

INVESTING
FOR A **GREENER**
FUTURE





THE ROAD TO A SUSTAINABLE WORLD

Two years have passed since the Paris Agreement was adopted in 2015 by 195 countries, marking a critical milestone to reach a low-carbon, climate-resilient growth and development.

According to a report by the Climate Policy Initiative, private finance averaged capital flows of US\$270 billion in 2015 and 2016. It states that a wide range of public and private finance actors are aiming to take advantage of the strong political signal delivered by the Paris Agreement. It has found that development finance institutions (DFIs) still provide the largest share of public finance and that they continue to make strong progress in scaling up climate finance lending in line with their internal institutional 2020 targets.

However, the report also shows we are not doing enough yet. In the coming years, all DFIs will have to catalyse and mobilise more institutional investors to finance, as their contribution is less than 1 percent of the total flows.

The European Association of Development Finance Institutions (EDFI) and its members strongly believe that the private sector plays an essential role to enable sustainable development for all.

To achieve this goal, we need to fight climate change and the private sector should be part of the battle.

Energy plays a fundamental part as either the cause or the facilitator in the economic growth process. The power sector is one of the largest in the European DFI investment portfolio and the majority concerns renewable energy and energy efficiency projects. At the end of 2016, the consolidated portfolio in climate finance reached €6.9 billion, roughly evenly distributed across Africa, Asia and Latin America. The largest area of activity in this portfolio is hydro power, followed by wind and solar power projects.

The Sustainable Development Goals (SDGs) dramatically raise the bar for of us and for the private sector in development finance. All DFIs are compelled by their mandate to contribute to the SDGs by creating decent jobs, financing the renewable energy revolution and ensuring sustainable land use. By joining forces, DFIs have proven to be able to foster sustainable growth, with the ultimate goal to improve people's lives. Over the years, the EDFI members have invested in private sector enterprises in developing countries on all continents, achieving a still

growing €38 billion portfolio at the end of 2016.

With this booklet, we would like to share examples of initiatives and investments of EDFI members in climate finance varying from adaptation, such as wind and solar energy projects, to mitigation, such as responsible forestry management and sustainable agriculture. With these investments, EDFI members hope to build the road towards a more sustainable world. We will only succeed if we bring together all the partners in the development finance community, financiers, business, governments and NGOs, to collaborate and offer solutions that meet the needs of the private sector and the developing countries where we invest.



Nanno Kleiterp
CHAIR OF EDFI

EDFI AT A GLANCE

A EUROPEAN PARTNERSHIP TO PROMOTE DEVELOPMENT

For years, EDFI members have been developing their cooperation. This partnership helps them to amplify their support to the private sector in developing countries and to fulfil their catalytic role.

WHO WE ARE

The association of European Development Finance Institutions (EDFI) was established in 1992. Its 15 members are focused on private sector funding in developing countries and emerging economies in order to foster sustainable development. Its main purpose is to promote technical and financial cooperation between members, as well as with the other bilateral, multilateral and regional Development Finance Institutions.

WHAT WE DO

The role of EDFI members (EDFIs) is to support sustainable, responsible and innovative businesses and financial institutions in Africa and South America, as well as in Asia or Middle East: from major emerging economies to the poorest countries, from politically stable environments to fragile states. EDFIs' funding focuses on a wide range of sectors, such as renewable energy-based infrastructure, agribusiness, financial sector, health or education, with the aim of supporting sustainable economic growth, job creation, access to essential goods and services and, more broadly, poverty reduction and climate change mitigation.

LEVERAGING RESOURCES

EDFIs act as catalysts, attracting and mobilising additional public and private sector funding for their clients' projects by providing long-term financing solutions in the form of loans, mezzanine finance, equity investments and guarantees. Their funding aims to demonstrate the economic and financial viability of private sector actors in developing countries in activities and/or regions that are *a priori* deemed unattractive.

PROMOTING RESPONSIBLE FINANCING

In addition to financing, EDFIs' role involves encouraging developing companies and financial institutions to act in a responsible manner in the countries where they are established.

To help them achieve this, EDFIs assist their clients in improving their environmental practices (reducing greenhouse gas emissions, renewable energy development), social practices (improving working conditions, fight against discrimination) and governance (fight against corruption, transparency of information...).

EDFIs COOPERATION

EDFI members believe that, in many instances, they can be more effective and efficient by working together. They often partner with each other and join forces with other financial institutions to leverage mutual expertise and pool funding for a specific investment project. This allows them to reach scale, share expertise, and spread risk, especially in challenging countries and sectors.

Over the last years, EDFI members have set up several facilities to promote joint investment activities among themselves and with other institutions, e.g. the EIB. Facilities such as EFP and ICCF enable participating institutions to invest more easily alongside one-another and help mobilise funds to bring about larger-scale projects.

In December 2013, EDFI, the EIB and the European Commission set up the "European Union – European Development Finance Institutions Private Sector Development Facility" (EEDF) a facility dedicated to promoting access to modern energy services in ACP countries.

More recently, in 2016, EDFI has established an Asset Management Company, EDFIMC, to manage delegated funding from the EU.

EDFI AND CLIMATE CHANGE

INSTITUTIONS COMMITTED TO THE FIGHT AGAINST CLIMATE CHANGE

After two centuries of economic development supported by access to cheap fossil fuels, the transition to a lower-carbon economy has begun. Private actors will be key players in this shift. EDFIs' role is to enable them to play their part as fully as possible.

The private sector is, to date, the largest source of global climate finance and a key player in the transition to more eco-friendly economies that benefit the greatest number of people.

The private sector's key strengths are in identifying potential projects, developing them towards profitability, and executing them in a cost-efficient way. Markets, when rightly incentivised, can provide a powerful vehicle for scaling up proven technologies to deliver to climate change objectives.

The Interact Climate Change Facility (ICCF) finances renewable energy and energy efficiency projects in the private sector in developing countries. It is funded by the French Development Agency (AFD), the European Investment Bank (EIB) and several EDFI members.

The ICCF seeks to promote the use of renewable energy and clean technologies as well as energy efficiency in developing and emerging countries by providing long-term financing. By expanding access to clean, reliable and affordable electricity in these countries, where the demand for electricity is often larger than supply, the

ICCF aims to boost economic growth, enable companies to create new jobs and promote a more equitable distribution of income. Demonstrating the economic viability of projects, the ICCF also aims to act as a catalyst to attract additional financing, especially in the energy sector. In November 2016, the ICCF was replenished with €335 million which are available to be committed until October 2019 on a first come first serve basis.

€8.71 billion

- allocated since 2009
- to operations with
- cobenefits for climate
- change mitigation.

EDFI **ElectriFI** ELECTRIFICATION FINANCING INITIATIVE

A major barrier to investments in access to energy in developing countries is the lack of access to seed, mid- and long-term capital. ElectriFI was created in 2015 as a financing scheme to bridge the gaps in structuring and financing, stimulate the private sector, and mobilise financiers.

ElectriFI's mission is to grow viable businesses and projects that create new connections to reliable and sustainable

energy in emerging and developing countries.

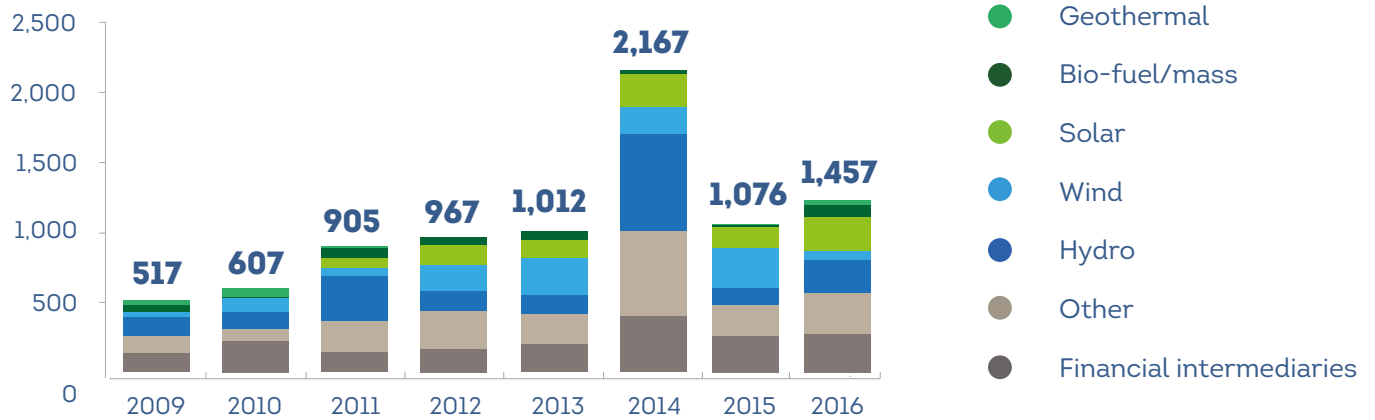
The focus is on addressing the energy needs of populations living principally in rural, underserved areas and areas affected by unreliable power supply. This initiative encourages the adoption of renewable energy, with an emphasis on decentralized energy solutions.

The current ElectriFI envelope is over €116 million contributed by the European Commission, of which US\$10 million is provided by Power Africa. Funds are managed by the EDFI Management Company.

For more information, please visit www.electrifi.eu.

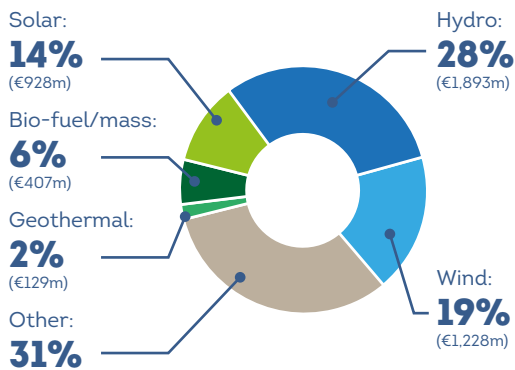
EDFIS CLIMATE FINANCE KEY FIGURES

EDFIS TOTAL CLIMATE FINANCE INVESTMENTS, 2009-2016 (IN €M)

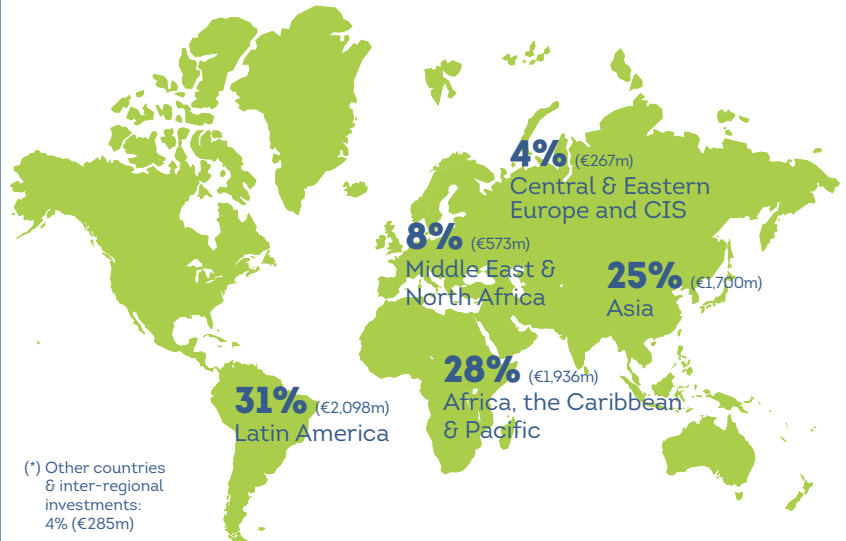


EDFIS DIRECT INVESTMENTS BY TYPE OF ENERGY, 2009-2016

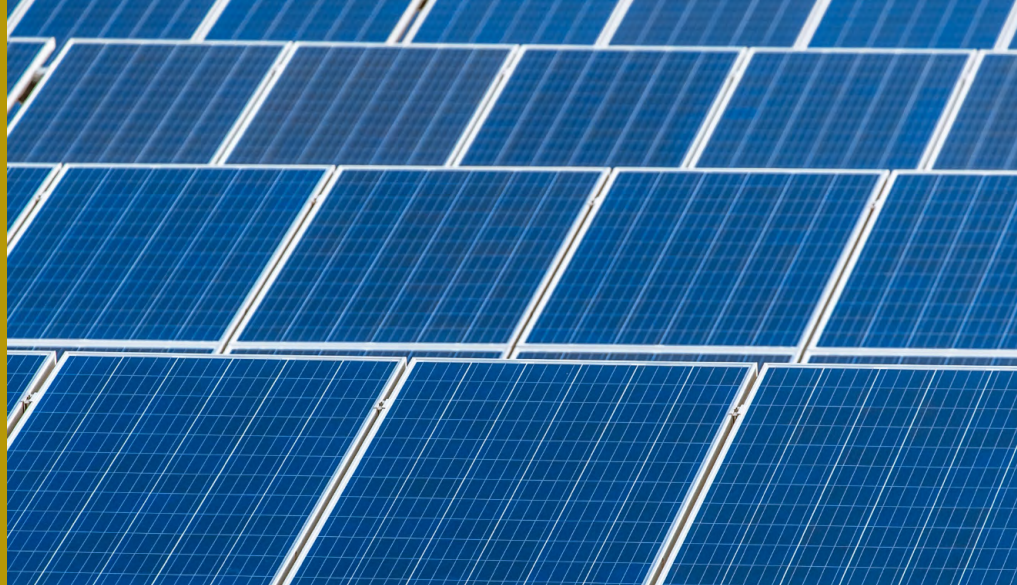
From 2009 to 2016, solar, wind and hydro accounted for 61% of the total climate finance investments.



PORTFOLIO BY REGION*, AS OF 2016



HELPING SENEGAL BREAK FREE FROM ITS RELIANCE ON FOSSIL FUELS



Hardly-hit by the oil-price hike in 2008, constrained by an inadequate energy system, Senegal has begun to exploit its immense renewable energy potential, with solar power in the lead. EDFIs are helping to boost Senegal's energy security and its transition to low-carbon development.

BACKGROUND

As in several other African countries, Senegal's economic and social development is held back by sub-par performance in the energy sector. The national power grid is ill-equipped to handle the growing needs of businesses and citizens alike.

A decade of under-investment in generation capacity and Senegal's high dependency on fossil fuels resulted in massive power cuts and a profound social crisis when global oil prices surged in the late 2000s.

Moreover, Senegal's electricity prices are among the highest in West Africa, despite a 2009 freeze on rates and generous State subsidies to the national power company, Senelec.

THE PROJECT

In 2016 and 2017, EDFI members allocated €93 million to build and run three photovoltaic power plants (80MW) in the Thiès region.

The Senergy and Ten Merina solar parks will supply electricity equivalent to the consumption of 600,000 inhabitants at a cost making it competitive with the country's thermal power plants while reducing greenhouse gas emissions by 90,000 teq CO₂ a year.

This investment falls under the country's ambitious roadmap for economic and social development, *Plan Sénégal Emergent*, aiming to increase national production capacity by 10 to 15% a year, while reducing its reliance on high-polluting imported fossil fuel.

IMPACT

- 80MW of installed capacity
- 90,000 teq CO₂ avoided per year
- Production capacity equivalent to the annual consumption of 600,000 inhabitants.

KEY INDICATORS

- Financial tool: debt
- Amount committed: €93 million
- Date granted: 2016 and 2017
- Project names: Senergy 1, Senergy 2 and Ten Merina



A WIND OF CHANGE FOR PERU



Peru's wind power potential is estimated at 22,000 MW but its installed capacity only totaled 142 MW in 2014. The Peruvian government introduced legislation to support investments intended to tap into this under-exploited resource. EDFIs heard the call.

BACKGROUND

Thanks to its strong economic growth over the past 2 decades, Peru has made electric power increasingly available to its population. Coverage rose from 45% in 1990 to 91% in 2015. Energy consumption has thus been growing fast and does not show any sign of slowing down.

With diminishing gas reserves and an energy mix relying greatly on hydropower production, vulnerable to climate change, Peru set itself ambitious objectives to exploit its great potential in terms of renewable energy production.

A strategy aligned with the country's COP21 commitment to reduce its greenhouse gas emissions by 30% by 2030.

THE PROJECT

Through a joint financing facility, EDFIs mobilized a total of US\$69 million to support the construction and operation of the Marcona (32MW) and Tres Hermanas (97 MW) wind farms located in southern Lima.

Together, these two projects form the country's largest wind farm and prevent 428,000 tons of CO₂ from being emitted annually. These projects also contribute to creating direct and indirect jobs and are combined with local development programs on tourism and education.

These two projects won the Best Renewable Energy Financing in Latin America Award from Latin Finance, an authoritative bimonthly magazine on Latin America's financial markets.

IMPACT

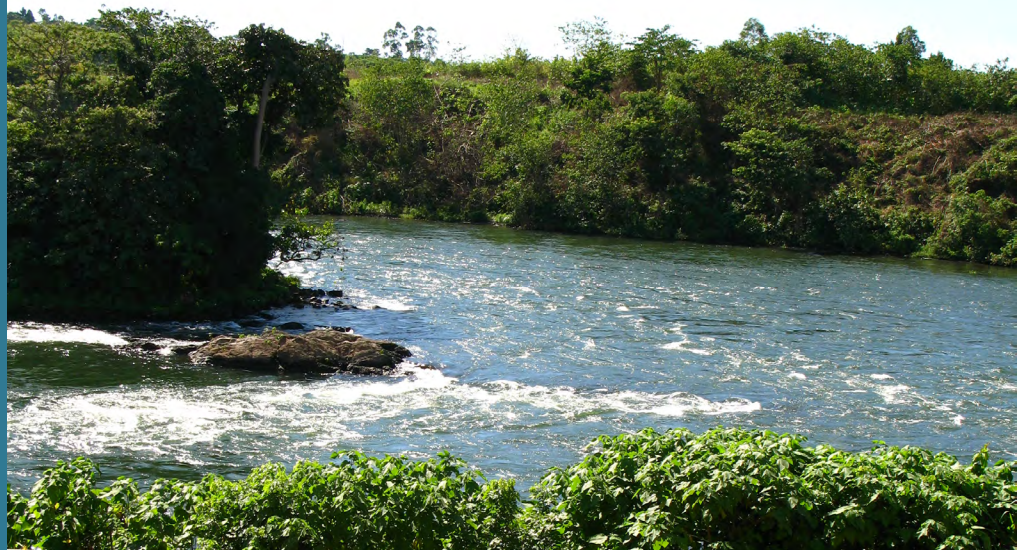
- 428,000 tons of CO₂ avoided per year.
- 129 MW installed capacity.

KEY INDICATORS

- Financial tool: debt
- Beneficiaries: Parque Eolico Marcona & Parque Eolico Tres Hermanas
- Amount committed: US\$69 million
- Date granted: 2015



DEVELOPING HYDROPOWER CAPACITY TO PROMOTE ACCESS TO ELECTRICITY



Uganda is banking on exploiting its hydropower potential in order to address its energy deficit. Run-of-the-river hydropower stations offer solutions that could bridge part of the energy gap without the negative externalities of large hydropower stations.

BACKGROUND

Despite its rapidly growing economy, Uganda suffers from historic underinvestment in the power sector as well as a structural exceeding demand over supply. Consequently, the energy consumption is low and limits the country's economic development.

Run-of-the-river hydroelectricity projects are dramatically different in design and appearance from conventional hydroelectric projects. Traditional hydro dams store enormous quantities of water in reservoirs, necessitating the flooding of large tracts of land. In contrast, most run-of-river projects do not require a large impoundment of water, which is a key reason why such projects are often referred to as environmentally friendly, or "green power".

THE PROJECT

Nyamwamba Hydroelectric Power Station, also referred to as Nyamwamba Power Station, is a mini-hydroelectric power station.

In 2015, EDFI members contributed US\$18 million to the construction of a greenfield 9.2MW hydropower station on the Nyamwamba river in Western Uganda.

The power station is a run-of-the-river mini-hydropower installation. The power generated is intended for use by the town of Kasese with a population of 101,679 in 2014. The power generated will be evacuated via 33kV cables to Nkenda Substation approximately 13 kilometres northeast of Kilembe, where it will integrate into Uganda's national electric grid.

IMPACT

- 9.2MW of installed capacity
- 20,000 tons of CO₂ avoided per year
- 396Wh annual production

KEY INDICATORS

- Financial tool: senior debt
- Beneficiary: Africa Nyamwamba Ltd.
- Amount committed: US\$18 million
- Date granted: 2015



GENERATING ELECTRICITY FROM ORGANIC WASTE



Energy constraints are impeding South Africa's economic growth. The new Bio2Watt biogas plant produces electricity from organic waste, and is helping to reduce both the nation's electricity deficit and the amount of landfill waste.

BACKGROUND

Due to its economic growth and efforts to electrify rural areas, South Africa has seen the margin between peak demand and available electricity supply narrow and blackouts had to be enforced by the country's national power company Eskom. Surveys have shown that outages are seen as the most significant external threat to SMEs in South Africa.

Increasing generating capacity is thus a key priority for the South African government, as is diversifying its energy mix still greatly dominated by coal.

Biogas, a renewable source of energy, is already contributing stable baseload power to the country's electricity grid. Estimates show that it can contribute up to 2.5 GW of generation capacity.

THE PROJECT

Bio2Watt is the first commercially viable biogas from organic waste project in South Africa. It benefited from equity investments provided by EDFI in 2011.

The plant became operational in 2015. It processes 300 tonnes of waste every day, coming from manure from 25,000 cattle as well as organic waste from the local municipality and local industries.

When organic waste degrades, methane and CO₂ are produced. At biogas plants, this natural process is accelerated, the methane is captured, and electricity is generated by engines fuelled by the gas.

Unlike many other sources of renewable energy, the plant is able to generate electricity continuously and is therefore a stabilising source of energy for the grid.

IMPACT

- First project of this nature in South Africa
- 300 tonnes of waste processed every day
- 4.4MW installed capacity providing an estimated 35 GWh of energy per year
- 150 direct and indirect jobs created
- Carbon-neutral production of energy.

KEY INDICATORS

- Financial tool: equity investment
- Date granted: 2011
- Amount committed: €2.3 million
- Beneficiary: Bronkhorstspuit Biogas Plant Pty Ltd



OFF-GRID

India

EMPOWERING ISOLATED COMMUNITIES



Despite significant progress making electricity more accessible in developing countries, hundreds of million people still lack access to safe, reliable energy, especially in rural areas. Off-grid systems provide a relevant, scalable alternative to the national grid.

BACKGROUND

Over the past few years, India has quickly embraced solar energy, quadrupling its solar capacity. However, about 300 million of India's 1.3 billion inhabitants are still not connected to the electricity grid.

In lack of a better solution, villagers have to rely on other energy sources for their day-to-day activities, especially on kerosene, which remains the primary source of night-time lighting for India's off-grid households.

Kerosene is particularly unhealthy, expensive and dangerous for its users. It is also contributing to India's carbon emissions.

THE PROJECT

Mera Gao Power (MGP) builds and operates low-cost micro-grids in India's most rural hamlets in the states of Uttar Pradesh and Bihar. It targets customers living in isolated rural hamlets counting less than 100 homes and where monthly incomes are around US\$50-80 per family. MGP offers its customers lower cost, higher quality lighting than kerosene.

Initiated and managed by EDFI Management Company, Electrifi committed with Mera Gao Power its first equity investment since it was created. It invested US\$1 million as part of MGP's US\$2.5 million investment round in 2017.

MGP will use this funding to build 2,500 additional micro grids and thus expand to 55,000 new customers.

IMPACT

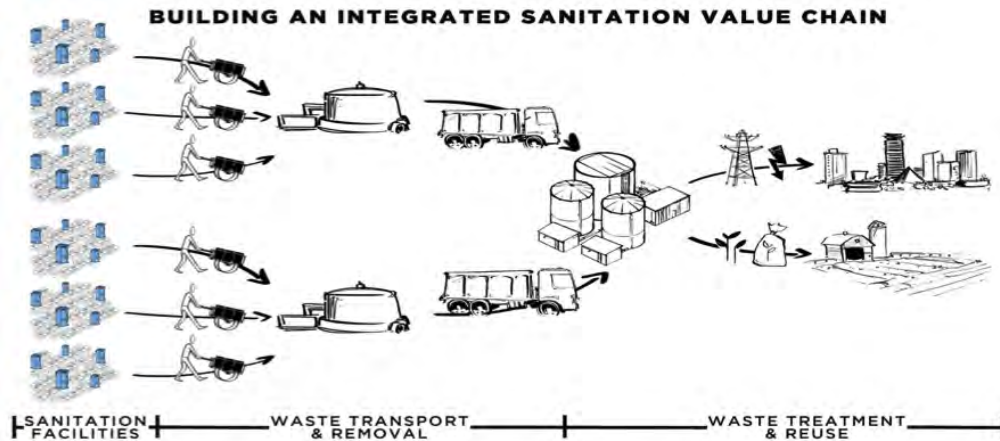
- 2,500 additional micro grids installed
- 55,000 new customers
- 600 kw additional installed capacity

KEY INDICATORS

- Financial tool: equity investment
- Beneficiary: Mera Gao Power
- Amount committed: US\$1 million
- Date granted: 2017



AN INTEGRATED SANITATION AND AGRICULTURAL VALUE CHAIN



Sanergy's model ensures increased access to improved sanitation facilities in slums while also providing a safe way to treat human waste and capitalize on its inherent value.

BACKGROUND

Over 2.5 billion people around the world lack access to adequate sanitation. In Nairobi's slums alone, the figure is 8 million.

The direct consequences are contaminated waterways and food supplies. Inadequate and unhygienic sanitation is estimated to be the second largest cause of disease in the world with huge social, environmental and economic impacts.

At the same time, 1.2 million tons of synthetic fertilizer are imported annually in East Africa with important transportation and tariff costs borne by farmers, as well as a significant environmental footprint.

THE PROJECT

EDFI invested in Sanergy both directly and indirectly through the Novastar Ventures East Africa Fund, dedicated to supporting innovative entrepreneurs working to improve access to essential goods and services in the region. Total EDFI investments in Sanergy are over US\$5 million.

Sanergy franchises its Fresh Life Toilets to local residents operating them as small businesses on a pay-per-use basis.

Sanergy employees collect waste from the toilets daily and deliver it to a central processing facility where it is converted into organic fertilizer, insect-based animal feed and other high-value byproducts that address serious challenges in the agricultural sector.

The Sanergy model has received numerous awards acknowledging its social impact in Kenya.

IMPACT

- 1,100 toilets installed with over 53,000 users a day
- 2,467 metric tons of waste safely removed from the community and treated in 2017
- Over 900 direct and indirect jobs created in a high-unemployment zone

KEY INDICATORS

- Financial tool: equity investments
- Beneficiary: Sanergy
- Amount committed: US\$5 million
- Date granted: 2015 and 2017



LEADING THE WAY FOR SUSTAINABLE PLANTATION FORESTRY IN WEST AFRICA



Deforestation is a major issue for developing nations in the fight against climate change. To meet this challenge, EDFI members have invested in one of Africa's largest forestry company and a leading producer of greenhouse gas emission offsets.

BACKGROUND

Deforestation, illegal logging and climate change are acute problems in West Africa. Between 1990 and 2005, Ghana lost over 25% of its total national forest due to over exploitation and illegal logging. At that rate, the country's forests would disappear in less than 13 years.

Strong and growing need for sustainably produced wood and wood products in the region meant rising timber imports and prices, further increasing pressure on local wood resources.

The Forestry Stewardship Council (FSC®) principles and criteria provide part of the solution by ensuring that FSC-certified products come from well-managed forests that provide environmental, social and economic benefits.

THE PROJECT

EDFIs started backing Miro Forestry, a sustainable timber business operating in Sierra Leone and Ghana, in 2015. This support was intended to help the company expand its current operations to a total of 8,700 hectares of eucalyptus and teak trees.

Miro Forestry only plants trees on degraded and unused land to expand its activities. The majority of the wood it produces in its plantations is sold into local and regional markets.

Miro's expansion created numerous new jobs in impoverished rural areas where there is little or no alternative employment. The company also trains local farmers in more sustainable methods of agriculture.

Miro has been accredited in 2017 by the FSC, acknowledging that its forests are responsibly managed.

IMPACT

- 8,700 ha of total planted area (up from 1,700 before 2015).
- 1,000+ direct jobs supported (up from 350 before 2015).
- Training of local farmers in more sustainable methods of agriculture.

KEY INDICATORS

- Financial tools: equity investments & debt
- Beneficiary: Miro Forestry
- Amount committed: US\$30 million
- Date granted: 2015





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THE 15 EDFI MEMBERS



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See organisation web pages for more information on the individual institutions.

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