a green taxonomy for Ecuador's private banking sector, facilitating its application to potential investment projects, by establishing clear eligibility criteria, and evaluating key performance indicators (KPIs) to measure the impact of these investments.

Before initiating the development process, BASE conducted a comprehensive diagnosis of sustainable finance in Ecuador. This included interviews with key stakeholders from the private and the public sectors, multilateral development financial institutions and international cooperation agencies, providing insights and perspectives which were crucial in understanding the current state and potential of sustainable finance in the country. This preliminary assessment ensured that the development of the green taxonomy would be well-informed and tailored to Ecuador's context and needs.

Following this, a proposal for the Taxonomy was designed, firstly outlining a fact sheet that summarises the main components and key elements of the tool, and then describing the conceptual and methodological framework, establishing the principles and methods used in the taxonomy's development. This proposal was presented, detailing eligible activities across six economic sectors with their respective metrics and thresholds. The team made sure to address climate change adaptation issues and outline realistic strategies for resilience.

Future of the project

The draft of the green taxonomy is currently under review by relevant stakeholders. The latter shall be updated based on the feedback collected.

The initiative will be promoted through capacity-building workshops designed to standardise the language and understanding of the taxonomy and its application. Each participating bank will develop an academic project aligned with Asobanca's Sustainable Finance workshops, tailored to the focus sectors and priorities identified in this effort.

PROMOTING CIRCULAR ECONOMY FINANCING IN LATIN AMERICA AND THE CARIBBEAN



Setting The Context

Our current “take-make-waste” economic system imposes a significant strain on the planet. It is imperative to decouple economic growth from resource depletion, which drives climate change, biodiversity loss, and pollution. The circular economy offers a triple-impact solution (economic-environmental-social), optimising the efficient and effective use of resources, supporting economic development while permitting a greater conservation and even regeneration of natural resources, and creating new, value-added economic activities and jobs.

In Latin America and the Caribbean (LAC), the opportunity is immense. Despite a near-linear economy (according to the [Circularity Gap Report](#)), a clear path to a circular future exists. From food systems and buildings to manufacturing and energy, a circular approach could transform the region, creating millions of new jobs.

LAC is leading the charge with national circular economy strategies and policies. This regional shift fosters economic integration and paves the way for sustainable development.

Unlocking this potential requires substantial investments in circular innovations across value chains. The financial sector is essential in identifying and funding these innovations, thereby facilitating a low-carbon circular economy. Micro, Small, and Medium Enterprises (MSMEs) are crucial for economic growth and job creation in LAC countries. Their inclusion and support are key to achieving a comprehensive transition to a circular economy.



What began as an [IDB-Group](#) initiative to promote Circular Economy financing in Colombia, later expanding to Peru, has further grown through collaboration with [UNEP FI](#), with the support of [CTCN](#) and [Go4SDGs](#), to include Chile, Uruguay, Costa Rica, and the Dominican Republic.

THE FIRST STEPS TO PROMOTE CIRCULAR ECONOMY FINANCING - COLOMBIA

Recognising the pivotal role of development and commercial banks in this transition, the [Inter-American Development Bank \(IDB\)](#) and [IDB Invest](#), in collaboration with BASE, initiated efforts in 2021 to promote circular economy financing in Colombia. This led to the creation of a Circular Economy Categorisation System (CECS) to identify projects contributing to a circular economy.

This work drew attention from [ASOBANCARIA](#), which had been one of its peer reviewers. ASOBANCARIA, along with IDB Invest and BASE, developed a circular economy training program for the financial sector. The programme, attended by 12 Colombian banks, aimed to accelerate the learning and application of circular economy concepts through bankable projects. The final presentations showed strong commitment, although most projects focused on simple circular innovations rather than new business models.

PROMOTING CIRCULAR ECONOMY FINANCING IN PERU

Building on the success of the Colombian initiative, BASE was engaged by [IDB Invest](#) under a collaboration agreement with the [Federación Peruana de Cajas Municipales de Ahorro y Crédito \(FEPCMAC\)](#) to promote similar efforts in Peru's financial and microfinance sectors. The goal was to create a conducive environment to circular economy financing and empower the microfinance sector.

This involved adapting Colombia's Circular Economy Categorisation System (CECS) to Peru, conducting a Circular Economy Ecosystem Diagnosis, and building the capacity of municipal savings and credit agencies (CMACs, by its Spanish acronym) to develop a circular portfolio. This project aligns with Peru's Green Finance Roadmap, promoting sustainable financing, including circular economy initiatives.

A training program aimed at financing circular businesses in Peru brought together various stakeholders including 11 CMACs, the Ministry of the Environment and members of FEPCMAC. Participants learned how to identify and support these models, with a focus on areas like risk management and triple-impact analysis.

FEPCMAC is gearing up to launch CrediCiclo in 2024, a pilot financial product specifically designed for the circular economy. This exciting initiative will involve six Cajas Municipales.

PERIOD

2021-2023

COUNTRIES

Colombia

PARTNERS

ASOBANCARIA

FUNDER

IDB Invest

PERIOD

2023-2024

COUNTRIES

Peru

PARTNERS

Federación Peruana de Cajas Municipales de Ahorro y Crédito (FEPCMAC)

FUNDER

IDB Invest



They also tackled a research project where they analysed potential clients for circular economy financing. This analysis considered the client's industry, its environmental impact, and the overall feasibility of circular practices within their sector. The program focused on simpler circular innovations like resource-efficient technologies, with less emphasis on more complex models.

PROMOTING CIRCULAR ECONOMY FINANCING IN CHILE, COSTA RICA, URUGUAY AND THE DOMINICAN REPUBLIC

At the end of 2023, BASE engaged, with the support of UNEP FI, in a multi-country program with the aim to help financial institutions support the circular economy, especially for small and medium businesses (MSMEs). The program focuses on three main activities:

- **Circular Economy Ecosystem Diagnosis at the country level:** Each country will undergo a diagnostic assessment to identify existing circular initiatives, potential roadblocks, and enablers. This information will be used to refine the classification system and training programs.
- **Categorisation System:** A set of tools will be developed for each participating country (Chile, Costa Rica, Uruguay) to identify circular economy initiatives and potential financing opportunities. The set of tools will consider each country's climate change agenda.
- **Training for Financial Institutions:** Financial institutions (FIs) in these countries will receive training to build their capacity to understand and support circular businesses.

The Dominican Republic, while not receiving a full program yet, but will benefit from an initial assessment of its circular economy landscape. This will help them prepare for a national circular economy policy and engage the financial sector in future discussions.

While the full-fledged implementation of the multi-country program is yet to come, this new initiative builds on the valuable experience gained in Colombia and Peru, with a focus on continuous improvement. Adapting and refining tools is key to getting more financial institutions on board, ultimately paving the way for a circular future in the region.

PERIOD

2023-2024

COUNTRIES

Chile, Uruguay, Costa Rica and Dominican Republic

PARTNERS

UNEP FI

FUNDER

CTCN, Go4SDGs

04

AREA OF WORK

SUSTAINABLE MOBILITY AND URBAN DEVELOPMENT

SUSTAINABLE MOBILITY

INTEGRATED ON-GRID, ON-SITE, ON-ROAD BUSINESS MODEL DEMO PROJECTS IN MEXICO AND KENYA





Setting The Context

The use of solar power, battery storage, and electric vehicles (EVs) can offer a more sustainable future for transport, public and private. However, high upfront costs pose a significant hurdle. Beyond the initial investment, the transition to clean transportation is further challenged by a complex infrastructure landscape. The growing EV market features a variety of vehicle types, each with specific requirements.

Integrating renewable energy sources and managing the power grid effectively necessitate innovative control and power management strategies. Establishing a robust charging infrastructure network that seamlessly connects diverse EVs also requires careful planning and consideration.

Battery swapping emerges as a promising solution to accelerate the transition to clean transportation. Pilot projects are essential to demonstrate the technical and economic feasibility of battery swapping systems. To achieve a user experience comparable to traditional petrol or gas stations, developing ultra-fast charging stations is paramount. Additionally, research into mitigating associated challenges, such as heat generation, noise pollution, and electromagnetic interference (EMI), is crucial for the successful implementation of these technologies.

Review of 2023

To address this gap, two meticulously chosen demonstration projects were deployed in Mexico and Kenya, focusing on piloting e-mobility for personal transportation means.

In Kenya, the project focused on testing an integrated cleantech solution consisting of solar charging and battery swapping stations for two-wheelers. The developed business model aims to franchise the solar charging station and not depend on the infrastructure investment of Ampersand, the local e-mobility company operating the facility. These integrated solutions and business models would allow scaling up eMotorbikes in other cities outside the capital (Nairobi) and charge the batteries with clean energy rather than from the grid as it is currently done. This combination would allow making eMotorbikes competitive and affordable against combustion engine motorbikes. The project has demonstrated



PERIOD

2022-2023

COUNTRIES

Mexico and Kenya

PARTNERS

Ampersand, ICM, Municipal Climate Change and Energy Agency of Hermosillo (AMCCEH), Hermosillo Local Police

FUNDERS

Integrate to Zero

EXPECTED IMPACT

IN MEXICO:



ENERGY SAVINGS:

53,235 kWh/year, amounting to USD 57,550 each year United States Dollars.

26% of electricity cost reduction compared to the current average.



EMISSION REDUCTION:

26 tonnes of CO₂e.

IN KENYA:



CLEAN ENERGY GENERATION

15,912 kWh annually of solar energy output projected. As of December 28, 2023, the system generated 570.3KWh, averaging about 24.7KWh of solar power daily.



the potential of this technology to offer rapid and convenient recharging.

In Mexico, the effort was focused on testing an integrated solution where a municipal public entity, the [Municipal Climate Change and Energy Agency of Hermosillo \(AMCCEH\)](#), was empowered to act as a public ESCO to monetise savings and revolve these funds to invest in municipal cleantech solutions. A photovoltaic system was installed to generate electricity and cover part of the energy demand required for recharging electric patrol cars assigned to the Comandancia Cortijo (Police Command Post) in Hermosillo, Sonora. The savings obtained thanks to the solar rooftop system aims to be reinvested by the AMCCEH. The project's goal was to showcase the feasibility of solar PV-powered charging stations for vehicle fleets, further highlighting the diverse options within the clean transportation landscape.

In executing these projects, BASE and [Integrate2Zero \(I2Z\)](#) engaged closely with local stakeholders to ensure successful implementation. This collaboration entailed providing technical assistance to enhance stakeholder capabilities, offering economic analysis, technology assessment advice and delivering training in business models centred on clean technology solutions. Furthermore, BASE played a pivotal role in fostering a collaborative and trustful environment among market participants, thereby facilitating the adoption of both the business model and the integrated technology approach.

Future of the project

Ampersand secured USD 19.5 million to expand. The company plans to use solar-powered charging stations, especially in rural areas, partnering with companies like Total Energies.

This will improve electric bike battery charging and make it more sustainable, especially off-grid. The energy generated is used directly for charging batteries of electric motorbikes in the boda boda industry. Staff training was conducted to oversee and support the solar PV power supply connection to the grid and the monitoring process.

Local police, 'Comandancia El Cortijo' is planning on expanding despite limited rooftop space. Additional construction will increase storage capacity, they aim to install similar systems at four more locations.

Local government is interested in financing public services with the savings and exploring an ESCO model, potentially similar to Hermosillo's Energy and Climate Change Agency. This model could be applied to other municipal agencies, promoting broader adoption of sustainable practice.



Comandancia El Cortijo gets a clean energy upgrade. Photovoltaic system installed for sustainable power.



Electric patrols on the go. New outdoor recharging station keeps them powered.

SUSTAINABLE MOBILITY

ELECTRIC AND BIOGAS GARBAGE TRUCKS IN THE DOMINICAN REPUBLIC





Setting the Context

Urban solid waste is a fundamental and priority issue for government authorities due to the environmental and health risks that improper management can cause. Although Integrated Solid Waste Management has been discussed for several decades, its implementation has been a complex task for many countries in Latin America and the Caribbean. This complexity is often due to a lack of economic and technical resources, combined with changing consumption habits, population growth, and education.

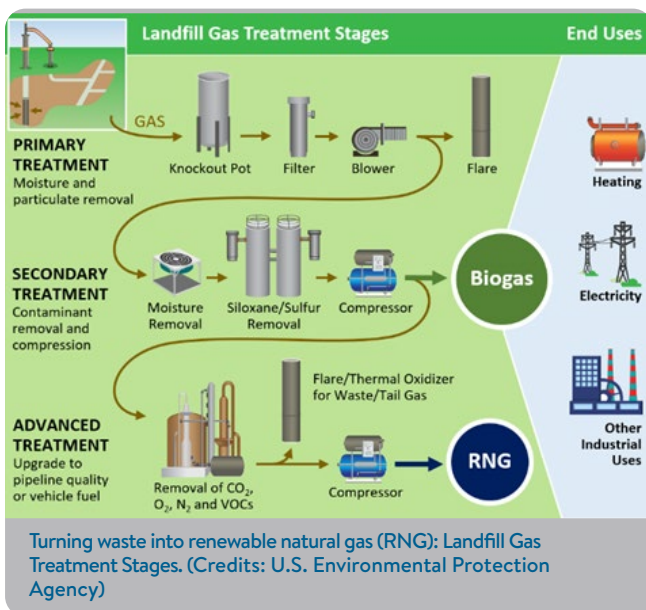
In the Dominican Republic, particularly in densely populated areas like Greater Santo Domingo, the storage, collection, and final disposal of Urban Solid Waste (USW) remain challenges for municipal authorities. Given that urban solid waste collection is an important stage in its integrated management, providing adequate collection and transportation services is a priority for municipal and national authorities.

To improve the provision of solid waste collection and transportation services by enhancing efficiency and reducing greenhouse gases (GHG), the [Inter-American Development Bank \(IDB\)](#) granted technical assistance to the Solid Waste Unit of the Ministry of Environment.

This project aims to evaluate the viability and propose business models for converting solid waste transport vehicles in Greater Santo Domingo to low and zero-emission technologies like biogas and electricity.

The energy for these trucks will come from biogas captured during the gradual closure of the Duquesa landfill, the biggest in the country. The IDB supports this effort through credit operations and technical assistance.

Closing the Duquesa landfill, the largest in the country, allows the captured biogas to fuel trucks, reducing GHG emissions and enhancing waste collection services. This initiative also supports the country's goal of fuel independence.



PERIOD

2023-2024

COUNTRIES

Dominican Republic

PARTNERS

GIZ, IDE-E, URBANPLAN, TRANSITEC

FUNDERS

European Commission

EXPECTED IMPACT



FINANCE MOBILISED:

USD 96 Million (20 percent of charging infrastructure).



EMISSION REDUCTION:

25,000 tonnes of CO₂e/year using renewable fuels via the deployment of 275 trucks.



CLEAN ENERGY GENERATION:

Average 4.5 Million m³ of Bio-Methane per year or 14.3 Million of kWh of clean electricity per year during 16 year.



Review of 2023

To achieve the objectives of the technical assistance, the IDB contracted BASE to carry out the following activities:

- Evaluate the performance of current solid waste collection and transportation trucks (diesel technology) versus electric and biogas trucks on three proposed routes in Greater Santo Domingo to determine the energy consumption profile of the electric and biogas truck fleet based on the route and load.
- Define the infrastructure requirements necessary for implementing a fleet of electric and biogas solid waste transport trucks.
- Calculate the Total Cost of Ownership for electric and biogas solid waste transport trucks, using biogas produced at the final disposal site (Duquesa), and selected charging systems, versus diesel.
- Develop a financial and economic assessment of the project for implementing waste collection routes with electric and biogas solid waste transport trucks versus diesel.
- Establish and evaluate the most viable business models and financing mechanisms for the widespread adoption of electric and biogas solid waste transport trucks, analyzing the regulations affecting this type of service and transport.
- Define the technical specifications, charging systems, and energy supply infrastructure for acquiring the prioritized fleet of solid waste transport trucks between the two technologies (electric and/or biogas).

As of December 2023, the project is half complete. The market study, which includes an evaluation of market conditions, policies, regulations, macroeconomics, and ecosystem capacities, demonstrated that both options are feasible, as the regulatory framework does not limit such implementations, and there is interest from service operators and financial institutions.

Preliminary findings identified that the cost of generating one cubic meter of methane is as competitive as generating one kWh of electricity using biogas from the landfill. However, due to the efficiency in the use of biofuel, using it as electricity allows for a larger implementation of trucks, resulting in a greater reduction of greenhouse gases.

Additionally, the technical assessment using GPS data and software simulations of local operation conditions demonstrated that the potential vehicles, both electric and biogas, can operate without any restrictions, effectively emulating the current operational conditions of diesel trucks.

Future of the project

During 2024, the project will evaluate the economic viability of implementing the technologies and decide which option offers the best technical and economic advantages. Furthermore, after determining economic viability, the project will focus on the bankability of the initiative, emphasizing the financial capacity of the private sector and revenue streams from the public sector.

BASE's transport specialist, Francisco Ramirez Cartagena, met with local urban waste transport and collection companies to discuss barriers in providing the service and to collect valuable data for a financial analysis.



SUSTAINABLE MOBILITY

ELECTRIC BUSES IN GHANA





Setting the Context

Ghana, a burgeoning economy in sub-Saharan Africa, finds itself at the crossroads of rapid urbanisation and environmental challenges. Greenhouse gas (GHG) emissions and air pollutants from transport activities have become significant concerns in most Ghanaian cities. In fact, road transport alone contributes a staggering 45 percent of total fuel combustion emissions, constituting 13 percent of the nation's overall GHG emissions in 2016, a rising trend that saw this figure almost double over the past 10 years. The operation of buses accounted for 21 percent of those road transport emissions, amounting to 6,051 metric tonnes and 17 percent of the country's total PM2.5 emissions.

To address these challenges, Ghana has set ambitious goals through its Nationally Determined Contributions (NDC): by 2030, the country aims to reduce GHG emissions by about 15 percent compared to the Business-As-Usual (BAU) scenario. To achieve this, Ghana counts on various strategies, such as restricting the importation of older vehicles, increasing the utilisation of public transportation by 10 percent in the four major cities, and promoting the electrification of vehicles.

However, the transition to e-mobility so far has been slow, and Ghana's e-mobility agenda requires supportive government policies, collaboration with the private sector, and investments from international development partners. Policy interventions are critical for facilitating the widespread adoption of e-mobility and related advancements in the urban transport landscape.

Review of 2023

The [Environmental Protection Agency \(EPA\)](#) of Ghana has requested the support of the [United Nations Environment Programme \(UNEP\)](#) to provide technical assistance and guidance to the [Ministry of Transport](#) (MoT) in preparing for transforming its bus fleet into electric vehicles in alignment with its NDCs. As a UNEP Specialised Partner, BASE is providing technical assistance in preparing an updated feasibility assessment for the implementation of a pilot project of 75 electric buses, that includes a market and financial assessment of the potential implementation.

As part of the financial feasibility assessment the team identified potential sources of funding to develop a bankable concept note for potential agencies.

The bankability assessment includes the following activities:

- Conducting a remuneration analysis and proposed scheme for electric buses.
- Developing the business model and the structure that ensures the bankability and alignment with GCF funding requirements.
- Analysis of the electricity demand and proposed strategies for different charging scenarios for e-Buses in Accra.

PERIOD

Phase 1: 2023-2024

COUNTRY

Ghana

PARTNERS

Environmental Protection Agency (EPA) and Ministry of Transport

FUNDERS

United Nations Environment Programme (UNEP)



Future of the project

The findings from the feasibility assessment have been shared and presented to UNEP and the Ministry of Transport. Currently, discussions are underway to build on these recommendations and set up a national emobility Policy Working Group and knowledge exchange on lessons learned from other successful emobility projects in Africa.



BASE specialists Francisco Ramirez Cartagena and Thomas Fuhr met with UNEP representatives and the Vice Ministry of Transport of Ghana for a discussion aimed at identifying the country's targets and objectives as part of a market study.

SUSTAINABLE URBAN DEVELOPMENT

URBAN PLANNING AND INFRASTRUCTURE IN IN MIGRATION CONTEXTS





Setting the Context

The international community currently faces an unprecedented displacement crisis. Data from the United Nations Refugee Agency (UNHCR) indicates that by the end of 2023, over **117.3 million individuals had been forcibly displaced from their homes** due to factors including persecution, conflict, violence, human rights violations, and disruptions to public order. This alarming trend has only intensified in the recent decade.

The urgency of addressing displacement is further amplified by the increasing impact of climate change. Data from UNHCR highlights a concerning trend: climate-related extreme weather events are now displacing people at a rate exceeding violent conflicts. Displaced populations, often stripped of their homes and livelihoods, are forced to seek refuge in already densely populated areas facing their own environmental and developmental hurdles.

This creates a vicious cycle. Climate change triggers displacement, while also exacerbating living conditions in settlements and hindering the possibility of voluntary repatriation.

In recognition of the need to integrate migrant populations into urban centres and ensure their access to essential services and economic opportunities, **UN-Habitat** has partnered with the **Swiss State Secretariat for Economic Affairs (SECO)** to meet the infrastructure needs of displaced populations and migrants in urban settlements of Cameroon, Egypt, and Jordan. The program prioritises the localisation of the Sustainable Development Goals (SDGs), ensuring that these communities have equitable access to basic rights and a chance to thrive in their new environments.

BASE joined the program to support the prioritisation of projects identified by UPMC through spatial analysis and community consultations, and to assist in developing concept notes to secure funding from donors and financiers.

Review of 2023

BASE joined the UPMC project to provide strategic advice, guidance, and coaching to a local team of financial consultants established by the UN-Habitat country offices in charge of Project operations in Jordan (Amman), Egypt (Kafar El Battikh City) and Cameroon (Douala 3).

In the initial stages of its involvement, BASE provided critical review and feedback on municipal assessment reports generated by the local teams in Jordan, Egypt, and Cameroon.

These reports assessed the capacity of each municipality to fund infrastructure projects and formed the foundation for exploring alternative financing strategies in the future. BASE's feedback ensured alignment of efforts across the three countries.

Secondly, BASE played a pivotal role in refining the project prioritisa-

PERIOD

2022-2023

COUNTRY

Cameroon, Egypt, Jordan

PARTNERS

UN Habitat, SECO

FUNDERS

SECO

ACHIEVED IMPACT



NUMBER OF BENEFICIARIES

38,138,100 inhabitants across 3 municipalities



tion process. Its expertise was instrumental in incorporating criteria pertinent to the perspectives of donors and financiers, which were essential for demonstrating the financial viability of these projects.

The prioritisation process entailed the development of a scoring matrix to objectively rank projects, the establishment of a unified analytical framework applicable across all three countries, and the formulation of innovative financial strategies designed to attract the necessary investment.

Additionally, BASE advocated for a more robust integration of climate-related metrics into the prioritisation process, thereby ensuring that environmental considerations were adequately addressed.

Following the project prioritisation, BASE supported country teams in refining their project pitches. This effort ensured that the investment cards or project pitches were effectively aligned with the objectives and funding strategies of potential donors and financiers.

BASE also contributed to the content on raising finance and investments for infrastructure projects, which was included in the development of the UPIMC normative guidebook. This guidebook aims to enable the replication of these efforts in similar contexts.

Future of the project

With prioritised projects now identified, the UPIMC project faces the challenge of connecting them with suitable financiers and donors.

Due to the diverse operational contexts, legal systems, and municipal functionalities across the three countries, a “one-size-fits-all” approach to financing is unlikely to be successful in translating these plans into reality.

In recognition of this complexity, BASE has been supporting UPIMC by brainstorming diverse business models specifically tailored to each of the three key projects. These projects include:

- E-biking lanes and urban green spaces in Egypt
- Improved sewage networks in Jordan
- Addressing gaps in the solid waste management value chain in Cameroon

This collaboration aims to ensure each project is presented with a financially viable and context-specific approach, ultimately increasing the likelihood of successful implementation.

Hyderabad's solar-roofed cycling track promotes clean commutes & generates renewable energy. Such models can be replicated in UPIMC's target countries. (Credits: Momentum Mag.)



SUSTAINABLE URBAN DEVELOPMENT

URBAN CLEANER ENERGY INVESTMENT IN AFRICA





Setting The Context

The rapid urbanisation of African countries is one of the major development challenges of the coming decades. In Africa as a whole, the urban population will rise from a current population of 650 million to a population exceeding **1.3 billion by 2050**. Against this background, African Sub-Saharan cities have multidimensional development needs to cater for and an ever-growing urban population with a resilient and low-carbon development pathway.

In Sub-Saharan Africa, the major obstacle for delivering on climate ambitions is the challenge of accessing adequate finance for low-carbon and climate-resilient infrastructure projects. Cities usually lack the financial and technical capacities to plan and implement the most adequate resilient urban development, transportation and energy projects. At the same time, there is a general scarcity for cities in Sub-Saharan Africa to access financing.

A specific example in this context is low-carbon energy provision through renewable energies. Rooftop and/or ground mounted solar systems can provide least cost options in this context and generate profits through savings while reducing the reliance on fossil fuels. For local administrations, the switch to solar on city-owned sites could be an opportunity to reduce costs, increase resilience and become compliant with self-defined climate action measures. But several challenges remain, notably financial and technical limitations.

Working to address this obstacles, in March 2023, **GIZ GmbH** acting as the secretariat of the **Global Covenant of Mayors Sub-Saharan Africa** – launched a programme to support the implementation of the Global Energy Transformation Programme – Covenant of Mayors in Sub-Saharan Africa – Phase III (CoM-SSA) Project.

The project aims to build decentralised energy systems on city-owned sites by technically supporting the development of urban solar projects, from its initial evaluation to setting up cooperation between the city administration and private sector actors for their realisation.

The project has specifically targeted city-owned public buildings (city hall, schools) and public spaces (e.g. markets) to evaluate the technical and economic feasibility of solar powered energy provision aiming to

PERIOD

2023-2024

COUNTRIES

Cameroon, Burkina Faso, Kenya, Nigeria, and Ghana

PARTNERS

GIZ, IDE-E, URBANPLAN, TRANSITEC

FUNDERS

European Commission

EXPECTED IMPACT

As of December 2023, the project is in an early stage of development, the impact indicators have not yet been estimated.

However, it is expected that the implementation will positively affect the number of communities and beneficiaries, job creation, energy savings, clean energy generation, CO₂e emission reduction and finance mobilisation.





bundle profitable solar projects on city-owned sites in one organisational and finance structure.

Review of 2023

BASE as part of the consortium led by [IDE-E](#), a non-profit organisation aiming to support sustainable options for low-carbon, socially inclusive and resilient urban development in low-income countries, is conducting the financial assessments, supporting the tendering processes for selected sites, and providing strategic advice and technical support to the Municipal Governments and key stakeholders (e.g. utilities, financiers) to define, design and set up Energy Service Companies (ESCO).

BASE advises the local governments on establishing Purchasing Power Agreements (PPA) that reflect their economic interests, while being attractive to private investors.

Parts of the activities include:

- Assessment of the financial viability and prioritisation (ranking) of urban solar projects on preselected city-owned sites
- Support for technical requirements in conducting tendering processes (incl. criteria for application, eligibility, selection, technical specifications of solar projects, evaluation grid, etc.)
- Technical advice and support in implementing and managing city-owned legal structures (e.g., Energy Service Companies), including the definition of roles, responsibilities, tasks, and procedures, to secure public cash flow; development of the most suitable structures based on a standard proposal, to be adapted to the specific regulatory and institutional environment of each country; and review the companies' functioning after several months, providing advice on how to optimise operations.
- Assistance in finalising PPAs with Energy Companies, verifying the economic terms of the contract agreements, providing strategic advice to the municipal governments, and facilitating negotiations with key stakeholders, including financiers.
- Project Structuring Support. Revision of project finance structure to fit focus country context (where the "standard" ESCO Proposal is not suitable) to propose concepts for alternative finance structures and support their establishment.

Future of the project

During 2023, BASE has supported the methodological development necessary for financial analysis, including the required technical, financial, and macroeconomic variables.

The project aims to evaluate a total of 120 potential solar implementations across the five selected countries in 2024. Using the prioritisation tool, it will determine the feasibility of these implementations. The project expects to complete all the aforementioned activities by December 2024.



KNOWLEDGE SHARING



Using Finance to Accelerate Adoption of More Energy-Efficient and Climate-Friendly Appliances

Insights from Ghana, Senegal, and Rwanda



With support from Clean Cooling COLLABORATIVE

REPORT

CLIMATE FINANCE FOR FINANCIAL INSTITUTIONS AND VENDORS: LESSONS LEARNED FROM ON-WAGE AND ON-BILL FINANCING IN AFRICA

PARTNERS

UNEP United for Efficiency (U4E)

FUNDERS

Clean Cooling Collaborative

1. REPORTS

Setting the Context

Transitioning to energy-efficient, climate-friendly appliances is crucial for reducing greenhouse gas emissions. However, the high upfront costs of such appliances often deter consumers, especially in developing countries.

The first project focused on developing market-based financing mechanisms developed to facilitate consumer purchases of energy-efficient and climate-friendly refrigerators and air conditioners in lieu of outdated appliances implemented by the [ECOWAS Refrigerators and Air Conditioners \(ECOFRIDGES\) initiative in Ghana and Senegal](#), and the [Rwanda Cooling Initiative \(R-COOL\)](#).

This knowledge sharing market-based report describes the lessons learned from deploying these financing mechanisms in Africa aimed at overcoming these barriers, focusing on initiatives in Ghana, Senegal, and Rwanda.

Scope and Findings

The report provides an in-depth analysis of three financing mechanisms—ECOFRIDGES Green-On-Wage (GO) in Ghana and Senegal, and the Rwanda Cooling Initiative (R-COOL)—developed to promote the adoption of energy-efficient refrigerators and air conditioners. These mechanisms were supported by the [United Nations Environment Programme’s \(UNEP\) United for Efficiency \(U4E\)](#) initiative, local governments, and the BASE, with funding from [ClimateWorks Foundation’s Clean Cooling Collaborative \(CCC\)](#).

Findings as taken from the report:

1. Stakeholder Engagement: Successful implementation relies heavily on early and sustained engagement with all stakeholders, including vendors, financial institutions, and government entities. Stakeholders must have clear incentives and a solid understanding of their roles.
2. Pilot Programs: Conducting limited pilot programs before nationwide rollouts helps identify and mitigate potential challenges, making large-scale implementations more effective.
3. Sustainable Funding: Continuous funding is essential for program management and awareness campaigns. Financial institutions need to assess their ability to provide green financing, including risk mitigation strategies and process standardisation.



4. **Government Involvement:** Government support is crucial for awareness-raising, stakeholder coordination, and ensuring program sustainability. Policies such as minimum energy performance standards (MEPS) and energy labelling are vital.
5. **Vendor Collaboration:** Vendors need to establish strong relationships with manufacturers to secure affordable equipment, ensure their technicians are adequately trained, and maintain transparency regarding energy performance.

Recommendation(s)

Under the ECOFRIDGES programme 2,767 efficient appliances were sold, saving 1,230 MWh annually and reducing 20,330 tonnes of CO₂ over their lifetime. The programme also contributed to enhancing the availability of such appliances in the three countries:

In Ghana a marked improvement was noticed, with 5-star air conditioners and refrigerators now standard offerings.

In Rwanda, 12 refrigerator models and 13 air conditioner models are now registered, meeting strict efficiency standards.

In Senegal, the initial success was limited, with only one eligible appliance, but more models are being approved.

To build on these achievements, future efforts should focus on expanding the reach of these programs, incorporating lessons learned to refine financing models, and enhancing policy frameworks to support broader adoption of sustainable technologies.

Continued collaboration among stakeholders will be critical to scaling these initiatives and achieving long-term climate goals.



Public outreach and launch events of the ECOFRIDGES programme in Ghana, Rwanda and Senegal.



REPORT

SUPPORT TO TUNISIA ON EE LABELLING AND FINANCIAL INSTRUMENTS FOR THE TRANSFORMATION OF MANUFACTURERS TO LED

PARTNER & FUNDER

UNEP United for Efficiency (U4E)

Setting the Context

The Tunisian LED manufacturing sector is at a critical juncture, facing challenges such as low demand for local LED products, competition from cheaper imports, and financial barriers hindering the transition to LED manufacturing and quality enhancement. Despite the industry's technological readiness and a shift towards LED products, manufacturers are grappling with the need for financial support, quality improvement, and demand stimulation to realise their full potential.

BASE collaborated with [UNEP-U4E](#) and the [National Agency for Energy Management \(ANME\)](#) to address these challenges through the "Leapfrogging Tunisia's Lighting Market to High Efficiency Technologies" project. The initiative aims to enhance stakeholder capacity, promote energy-efficient lighting technologies, and phase out inefficient lamps, aligning with Tunisia's energy efficiency strategy.

Scope and Findings

This report delved into the current landscape of the Tunisian LED manufacturing sector, drawing insights from a comprehensive survey conducted among key local manufacturers. The report is mainly informed by the recent assessment of local manufacturers which coincided with a workshop on MEPS and financing mechanism organised by ANME, UNEP U4E and participation from BASE, survey responses from local manufacturers, as well as miscellaneous technical reports which were carried out as part of the technical assistance led by UNEP U4E.

Findings reveal a unanimous adoption of Surface Mount Technology (SMT) among surveyed manufacturers, signalling technological preparedness for LED production. However, challenges persist,

including low demand leading to underutilised production capacity, difficulty competing with cheaper imports, and insufficient access to finance for necessary investments.

Several recommendations were presented :

1. Advocate for the establishment of tailored financial mechanisms to support domestic LED manufacturing and quality enhancement efforts. This includes facilitating partnerships with financial institutions and providing incentives to alleviate financial barriers.
2. Implement strategic initiatives to stimulate demand for locally manufactured LED products. This involves public awareness campaigns, consumer education programs, and partnerships with key stakeholders such as Société Tunisienne de l'électricité et de gaz (STEG) to improve affordability and highlight the benefits of energy efficiency.
3. Prioritise quality enhancement measures, including training programs for workforce skill development, investment in quality control equipment, and adherence to ISO quality standards. By enhancing product quality, local manufacturers can compete effectively in the market and build consumer confidence.

BASE's contributions include developing a Market Monitoring, Verifying, and Enforcement (MVE) system to enhance regulatory frameworks, facilitating study tours and training on modern testing practices, and providing guidance on financing recommendations for manufacturers transitioning to LED production. These efforts are crucial for accelerating the adoption of eco-efficient lighting, potentially saving 86 GWh in 2030 and 142 GWh/year in 2040, with cumulative savings of 1.6 TWh by 2040. Additionally, unit electricity consumption for lighting products could drop significantly, leading to substantial community savings of 107 and 321 million dinars over the periods 2017-2030 and 2017-2040, respectively.



DE-RISKING INVESTMENTS IN ENERGY EFFICIENCY FOR SMEs:
THE ENERGY SAVINGS INSURANCE MODEL

WHITE PAPER

REPORT

THE ENERGY SAVINGS INSURANCE WHITE PAPER

IMPACT



AMPLIFICATION REACH

837 estimated according to social media impressions and website page views

Setting the Context

The higher price of high-performance energy technologies and uncertainties on their financial and environmental returns often dissuade potential uptakers, most particularly Small and Medium-sized businesses (SMEs), which constitute the backbone of the world’s economies. Therefore, addressing the performance risk of cleaner energy solutions is essential to catalyse their adoption. The ESI model was developed to address the challenges faced by SMEs when investing in energy-efficient systems. It leverages an innovative insurance product to guarantee companies’ energy savings upon the installation of energy-efficient technologies.

Scope and Findings

The concept of ESI emerged from BASE and the Inter-American Development Bank as an innovative approach to drive investments in energy-efficient systems in Latin America. Following its success on the continent, ESI made its way to Europe through funding from the European Commission has also been implemented in Mongolia and Morocco.

To further promote the model and its potential, BASE developed the first ESI white paper, comprehensively explaining how the model works and showcasing its benefits. The white paper covers a wide range of topics related to the ESI model and its implementation and serves as a strategic tool to encourage its replication in other markets and regions. It provides in-depth analysis and lessons learned that have emerged from the application of the model in diverse contexts throughout BASE’s experience.

Particular emphasis was placed on providing real-life examples of ESI project development to illustrate all the aspects covered in the paper. Indeed, the ESI projects BASE conducted in Latin America, Morocco, Mongolia and Europe, all adopted different strategies, tailored to the local market and needs of the partners and stakeholders. Hence by incorporating the various actions undertaken in the context of those projects, the paper allows to broaden the horizon of possibilities for potential uptakers.

Four case studies are included in the report, representing examples of successful implementation of the model for hotels, a hospital and an office building. They describe the development of the projects and provide testimonies from business owners on the ESI model’s effectiveness and its positive impact on companies and their journey towards sustainability.

The White Paper was published by BASE in February 2024. Its launch was announced during the Asian Development Bank (ADB) discussion on the Energy Savings Insurance model in New Delhi, India, by BASE’s ESI expert Livia Miethke Morais. Additionally, the paper was shared at a follow-up online event organised by the ADB, the OECD and the India Bureau of Energy, as well as on the occasion of an online webinar organised by the United Nations Environment Finance Initiative (UNEP FI) related to the model.



REPORT

CREATING EAAS MARKETS IN PUBLIC AND PRIVATE BUILDINGS IN EMERGING CITIES

PARTNER & FUNDER

International Finance Corporation (IFC)

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WEBINAR

Gender Responsive Cooling: Using Data to Build Resilient Livelihoods



WEBINAR

GENDER RESPONSIVE COOLING: USING DATA TO BUILD RESILIENT LIVELIHOODS

PARTNERS

*Sustainable Energy for All, Efficiency for Access,
data.org*

IMPACT



AMPLIFICATION REACH

135 attendees and 153 recording views.

2. WEBINARS

Setting the Context

Global temperatures are now 1.1°C higher than pre-industrial levels, leading to extreme weather events and increased public health risks, especially for vulnerable groups like women and children. Sustainable Energy for All's '[Chilling Prospects Special: Gender and Access to Cooling](#)' report highlights that women are 1.6 times more likely than men to lack access to cooling, with gaps in gender-specific data hindering effective policy development. Organisations like BASE aim to integrate gender considerations into climate projects, advocating for gender-transformative approaches to become standard in project design.

About the Webinar

Under the Your Virtual Cold Chain Assistant (Your VCCA) project, BASE partnered with SE4ALL in June 2023 to launch the 'Chilling Prospects Special: Gender and Access to Cooling' report. The partnership included hosting a webinar titled 'Gender Responsive Cooling: Using Data to Build Resilient Livelihoods,' featuring four prominent women from the energy and cooling sectors. The webinar focused on best practices for representing women and gender-diverse individuals in data, empowering them to use data for social impact, and providing use cases. Key discussion points included

vulnerabilities affecting women's access to cooling, obstacles to gender inclusion in sustainable cooling programs, and fostering an inclusive data culture.

Roberta Evangelista from BASE shared insights on gender-related challenges in the agricultural sector, detailing strategies like hiring local trainers, developing gender-sensitive materials, and incorporating community feedback for app development. She highlighted the example of Koel Fresh, an Indian partner who collaborates with women-led self-help groups that operate cold rooms and engage farmers in the Your VCCA programme.

Outcomes

As a follow-up of the webinar, gender-disaggregated data was collected by Your VCCA, in collaboration with KoelFresh, to assess the impact of sustainable cooling on farmers' incomes and post-harvest losses. The findings, published [as a case study by SE4ALL](#) in October 2023, highlighted gender variations and positioned Your VCCA as a thought leader in the gender-cooling nexus. This enabled the team to present their insights at the IFC-UK Sustainable Cooling Innovation Summit.



YOUR VIRTUAL COLD CHAIN ASSISTANT x SET ALLIANCE
initiatives of BASE



WEBINAR: FINANCING AGRICULTURAL COLD ROOMS

On ZOOM

Session 1

Cold Storage Financing in Agriculture:
Where are we now and where do we
want to go?

Session 2

How to Unlock Finance for Cold
Rooms: Insights and Strategies from
Financiers

Session 3

Link, Learn, Lead: Connecting
Financiers and Cooling Companies
(Networking Event)

WEBINAR SERIES

UNLOCKING FINANCE AND SCALABILITY FOR COOLING-AS- A-SERVICE COLD ROOMS

IMPACT



AMPLIFICATION REACH

214 attendees and 281 recording views.

Setting the Context

Approximately 40 percent of the world’s food is wasted before reaching the market due to limited access to cold storage facilities, but the Cooling-as-a-Service (CaaS) model, when applied to agricultural cold rooms, helps farmers store crops on a pay-per-use basis, reducing produce losses and improving incomes. Despite this progress, scaling sustainable cooling solutions remains challenging due to funding gaps, hindering emerging businesses. To address this, BASE Foundation’s SET Alliance and Your VCCA organised a three-part webinar series in November 2023, discussing financing challenges and fostering dialogue among financiers, cooling companies, and the research community.

About the Webinars

The first webinar in the series, titled “Cold Storage Financing in Agriculture: Where are we now and where do we want to go?” provided an overview of challenges in scaling agricultural cold storage, particularly under the CaaS model. The panellists highlighted the latest financial instruments and models supporting cold rooms, offering clarity on considerations investors look for when financing new cooling companies and addressing challenges faced by companies in meeting investment criteria. The audience consisted of 104 participants from the cooling sector, international organisations, and academia.

In this second webinar of the series, titled “Insights from the Field and Finance,” attended by 90 participants, aimed to offer a better understanding of financier expectations and practical solutions for financing cold storage. Thereafter, cooling companies operating in Africa, including AkoFresh and SokoFresh, shared their fundraising experiences and current challenges. The expert panel of financiers addressed existing information gaps that can hinder funding, along with practical solutions. The webinar also explored how digital solutions, such as Your Virtual Cold Chain Assistant’s Coldtivate app and its Impact Dashboard feature, enhance the value proposition for financiers by providing data to demonstrate creditworthiness and the social and environmental sustainability of the cold rooms to potential funders and impact investors.

The third and last webinar of the series, titled ‘Link, Learn, Lead: Connecting Financiers and Cooling Companies’, functioned as a matchmaking event, facilitating discussions among 20 financiers and cooling companies, addressing hot questions from the audience and building connections with all presenters.

Outcomes

The success of the webinar series underscored the necessity for a **Community of Practice (CoP)** where cooling companies can openly share challenges, learn from peers, and establish connections with financiers. On November 28, 2023, the CoP was officially launched by the SET Alliance and Your VCCA.

This series of webinars initiated conversations with organisations like GET.Invest, encouraging them to direct nascent cooling companies in need of guidance to the CoP. Simultaneously, the CoP serves as a resource for financiers seeking cooling companies with a proven track record and demonstrated creditworthiness, facilitated by tools like Your VCCA’s Coldtivate. BASE is currently actively seeking funding opportunities to expand the CoP, currently hosted under the SET Alliance.



ARTICLE SERIES

CLIMATE FORUM: DECODING COP28 KEY THEMES WITH EXPERTS

IMPACT



AMPLIFICATION REACH

In total, the six articles gathered over 6500 impressions on social media (LinkedIn and Twitter) generating around 1200 clicks and over 1700 page views on the website.

3. COP28 KNOWLEDGE SHARING

Setting the Context

At BASE, we aim to make climate issues accessible and inspire action across sectors. In the run-up to the summit, we launched a special series of guest articles, 'Climate Forum: Decoding COP28 Key Themes with Experts,' featuring insights from diverse experts on key themes of the 28th Conference of the Parties in Dubai. By simplifying the complexities of critical climate topics, our series sought to enhance understanding and engagement with the environmental crisis.

About the Series

Building on the 2022 explainer articles series, BASE broadened its scope for COP28 by hosting guest articles from esteemed professionals outside the organization. Each article corresponded to a specific theme of a particular day at COP28, ensuring comprehensive coverage. The articles featured the following topics:

- **Gender Day: "How to Better Integrate Gender in Climate Action: The Role of Climate Finance"**, by [Marina Saguar](#), Operations and Communications Coordinator at Sureco and Partners, explores integrating a gender lens into climate finance projects to enhance inclusion and effectiveness, discussing solutions like enabling frameworks and Gender Impact Assessments.

- **Energy Day: "Plugging it all together: An Integrated Energy Future is Emerging"**, by [Dan Hamza-Goodacre](#), Founder and Chief Energy Officer at Integrate to Zero, examines the integration of on-site solar, small-scale renewables, and virtual power plants to revolutionise the energy sector, reduce costs, and meet future energy demands.

- **Urbanisation Day: "The Power of Urban Green Infrastructure: Enhancing the Sustainability and Resilience of Cities"**, by [Ayah Hammad](#), Programme Officer at UN-Habitat, discusses the importance of urban green infrastructure in cities' sustainability and resilience, highlighting the Al Zohour Green Triangle project in Amman, Jordan.

- **Urbanisation Day: "The Role of Urban Planning in Achieving SDGs: Leaving No Place and No Agenda Behind"**, [Marcella Guarneri](#), Urban Planner at UN-Habitat, and [Thomaz Ramalho](#), Researcher & Consultant at Instituição de Ensino FIPE, examines the link between urban planning and the Sustainable Development Goals (SDGs), emphasising localising goals to create inclusive and resilient cities.



- **Education Day: “Moving from Eco-Anxiety to Eco-Ambition: Our New Education Imperative”**, by [Lee Howell](#), Executive Director at the Villars Institute, explores how education, systems thinking, and intergenerational collaboration can address eco-anxiety and empower future leaders to tackle climate challenges.

- **Agriculture Day: “The Role of Digitalisation for a Sustainable Agri-Food System”**, [Daniel Onwude](#), Agricultural Engineer and Senior Scientist at EMPA, examines digital technology’s impact on the agri-food sector, including precision agriculture, AI-driven solutions, digital marketplaces, and blockchain technology.

The articles were published on BASE’s website, social media channels, and Illuminem’s platform, with a magazine-style compilation released at the event’s outset.

Outcomes

Through this guest article series, we enabled a broader dissemination of valuable knowledge and insights on the above-listed critical themes. By engaging external experts, we provided diverse perspectives and expertise, contributing to a holistic understanding of the challenges we face and the opportunities that lie ahead.



A PODCAST BY BASE

THE BIG SHIFT

The Climate Finance (R)evolution



PODCAST SHOW

THE BIG SHIFT: THE CLIMATE FINANCE (R)EVOLUTION

IMPACT



AMPLIFICATION REACH

Around 100 plays.

“The Role of ESCOs in Africa’s Clean Energy Transition,” with Alana Valero and Dr. Mohamed Alhaj, explores customer-driven models to increase renewable energy affordability in Africa, focusing on the ESCO market.

The podcast is available on [Spotify](#) and the BASE website.

Outcomes

The podcast show brings together various stakeholders of the climate mission, fostering dialogues covering a wide spectrum of topics while increasing their accessibility.

4. PODCAST

Setting the Context

BASE launched a podcast series, “The Big Shift: The Climate Finance (R)evolution,” to demystify climate finance. It originated from an Applied Research Project with student researchers from the [Geneva Graduate Institute](#), who identified a need for clearer definitions of climate finance terms.

The episodes feature interviews with sectoral experts and aim to make complex concepts related to climate finance, mitigation and adaptation accessible and engaging.

About the Show

As of December 2023, the podcast “The Big Shift: The Climate Finance (R)evolution” has released four episodes, covering an array of topics.

The first episodes addresses “**Financing Energy Efficiency in Africa**,” where Aurélien Pillet discusses business models and financial mechanisms promoting renewable energy and energy-efficient systems in Africa, while the second, “**Building a Resilient Future through Climate Adaptation**,” features Veronica Corno on the importance of climate adaptation and solutions for Pacific island small states.

“**Sustainable Agriculture for Climate Change Mitigation and Adaptation**” with Celina Schelle provides an overview of sustainable and climate-resilient agri-food systems.



RESEARCH PROJECT

INTEGRATING CARBON CREDITS WITH ENERGY EFFICIENCY SERVITISATION

5. COLLABORATIONS WITH UNIVERSITIES

Setting the Context

Energy efficiency and renewable energy are crucial for achieving the net-zero 2050 goal.

To support this, BASE is exploring additional revenue streams for such projects through carbon credits, creating tradable certificates for greenhouse gas emission reductions from these initiatives..

About the series

In March 2023, BASE collaborated with the [University of Michigan's Ross School of Business](#) on a 7-week project, guiding six MBA students in researching practical pathways for creating and selling carbon offset credits in energy efficiency and renewable energy projects using an 'as-a-Service' model.

The study analysed the carbon credits market and explored integrating these credits into Cooling-as-a-Service (CaaS) to expedite its deployment.

BASE provided insights into the CaaS model, facilitated stakeholder connections, and supported the students' interviews and evaluations related to carbon credits.

Conclusions

The research focused on small and medium businesses, primary stakeholders of BASE and the SET Alliance.

In summary, the research concluded that integrating carbon credit revenue into current energy efficiency servitisation projects appears unfeasible. As energy efficiency servitisation projects are commonly positioned as financially attractive, project proponents face challenges in demonstrating the financial additionality of the project.

Consequently, only projects relying on carbon credit revenue for financial viability can proceed to register with the chosen standards and verification platform.



6. EVENTS

March

I) VILLARS INSTITUTE SUMMIT

Organiser: The Villars Institute

The Villars Institute, established in 2022 as a nonprofit foundation, is dedicated to accelerating the transition to a net-zero economy and restoring the health of the planet for all its inhabitants. Each year, the institute hosts a summit aimed at fostering intergenerational and trans-disciplinary collaboration. With more than 270 experts, entrepreneurs, investors, and philanthropists in attendance, the summit serves as a platform for systemic change and intergenerational collaboration.

In March 2023, Carla Della Maggiora, the Deputy Director of BASE Foundation, received an invitation from the Villars Institute to participate and join discussions at the summit.

In addition to attending various sessions on energy transition, agriculture, food, and biodiversity, Carla was invited to two parallel events, a brainstorming session on shaping the agenda for Building Bridges 2023, and to the roundtable discussion about the [Global Learning Council \(GLC\)](#), an organisation focused on advancing the use of science and technology to improve the outcomes for learners of all ages and backgrounds around the world. In a discussion regarding setting the agenda for Building Bridges, a summit that explores the connection between finance and Sustainable Development Goals, Carla underscored the importance of conversations on financing going beyond business as usual. She recommended having opportunities for organisations to demo new tools and business models that innovatively move beyond simply mobilising more money, aiming for a systemic and deeper approach to closing the climate financial gap.

The roundtable discussion about the [Global Learning Council \(GLC\)](#) meeting underscored the pivotal role of teachers and students as catalysts for transformation. Drawing on her experience in regularly interacting with students and student-run organisations, Carla emphasised the necessity of fostering critical thinking about the climate, environmental, and social costs of current economic practices. She highlighted the importance of coexistence with nature, allowing students to explore their roles in the climate and development sector and shaping their education journeys to eventually join the industry. Carla also emphasised the integration of student voices into the climate movement.

Her key takeaways from the summit were captured in a [video by Illuminem](#), one of the Institute's Knowledge partners. Following up on the discussions with Building Bridges concerning practical examples of innovative business models, Carla proceeded to showcase BASE's Servetia initiative—a model for decarbonising buildings in Switzerland—during the 'Accelerating the Energy Transition Through Financial Innovations' event at Building Bridges in October 2023, viewable [here](#).



II) UNLOCKING CIRCULAR ECONOMY FINANCE IN LATIN AMERICA AND THE CARIBBEAN: THE CATALYST FOR A POSITIVE CHANGE

Organiser: [UNEP FI](#)

In March 2023, BASE's circularity expert Carla Della Maggiora, participated in an anticipated webinar organised by the United Nations Environment Programme Finance Initiative (UNEP FI). The webinar, titled '*Unlocking Circular Economy Finance in Latin America and the Caribbean*,' aimed to share the main findings and recommendations of the homonymous report (accessible [here](#)) and shed light on the immense potential of the circular economy in achieving sustainable development in the region.

Carla Della Maggiora represented BASE on a panel of distinguished specialists, where they discussed various aspects related to circular economy financing, regional solutions for accelerating circular economy implementation, and specific examples highlighting Colombia's efforts in enabling the circular economy. She emphasised the need for a standardised taxonomy and indicators on circular economy for measuring and monitoring the circular economy. The session can be watched [here](#). By sharing insights, best practices, and real-world examples, BASE continues to contribute to the regional dialogue on circular economy financing and implementation.



June

III) 8TH ANNUAL GLOBAL CONFERENCE ON ENERGY EFFICIENCY

Organiser: [International Energy Agency's \(IEA\)](#)

Livia Miethke, Sustainable Finance Team Lead at BASE, attended the International Energy Agency's (IEA) 8th Annual Global Conference on Energy Efficiency in Versailles, France, in June 2023 under the afternoon dedicated to discuss '*Financing and business models for scaling energy efficiency action*'. One of the sessions focused on scaling the replacement of motors and motor systems, driven by the fact that industrial electric motors consume about half the world's electricity.

Livia opened the panel discussions by outlining the relevance of electric motors and motor systems and the role that business models can play in the scaling of the adoption of high efficient motor systems, exemplified by BASE's diverse innovative business models: from on-bill and on-wage financing applicable for small or household-scale of appliances, energy savings insurance for small and medium-sized enterprises application for commercial and industrial uses, to the servitisation model, more commonly used for larger scale systems in commercial and industrial applications.

The goal of this scene-setting was to extract recommendations, challenges and successes for broader replication from the panel participants' experience, which included representatives from Motor Efficiency Global Alliance, European Bank for Reconstruction and Development, ABB Ltd, and BASE.

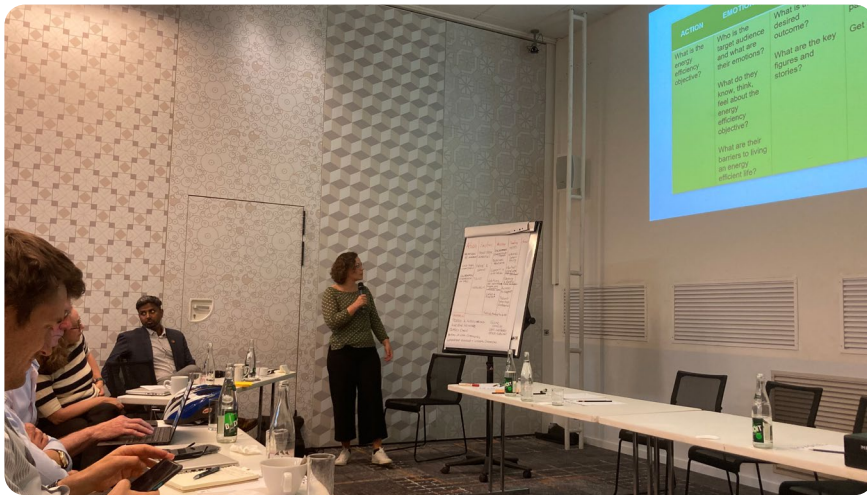


June IV) MISSION EFFICIENCY COMMUNICATION CHARRETTE

Organiser: [Mission Efficiency](#)

Livia attended the [Communication Charrette](#) on 8 June 2023 in Paris organised by Mission Efficiency, an initiative hosted by the Sustainable Energy for All (SE4All) agency of the UN.

During the event, Livia shared the experience in communicating energy efficiency to a diverse set of stakeholders, the challenges and tweaks learned in the past years working on the implementation of innovative business models for the increase in energy efficiency investments with BASE. It was a productive exchange with other stakeholders from around the globe on the common challenges and achievements of communicating on energy efficiency.



V) AFRICAN ENERGY EFFICIENCY CONFERENCE - 8TH EDITION

Organiser: [Agence Marocaine pour l'Efficacité Energétique \(AMEE\)](#), [AOB Group](#)

Anna Hausser, Sustainable Finance specialist at BASE, presented our experience in '*Investment Finance in Circular Economy*' at the [8th Edition of the 'Rencontres Africaines de l'Efficacité Energétique'](#) in Casablanca, Morocco, in June 2023.

This event focusing on "Circular economy at the service of energy efficiency for a low-carbon transition" brought over 200 participants. Anna shared insights on the BASE project focused on developing a circular economy categorisation system for the Colombian financial sector, the first in Latin America, which facilitates the identification of projects that truly contribute to the transition to the circular economy.



VI) AFRICA CLIMATE WEEK & SUMMIT

Organisers: [UNEP](#), [UNFCCC](#)

During the [African Climate Week 2023](#) held in Nairobi, two BASE experts, Thomas Fuhr and Francisco Ramirez Cartagena, actively participated in several key events and shared valuable insights on climate financing and sustainable initiatives.

At the [Africa Climate Summit](#), Francisco had the opportunity to present BASE's experience in supporting local governments to access climate financing, particularly for infrastructures in cities hosting displaced populations. His insights were shared during the event titled "Urban Resilience in Migration Contexts: The Multiple Voices to Face Climate Change," which took place on September 4th at 5 pm Nairobi time.

Additionally, Francisco showcased a BASE project leveraging a business/financing model for a sustainable e-bus system in Accra, the capital city of Ghana, during the Africa Climate Week.

The presentation was showcased at a side event titled "Mobilising Climate Finance through Innovative Business Models for E-Mobility Shift in Ghana," which was co-organised by UNEP and the Government of Ghana.

Meanwhile, Thomas Fuhr represented BASE at the GCF Private Investment for Climate Conference (GPIC) held at the Mövenpick Residence. Throughout the conference, Thomas actively engaged in multiple talks and discussions, contributing his expertise and insights to the dialogue on private investment for climate-related projects.

VII) SERVICIZATION IN THE HVAC INDUSTRY: THE CASE OF COOLING-AS-A-SERVICE

Organiser: [The Advanced Services Group](#)

BASE participated in a webinar hosted by The Advanced Services Group in September, focusing on the benefits of the Cooling-as-a-Service (CaaS) business model in the Heating, Ventilation, and Air Conditioning (HVAC) sector.

Dimitris Karamitsos, Sustainable Finance Team Lead at BASE, shared insights on how CaaS models address challenges in the industry. The webinar explored the advantages of servitisation and its role in promoting energy-efficient systems. BASE's participation demonstrated its commitment to sustainable solutions in HVAC and its dedication to driving positive change in the industry. The session can be watched [here](#).



October

VIII) IFC-UK SUSTAINABLE COOLING INNOVATION SUMMIT

Organisers: International Finance Corporation (IFC), UK Department for Energy Security & Net Zero

Cooling is indispensable for economic development, productivity, human health, and food security, yet it carries significant climate impacts. With escalating cooling demands, there's an urgent need to unite global innovators and leading companies in emerging markets to expedite the adoption of affordable, energy-efficient solutions that provide cooling for all while curtailing greenhouse gas emissions.

In October 2023, Roberta Evangelista, Senior Digitalisation Specialist, participated in [IFC-UK Sustainable Cooling Innovation Summit](#) in Birmingham. The event, held in partnership with the UK Department for Energy Security & Net Zero, brought together over 100 innovators, adopters, and experts in cooling and finance.

As a panellist in the session titled '*How Businesses Benefit from Gender Equality in the Cooling Sector & Building a Skilled Cooling Workforce*,' she shared insights on incorporating women as change agents in cooling programs.

Roberta emphasised the importance of being conscious of their unique needs, drawing from the lessons learned in the Your Virtual Cold Chain Assistant initiative to ensure the equal impact of climate projects on all individuals. Her presentation at the conference is accessible [here](#).





November

IX) 1ER CONGRESO DE «DESCARBONIZACIÓN Y SOSTENIBILIDAD» DE ANESE

Organiser: [ANESE](#)

Livia Miethke, Sustainable Finance Team Lead at BASE, participated in the [Decarbonisation Conference](#) hosted by the [Asociación Nacional de Empresas de Servicios Energéticos \(ANESE\)](#), BASE's partners in the Efficiency-as-a-Service project, held in Madrid in November 2023.

During her presentation at the conference, Livia explored the essential role of innovative financing mechanisms and business models, such as servitisation, in scaling up energy efficiency adoption to help with emission reductions and decarbonisation. She elaborated on the significance of government guarantees and blended finance to alleviate the perceived risks associated with energy efficiency investments, making them more palatable to the financial sector.

Another significant aspect of her presentation was underscoring the existing gap in how the financial sector measures financed emissions and reports the savings derived from energy efficiency measures. Addressing this methodological gap is crucial to identifying and highlighting these investments as contributions to the decarbonisation of banks' portfolios.



December



LEGACY REVISITED



Reflecting on Success:

A Review of BASE's Past Projects

2010s

Financing Electric And Hybrid Buses In Colombia

As part of 2 past projects BASE was commissioned to develop a financing strategy for the bus rapid transit system of Bogota, Colombia. This strategy aimed to make investments in hybrid and electric buses attractive enough to displace investments in conventional diesel buses. The strategy was based on comparative economic, financial, technology, and market analyses of the three different technologies. The final goal was to improve the return on investment of hybrid and electric buses compared to diesel ones, and thus motivate private bus companies to invest in more sustainable buses. Supporting Transmilenio's financial structuring, 200 green buses worth USD 60 million were approved for financing in the first three months.

As of December 2023, [1486 e-bus are operating on Bogota's roads, and 1590 in total in Colombia](#), representing nearly USD 500 million of investments.

[Visit project page](#)

Green Credit Lines for SMEs in Guatemala

Throughout 2020, BASE contributed to setting up Banco Industrial's structure to finance SMEs and green projects. To this aim, the project reinforced their sustainability strategy and environmental and social risk system. Additionally, BASE proposed a credit strategy for SMEs and provided support determining how to identify and manage green investments in that segment.

Earlier this year, the [IFC provided a substantial grant](#) to this leading financial institution to expand its credit portfolio aimed at SMEs and to promote sustainability in the construction and automotive sectors.

[Visit project page](#)

Green Credit Lines for Businesses in Bogota

In 2019, BASE collaborated with SITAWI and the Inter-American Development Bank to support [Banco de Bogota](#), a Colombian commercial bank, to develop their green financing strategy, enabling the company to take advantage of potential green business opportunities.

Banco de Bogota now commercialise [sustainable development lines](#). In 2023, its green portfolio amounted to [USD 2.6 billions, including 938 millions](#) from its sustainable development lines.

[Visit project page](#)

ECOFRIDGES Ghana and Senegal

From 2020 to 2023, BASE collaborated with the UN Environment Program's United for Efficiency (U4E) initiative and partnered with the governments of Ghana (Energy Commission, Environmental Protection Agency) and Senegal (AEME, DEEC) to accelerate the adoption of energy-efficient and climate-friendly refrigeration and air conditioning solutions.

The project developed on-bill and on-wage financing schemes to enable utility customers and salaried workers to access efficient cooling appliances through affordable loans. Beneficiaries could obtain zero or low-interest rates and repay them in 12 monthly installments, either through salary deductions or additions to utility bills. Typically, the use of these efficient systems reduces utility costs immediately upon acquisition, offsetting or minimising the repayment impact on household budgets.

Throughout the 22 months of the project, ECOFRIDGES GO programme enabled the financing of 2,917 appliances sold, saving approximately 1,230 MWh annually and reducing 20,330 tCO₂ over their lifetime.

[Visit project page](#)



Green Credit Lines For SMEs In Panama

In 2020, BASE completed a project aiming to support St. Georges Bank & Company in growing their credit portfolio for Small and Medium-sized Enterprises (SMEs), which included the design of simplified SME credit processes, development of a Sustainability Policy and Plan, identification of green investments and training on green business opportunities and relevant risks.

In 2023, IDB Invest pursued this support in a new project including [a technical and financial assistance program.](#)

[Visit project page](#)

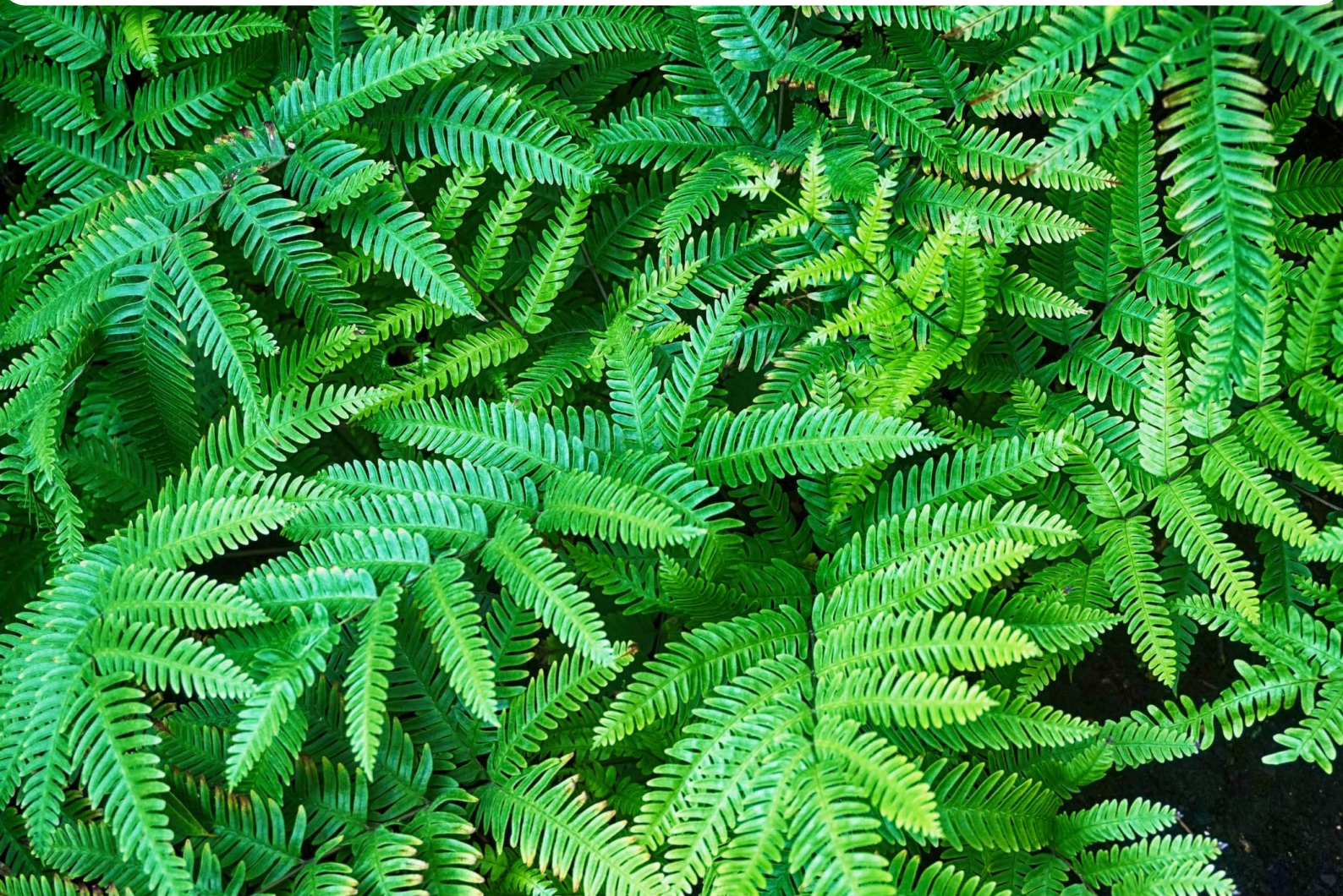
Green Finance in El Salvador

In 2021, BASE supported [Davivienda El Salvador](#) in initiating green finance operations to fund solar photovoltaic power generation plants and to establish a monitoring system and strategy for a high-impact thematic portfolio.

The project also focused on building senior management's capacity in sustainable finance and risk management as well as provided training to Davivienda's clients for the proper preparation of solar energy investment projects.

In 2023, Davienda topped [USD 100 million of sustainable portfolio balance and reached 60 million of green financing.](#)

2023





TESTIMONIALS

Testimonials

From our partners

“We joined forces with BASE in order to promote the Energy Saving Insurance model in Greece. Our excellent collaboration, from the project planning to the implementation phase, ensured the best way to move forward with the introduction of the model to the Greek market.

We were offered significant support throughout the whole process and managed to adapt the model the best possible way corresponding to the market needs, while being flexible to fit any energy efficiency project.

BASE’s valuable experience on the model coupled with our deep knowledge on energy efficiency technologies and market, guarantees the wide promotion and sound implementation of the Energy Savings Insurance model in our region.”



- Effie Korma,

Market Development DPT Head at the Centre for Renewable Energy Sources and Saving (CRES)

Project Partner: ESI Europe 2.0



- Gabor Gyura,

Consultant at UNEP FI & Assistant Professor at the European University Institute

Project Partner: ESI Europe 2.0 & Sustainable Banking project

“Energy efficiency is key to sustainable development, and we need to scale up these investments.

That’s why I was so pleased to have the opportunity to work towards this objective with BASE in two different ways: through supporting banks signatories of the Principles of Responsible Banking in their decarbonisation journey, and by advising on the roll-out of the Energy Savings Insurance in Europe, an innovative financial instrument that de-risk the uptake of cleaner energy solutions for SMEs.

Our collaboration yielded positive results and received good feedback from our beneficiaries.”



finance initiative

“We are thrilled to announce that as our operations grow in scale and reach new locations, we are focusing on digitalising them.

The Your Virtual Cold Chain Assistant project has provided us with Coldtivate, an all-in-one tool that fulfils our inventory management requirements and keeps our customers updated on their crates. We are integrating Coldtivate as a vital training component for hub operators before onboarding.”



-Nnaemeka Chidiebere Ikegwuonu,
Founder & CEO at ColdHubs
Project Partner: Your Virtual Cold Chain Assistant



- César Carcelén Romero,
Sustainable Business and MSMEs Specialist at IDB Invest
Project Partner: Sustainable Banking project

“In 2022, together with BASE, we took on the challenge of building a categorisation system for the Circular Economy for the first time in LAC, with Colombia being the first country.

The impulse and commitment of BASE and a joint and professional work allowed this initiative to be successful, and thus extend it to Peru; where the Just Transition component was strengthened by highlighting the importance of MSMEs in circularity.

BASE is a strategic partner that has strengthened innovation and knowledge development in all projects”



Testimonials

From beneficiaries of our projects

“The Coldtivate app is very necessary to farmers according to my understanding. When you have a products from a farm and you can keep them fresh, they bring more money when you take them to the market.

What makes me love the Coldtivate app so much is the fact that you can monitor your crops through your mobile phone. Even with a basic phone, you are notified by SMS.

I believe the app is necessary for farmers to make more money and to assist them in farming.”



- Nelson Eyeta,
Farmer using Your VCCA and LeapEnergy's solution in Warri region



- Steve Piro,
CEO of Synergy Efficiency Solutions, beneficiary of the SET Alliance (formerly the CaaS Alliance)

“BASE has been instrumental in their support for Synergy Efficiency Solutions (SES) to deploy the first-ever Cooling-as-a-Service (CaaS) projects in Indonesia.

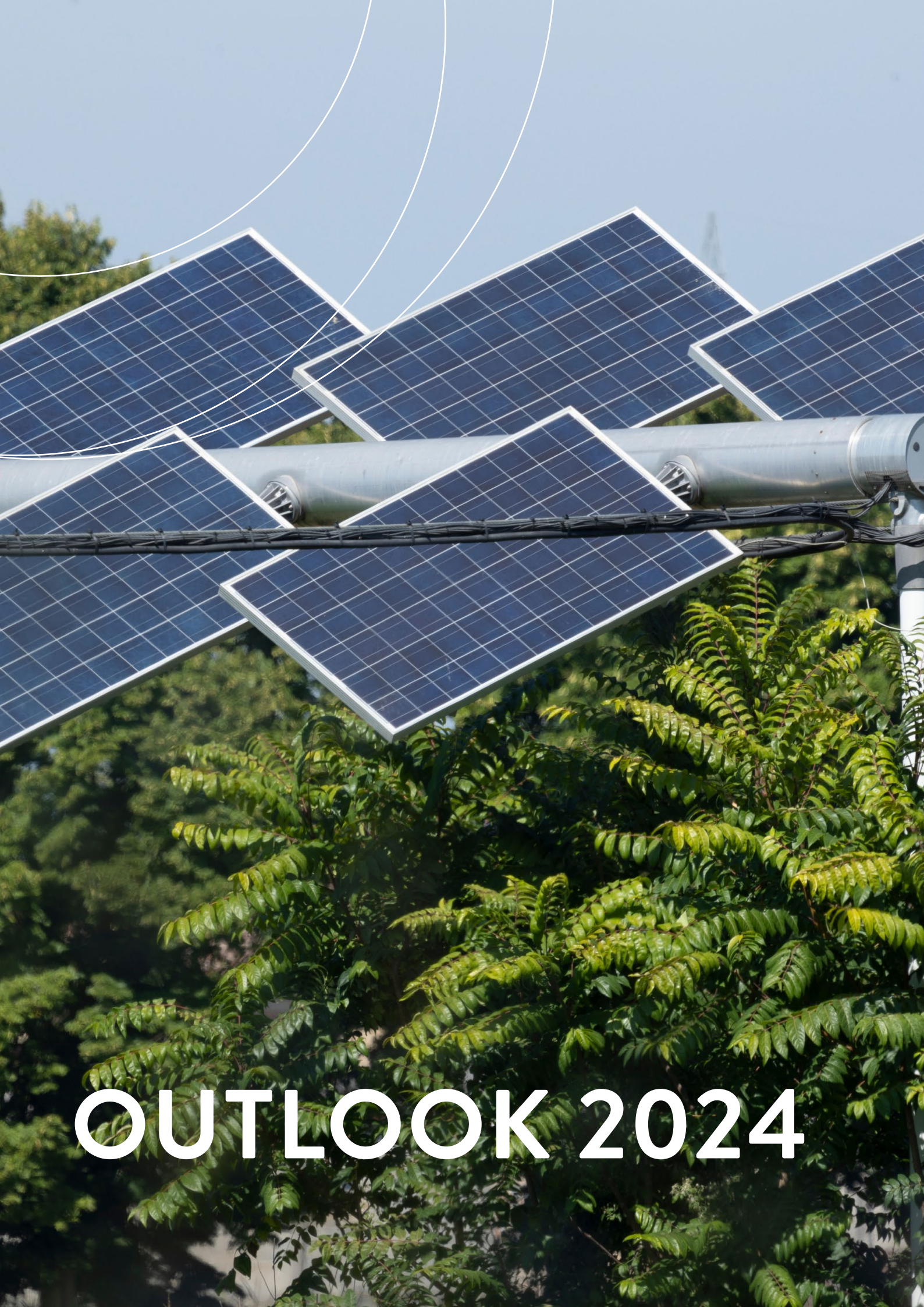
The exchanges with BASE have been key in defining our solution and getting projects signed. We are very proud to have executed CaaS projects in Indonesia which provide our customers with a host of benefits from reduced energy bills, to ensuring they always have a reliable source of clean cooling.

We are looking forward to scaling our impact across the region!”



- Carol Güntert,
Buildings Project Manager and Sustainability Lead, the Diakoniewerk Neumünster

“The Stiftung Diakoniewerk Neumünster, which includes the Zollikerberg Hospital (Spital Zollikerberg), is working hand in hand with the Servetia team, exploring options towards decarbonisation through as-a-Service models, from heating and cooling to lighting systems and photovoltaic solutions!”



OUTLOOK 2024



In 2024, BASE will build on the competencies gained in 2023 to deepen its exploration of various aspects of climate finance. On top of pursuing the roll out of its flagship initiatives aimed at mainstreaming energy efficiency and renewables, such as the Energy Efficiency-as-a-Service model, continuing to explore avenues to finance and implement climate adaptation and electric mobility solutions, and driving the shift of the private financial sectors towards sustainable and circular economy financing, BASE determined four areas that will receive special attention in 2024:

1. Digitalisation, a key and cross-cutting tool

Digitalisation is a key driver in the transition to a more sustainable society by enabling innovative business models like servitisation, which improves the management, monitoring, and control of resources. BASE, will continue exploring digital solutions to optimise energy systems in buildings, enhance decision-making through accessible data, and maximise energy system performance.

These solutions not only improve resource efficiency and contribute to the circular economy but also enhance trading efficiency through online sales. We are committed to advancing the Coldtivate app, in current countries where it is available but to also to new population. The app supports the management of cold rooms for agricultural cooling companies, allowing smallholder farmers to monitor their crops transparently. Digitalisation also revolutionises communication and measurement processes, crucial for assessing the impact of climate solutions.

BASE will keep leveraging digital solutions to create effective Measurement, Reporting, and Verification (MRV) systems to track key performance indicators and evaluate project impacts, aiming to scale these systems for broader application and maximum benefit.

2. Urban solutions and financial strategies

As cities undergo direct effects of climate change, and represent major contributors to greenhouse gas emissions, they are at the forefront of the current crisis.

Decarbonising buildings and transport, building urban resilience while greening urban spaces, and guaranteeing access to essential infrastructure therefore makes for critical points of city's agenda.

But to ensure the sustainability of such developments in the long run, they must rely on robust financial models. Therefore, in 2024 BASE will pursue its commitment to supporting the development of climate-change proof urban areas, looking for financial strategies for green infrastructure and ways to channel investments into mitigation and adaptation projects to help achieving SDGs at the municipal level.

BASE will keep strengthening its collaboration with leading organisations in the urbanisation space, reinforcing its commitment to apply and share its knowledge and experience for smarter urban planning.

3. Advancing investments in nature positive solutions

Prevailing economic models drive a general downward trend in the state of natural capital, and an upward trend in manufactured and human capital. Ecosystem's destruction not only undermines nature's ability to regulate emissions, but also increases vulnerability to climate disaster.

Governments efforts and investments that can be considered nature positive fall far short from what is needed to maintain and restore the health of our ecosystems. From policy to finance, supporting public and private action towards net-zero, nature positive solutions represent a vital challenge.

In 2024, BASE will strive to bring its expertise to this key area of climate finance, to drive systemic change in the market and financial flows towards innovative climate technologies and nature-based solutions.

4. Scaling the Energy Savings Insurance in Asia

The Energy Savings Insurance (ESI) model is gaining traction in the Asian region. After a successful implementation of the model in Mongolia, and having tailored it to Kazakhstan's market, BASE is looking to explore its potential to trigger SMEs' acquisition of energy-efficiency and renewables in new countries of the continent.

Major global and regional players, such as the OECD and the ADB are demonstrating a rising interest in ESI, recognising its potential for benefitting new geographies.



ABOUT BASE

Established in 2001, BASE is a Swiss foundation and Specialized Partner of United Nations Environment.

We develop innovative, actionable financial strategies and market-driven solutions to unlock investment in climate change solutions. Around the world, we work with all markets and segments including those that are challenging and underserved.

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