



# MOMENTUM FOR CHANGE

## 2015 LIGHTHOUSE ACTIVITIES



**United Nations**  
Climate Change Secretariat

In partnership with



**GeSI**  
GLOBAL e-SUSTAINABILITY  
INITIATIVE



Supported by

THE  
**ROCKEFELLER**  
FOUNDATION

© Copyright. Images owned by the activity partners, all rights reserved.

Design: Phoenix Design Aid  
November 2015



## FOREWORD

### Shining a Light on Climate Solutions

Each year, the UNFCCC secretariat's Momentum for Change initiative shines a light on some of the best and brightest examples of climate solutions that are making a real difference.

This year's winning activities comprise an impressive and wide-ranging collection of climate solutions. They take place in dozens of countries spanning six continents, and range from large, game-changing solutions to enterprising, community-led initiatives. Together, all 16 of the 2015 Momentum for Change Lighthouse Activities highlight some of the most innovative, scalable and replicable examples of what cities, businesses, governments and other key players are doing to tackle climate change.

They include a seriously cool smartphone that puts social values first and an initiative that is enabling 40 Latin American cities to take concrete climate action. They also include a women-led initiative in Benin that uses solar energy to empower women farmers and an internal carbon fee that holds the business units of one of the world's most famous software and ICT companies financially responsible for reducing their carbon emissions.

The wider significance of 2015 makes this year's activities extra special. The activities were selected in a history-making year that will culminate in a new, universal climate change agreement at the United Nations Climate Change Conference Paris.

As you read through this brochure, I hope you will feel inspired by the incredible work underway around the world to address climate change. I encourage you to let these stories serve as a beacon of hope, guiding us ever closer towards a low-carbon, highly resilient future.

A handwritten signature in black ink, appearing to read 'C. Figueres'. The signature is stylized and somewhat abstract, with the first few letters being particularly prominent.

**Christiana Figueres**

UNFCCC Executive Secretary





## Message from the Momentum for Change Advisory Panel

The 2015 Momentum for Change Lighthouse Activities comprise an impressive range of projects and personal stories that touch on climate protection, environmental consciousness and social responsibility. We had a record number of applications – more than 450 – this year.



Year after year, these solutions provide more ideas and sources of inspiration, helping us discover new ways to face the challenges and opportunities of the global transformation towards a low carbon, highly resilient and unified future. We were truly astounded by the depth, breadth and, above all, the quality of the applications: all of them deserve commendation.

### Each Lighthouse Activity touches on one of four focus areas:

- **Urban Poor:** recognizing climate action that improves the lives of impoverished people in urban communities. This focus area is implemented with the support of the Bill & Melinda Gates Foundation.
- **Women for Results:** recognizing the critical leadership and participation of women in addressing climate change. This focus area is implemented with the support of The Rockefeller Foundation.
- **Financing for Climate Friendly Investment:** recognizing successful financial innovations and funding mechanisms that are unlocking climate finance and building capacity. This focus area is implemented in partnership with the World Economic Forum.
- **ICT Solutions:** recognizing ICT solutions across all sectors in society that are reducing energy use, cutting greenhouse gas emissions and building resilience to the effects of climate change. This focus area is implemented in partnership with the Global e-Sustainability Initiative.

The Momentum for Change Lighthouse Activities prove that climate action is building in countries, communities, companies and cities everywhere and that it goes hand-in-hand with economic and social development.

### Teresa Ribera Rodriguez

Chair of the Momentum for Change Advisory Panel  
Executive Director of the Institut du Développement  
Durable et des Relations Internationales

### Mark Kenber

Vice-Chair of the Momentum for Change Advisory Panel  
CEO of The Climate Group

# TABLE OF CONTENTS



Urban Poor



Women for Results



Financing for Climate Friendly Investment



ICT Solutions

1	<b>Emerging and Sustainable Cities Initiative: Supporting sustainable growth in emerging cities</b> Latin America and the Caribbean	page 10
2	<b>E-waste: From Toxic to Green: Creating jobs to keep e-waste out of landfills</b> India	page 12
3	<b>Solvatten Solar Safe Water Heater: Reducing emissions while securing access to safe drinking water</b> Kenya	page 14
4	<b>Fostering Cleaner Production: Reducing emissions in manufacturing</b> Colombia	page 18
5	<b>Harvesting Geothermal Energy: Generating income with geothermal waste-heat</b> El Salvador	page 20
6	<b>Planting Trees to Save the Mangrove: Establishing women-led groups that protect forests and generate income</b> Guinea	page 22
7	<b>SELF's Solar Market Gardens: Empowering women farmers through solar drip irrigation</b> Benin	page 24
8	<b>Azuri PayGo Energy: Innovating pay-as-you-go energy systems for rural homes</b> Africa	page 28



- 9** ***Deforestation-Free Cocoa: Using a carbon-asset-backed loan to protect forests and produce cocoa***  
Peru page 30
- 10** ***Microsoft Global Carbon Fee: Transforming corporate culture by putting a price on carbon***  
Global page 32
- 11** ***ChargePoint Electric Vehicle Charging Corridors: Building a network of electric vehicle express charging stations***  
United States of America page 36
- 12** ***Enabling Farmers to Adapt to Climate Change: Using ICT solutions to build resilience***  
Uganda page 38
- 13** ***Fairphone: Producing a phone that improves lives and the environment***  
The Netherlands page 40
- 14** ***Lifelink Water Solutions: Using ICT tools to provide safe, sustainable and affordable water***  
Kenya and Uganda page 42
- 15** ***Mapping Exposure to Sea Level Rise: Preparing for risk with online spatial tools***  
Tonga, Samoa, Vanuatu and Papua New Guinea page 44
- 16** ***Mobisol Smart Solar Homes: Powering homes with solar energy***  
Rwanda and Tanzania page 46



# URBAN POOR

Although urban centers are often ill-prepared to meet the basic needs of rapidly expanding populations, the urban poor are incredibly resourceful people, with their own networks and the proven capacity to save and invest in the betterment of their communities. Climate change can stimulate action that improves and transforms the most vulnerable urban communities.

These Lighthouse Activities address climate change while improving the lives of the urban poor in developing countries. This focus area is implemented with the generous support of the Bill & Melinda Gates Foundation.









# EMERGING AND SUSTAINABLE CITIES INITIATIVE

## SUPPORTING SUSTAINABLE GROWTH IN EMERGING CITIES

Urbanization is occurring at a rapid pace in Latin America and the Caribbean (LAC). Already the second-most urbanized region on the planet, LAC has gone from a 62% urbanization rate in 1980 to 81% in 2011 and is expected to reach 89% by 2050.

This process happened in a disorderly manner and without adequate planning, creating daunting challenges, especially by causing carbon-intensive urban sprawl and placing the urban poor in marginalized areas most vulnerable to disaster risk and climate change.

The Emerging and Sustainable Cities Initiative (ESCI) seeks to address these challenges by developing planning tools like greenhouse gas inventories and risk maps as well as action plans to put cities in Latin America and the Caribbean on a sustainable pathway that includes low-carbon, climate-resilient development. By taking a multi-sectoral approach, ESCI not only seeks to reduce greenhouse gas emissions and vulnerability, but also to create other social, environmental, and economic benefits, thus improving the lives of citizens and especially the urban poor.



## KEY RESULTS:

- Over 50 million people live in the 55 cities where the initiative is active. More than 10 million of these people are poor.
- 30 ESCI cities have developed action plans that include activities to reduce their carbon footprint and vulnerability to climate change.
- 28 ESCI cities have developed climate vulnerability assessments, greenhouse gas mitigation studies, and urban growth scenarios.





# E-WASTE: FROM TOXIC TO GREEN CREATING JOBS TO KEEP E-WASTE OUT OF LANDFILLS

Informal waste pickers help clean up India's cities by recycling approximately 20% of the waste generated. However, these waste pickers still do not have formal recognition, equal rights, secure and safe livelihoods and dignity. And as consumption patterns change with a growing economy, their work exposes them to ever higher levels of pollution and dangerous toxins.

The E-waste: From Toxic to Green initiative trains waste pickers in India to collect electronic waste, such as computers and mobile phones, for safe disposal and recycling. By recycling

raw materials from discarded electronics, natural resources are conserved and air and water pollution caused by hazardous disposal is avoided.

Recycling e-waste from landfills reduces methane emissions, which are 25 times more potent than carbon dioxide at trapping heat in the atmosphere. The initiative makes the waste pickers more resilient to poverty by providing green jobs that increase their incomes and protect them from the risks of exposure to toxins and heavy metals.



## KEY RESULTS:

- More than 2,000 waste pickers have been trained to collect e-waste for safe disposal and recycling.
- The initiative negotiates for the best rates from recycling companies so that waste pickers can earn more money, increasing their incomes by 10–30%.
- More than 17 tonnes of e-waste is collected each year, preventing the release of carbon dioxide and other greenhouse gases. E-waste that is not recycled contributes to about 4.25% of the greenhouse emissions.





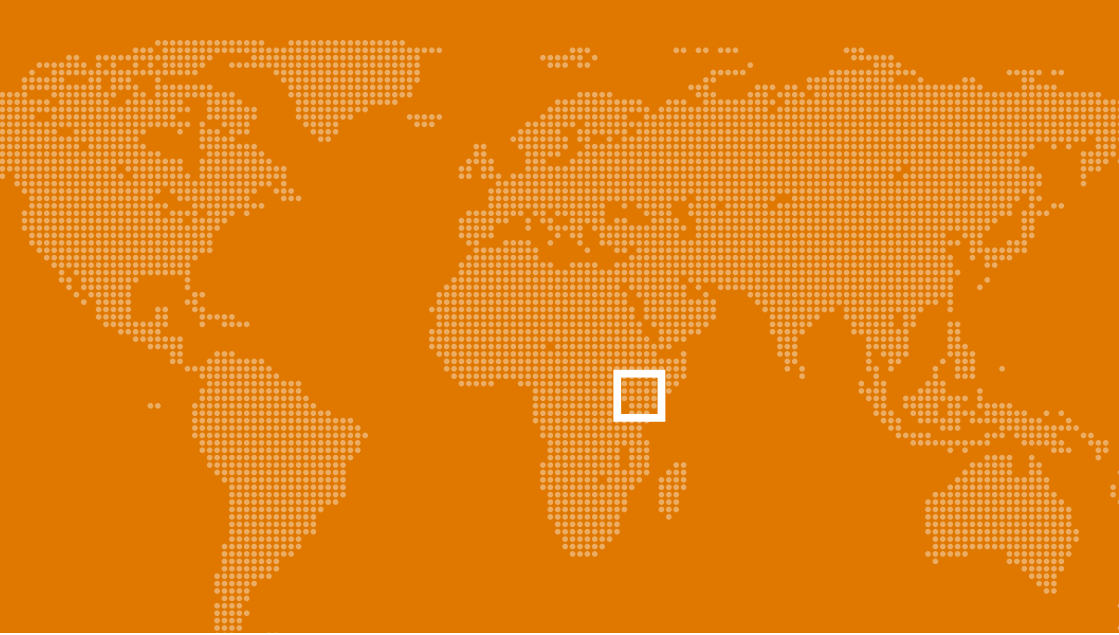
# SOLVATTEN SOLAR SAFE WATER HEATER REDUCING EMISSIONS WHILE SECURING ACCESS TO SAFE DRINKING WATER

Families in Sub-Saharan Africa typically heat and boil their water by burning firewood and charcoal. Not only is this time consuming and expensive, it causes harmful indoor air pollution and releases greenhouse gas emissions. The high dependence on firewood and charcoal by a large percentage of the population is a major cause of deforestation in Kenya.

Solvatten is a dual water treatment and solar water heating system that is tackling climate change and improving lives in Kenya's urban slums. The device harnesses the power of the sun to treat and heat

water, reducing the need to heat and boil water by burning firewood or charcoal.

The units are capable of rendering highly contaminated water drinkable in a few hours, provided there is sufficient sunlight. Solvatten Solar Safe Water Heater improves health, increases renewable energy, reduces deforestation, addresses climate change and gives access to safe water, while lifting people out of poverty.



## KEY RESULTS:

- 2,592 Solvatten systems have been distributed and sold at a subsidized price in Kenya, benefitting 12,900 people in Nairobi's urban slums.
- 22,000 tonnes of greenhouse gas emissions have been avoided in Nairobi's urban slums after four years of Solvatten use.
- Almost 62 million litres of water have been treated since 2012.





# WOMEN FOR RESULTS

Women are disproportionately impacted by the effects of climate change, primarily because they constitute the majority of the world's poor and are more dependent for their livelihoods on natural resources that are threatened by climate change. But women are also taking a leadership role in innovating and implementing climate change solutions.

These Lighthouse Activities showcase women-led initiatives that address climate change. This focus area is implemented with the generous support of The Rockefeller Foundation.









# FOSTERING CLEANER PRODUCTION

## REDUCING EMISSIONS IN MANUFACTURING

Industrial pollution is a major problem in Colombia. Diverse industries are part of the pollution problem in Valle del Cauca, a region that hosts an important industrial corridor in southwestern Colombia.

An all-women leadership alliance is helping transform Colombia's highly polluting construction industry into a cleaner, greener business. The Fostering Cleaner Production initiative brings together leading women from academia, utility companies, public organizations and large and small industries to create partnerships to foster clean production practices.

Despite their diverse backgrounds, the women all have one thing in common – they have already led successful cleaner production projects in various industries in Colombia. The initiative supports and encourages women to develop action plans in key industries to reduce industrial pollution and address climate change. As a result, women working in water and sewage companies, hydraulic and sanitary installation firms, and construction companies are now being trained in pollution prevention techniques and technologies.



## REAL RESULTS:

- Women who have led successful cleaner production projects are working to develop cleaner production proposals to minimize industrial pollution in the region, including a proposal related to 450 small-scale industries located in one area in the city of Cali.
- For one large construction firm and 10 of its suppliers, for example, women led the change to: use photovoltaic energy for lighting and pumping rainwater; reuse the water from processes to cut bricks; reuse construction material waste in road improvements; replace motorcycles with bicycles for supervising construction projects; and reduce paper consumption.
- The women led significant technological changes in the construction processes of the large and small enterprises in order to reduce pollution and address climate change.





# HARVESTING GEOHERMAL ENERGY GENERATING INCOME WITH GEOHERMAL WASTE-HEAT

Traditional agricultural practices have low production rates in rural areas of El Salvador. As a result, female farmers' incomes are very low. In addition, the traditional agricultural practices in El Salvador's rural areas are carbon intensive. Wood and other fossil fuels are typically burnt to dehydrate fruit and pump water, which releases greenhouse gas emissions and causes climate change.

Women from rural communities in El Salvador are increasing their incomes and tackling climate change through a unique project called Harvesting Geothermal Energy that uses waste

heat and steam condensates from nearby geothermal plants. Women living in communities near the geothermal plants use waste heat from the geothermal steam to dehydrate fruit for themselves and for commercial sale. They also grow and sell plants watered with geothermal condensates.

Four women are permanently employed as rangers in a wildlife protection park, which has been established in the geothermal field. Through this project, women are able to run a productive business while earning a sustainable income.



## KEY RESULTS:

- Dozens of women from 15 rural communities surrounding the geothermal field have participated in the initiative so far.
- 45,570 people are benefitting indirectly from the initiative.
- 1.8 tonnes of CO<sub>2</sub> are avoided per year due to the use of geothermal waste heat instead of traditional fossil fuels.





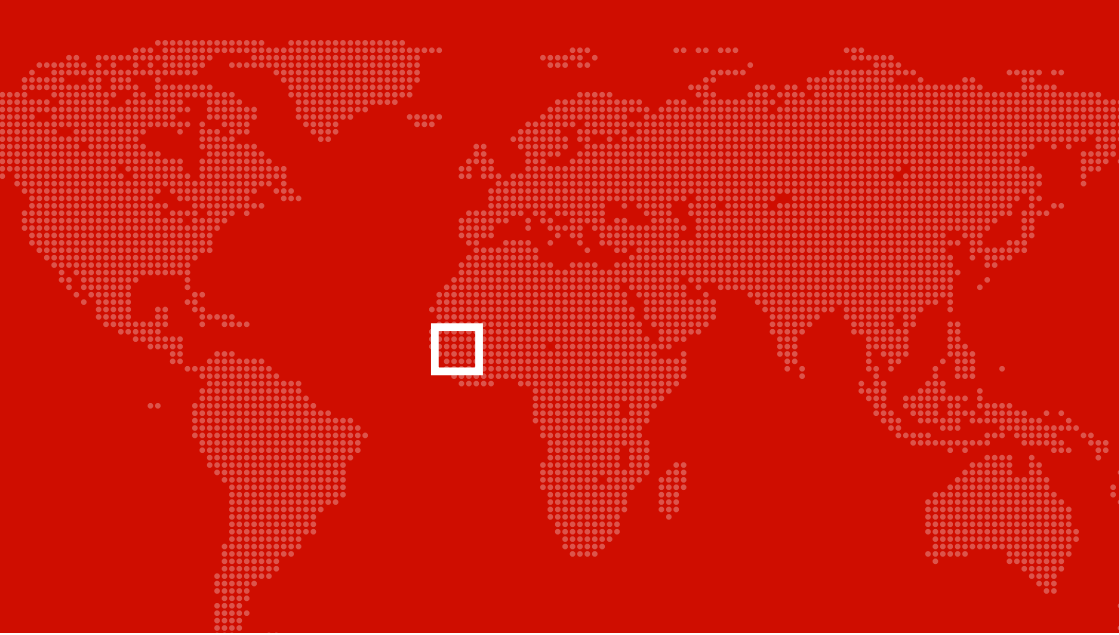
# PLANTING TREES TO SAVE THE MANGROVE ESTABLISHING WOMEN- LED GROUPS THAT PROTECT FORESTS AND GENERATE INCOME

Deforestation is a serious issue in Guinea, where mangrove forests are cut down to burn wood to dry and smoke fish. A group of local women in Guinea were so concerned about the disappearing mangrove forest due to the overuse of wood for drying and smoking fish that they decided to band together to do something about it.

Their solution, the Planting Trees to Save the Mangrove initiative, was simple, successful and sustainable. The women created cooperatives on four island villages to stop the deforestation of mangrove wood. They now use non-polluting solar driers to dry and smoke the fish.

And they plant fast-growing Moringa trees to reforest the area and create a sustainable source of income, by drying and selling the tree's nutritionally dense leaves and water-purifying seeds.

Women involved in the initiative said that eating the dried Moringa leaves improved their children's health and nutrition. They have also ascertained that the Moringa seeds purify the water, which means no more water fetching or burning wood, no more water diseases and better health for all.



## KEY RESULTS:

- 160 women are directly involved in the initiative, which has created several associations of women members in four island villages to manage their land and the program.
- 25,000 Moringa trees have been planted by the women across 20 hectares in North Guinea so far.
- Mangroves contribute to climate change resilience by reducing the impacts of severe storms and cyclones.





# SELF'S SOLAR MARKET GARDENS

## EMPOWERING WOMEN FARMERS THROUGH SOLAR DRIP IRRIGATION

In Benin, a six-month dry season makes it difficult for women farmers to grow food. But thanks to an innovative project developed by the Solar Electric Light Fund (SELF), a nonprofit that designs and delivers creative solar solutions to fight energy poverty, year-round food production is now possible in Benin's remote villages.

SELF's Solar Market Garden project combines solar-powered pumps with drip irrigation systems to provide a cost-effective and environmentally friendly way to pump water for irrigation from nearby rivers and underground aquifers. The Solar Market Garden system provides

reliable, year-round, production of high-value, nutritious produce, allowing girls and women to reallocate their time to educational and economic pursuits, rather than having to haul water long distances. It also empowers them to become entrepreneurs and leaders in their communities.

By embracing solar power and micro-irrigation technologies, these female leaders are trailblazing solutions for both climate change mitigation and adaptation that can be replicated throughout the world, especially sub-Saharan Africa.





## KEY RESULTS:

- 400 women work the 11 gardens in 10 villages in northeast Benin, directly benefitting 3,352 family members.
- 66,000 people have access to fresh fruits and vegetables grown throughout the year.
- In the 2013-2014 dry season, the solar market gardens yielded 27.7 metric tonnes of produce valued at USD 40,000.





# FINANCING FOR CLIMATE FRIENDLY INVESTMENT

Given our planet's growing environmental and resource challenges, the imperative for shifting development onto a more sustainable pathway is increasingly clear.

Innovation is playing a key role in unlocking financial resources for climate change initiatives, resulting in greater institutional capacity to fund activities that promote low-carbon growth and highly resilient communities.

These Lighthouse Activities showcase successful financial innovations for climate change adaptation and mitigation. This focus area is implemented in partnership with the World Economic Forum.





# AZURI PAYGO ENERGY

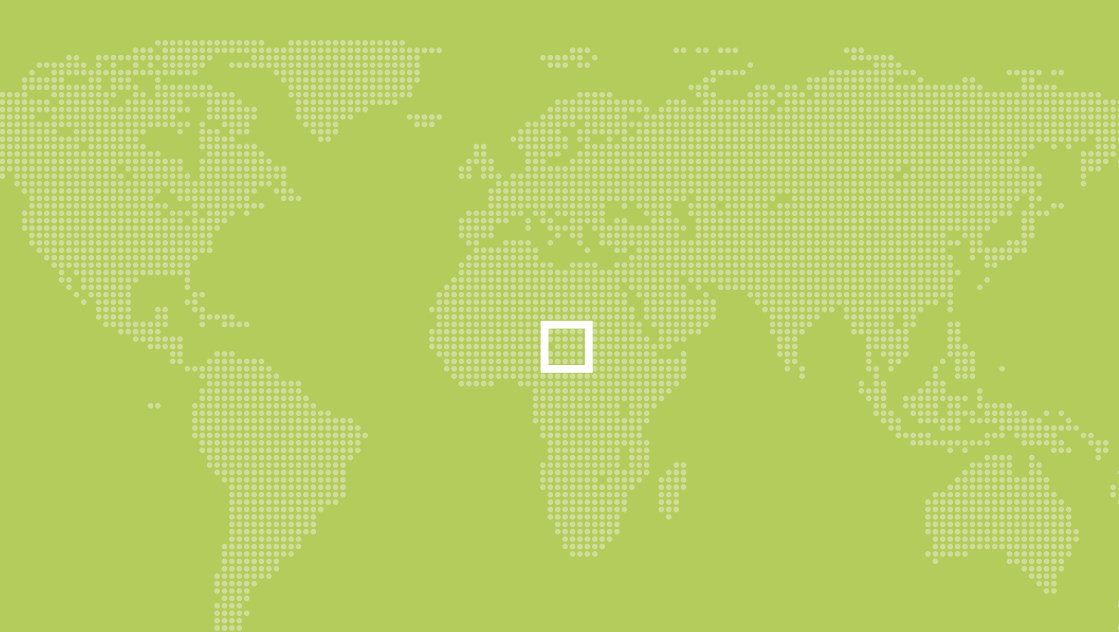
## INNOVATING PAY-AS-YOU-GO ENERGY SYSTEMS FOR RURAL HOMES

Globally, more than 1.2 billion people do not have access to electricity in their homes. As a result, they are forced to burn expensive and polluting fuels for their basic lighting needs. In Sub-Saharan Africa, many people burn kerosene as fuel for lighting. Burning kerosene causes harmful indoor air pollution and emits greenhouse gas emissions fuelling climate change.

Azuri PayGo Energy has combined solar and mobile phone technology to bring clean energy to people living in Sub-Saharan Africa. The pay-as-you-go solar home system provides eight hours of emission-free lighting each day and enough power to charge mobile phones.

After paying a small one-time installation fee, the user then purchases a scratch card, or uses an integrated mobile money service to top-up their unit. The Azuri system cuts weekly energy spending by up to 50%, which means people start saving money and reducing emissions immediately.

The Azuri PayGo business model supports and fosters a sustainable economy, as local people are recruited by distributors as telephone operatives for customer support, technicians to complete installations, and as local sales agents, benefitting from on-going commission income from the regular top-up sales.



## KEY RESULTS:

- Azuri's innovative financing mechanism helps customers self-finance their access to clean solar power, without having to pay high upfront fees, but instead by paying small, regular amounts via mobile phone technology.
- Tens of thousands of units have been distributed in 11 countries across Sub-Saharan Africa; in Tanzania, Kenya, Ethiopia, Uganda, Sierra Leone, Malawi, Zimbabwe, South Africa, Rwanda, Togo, and Ghana.
- Azuri calculates that 28,5 million hours of clean light and 9.5 million hours of mobile phone charging have been provided, resulting in 3,504 tonnes of CO<sub>2</sub> emissions avoided to date.





# DEFORESTATION-FREE COCOA

## USING A CARBON-ASSET-BACKED LOAN TO PROTECT FORESTS AND PRODUCE COCOA

The Althelia Climate Fund is participating in a USD 12 million investment program in the Tambopata REDD+ Project in Madre de Dios, Peru, which will empower 1,100 farmers to produce sustainable cocoa while protecting the biologically diverse Tambopata National Reserve and Bahuaha-Sonene National Park.

The Deforestation-Free Cocoa project is a ‘payment for performance’ model: farmers receive financing on the condition that they won’t deforest further, will restore 4,000 hectares of degraded land in the buffer zone with cocoa-based agroforestry systems, and that a share of revenues from cocoa sales will go to investors.

The project will work with farmers to gain Fairtrade and Organic certification, which ensures fair labor and organic practices and establishes a floor price of USD 2,000 per tonne of cocoa, plus premiums of USD 500 per tonne.

The project established a farmer’s cooperative called Cooperativa Tambopata-Candamo (COOPASER) in October 2014. The cooperative is focused on associating farmers, organizing harvesting, processing and commercializing cocoa, with a goal of managing the entire 4,000 hectares of cocoa-based agroforestry systems financed by Althelia.



## KEY RESULTS:

- The project protects 570,000 hectares of rainforest, ensuring that emissions of 4.5 million tonnes of CO<sub>2</sub> equivalent are avoided by 2020.
- Althelia Climate Fund's carbon asset-backed loan of USD 7 million is fully collateralized by the project's emission reduction units (carbon credits). This means additional carbon finance is leveraged to support the protection of standing forest and the restoration of degraded lands, benefitting small farmers who otherwise lack finance.
- The investment aims to produce at least 3,200 tonnes per year of certified deforestation-free organic and Fairtrade cocoa. This cocoa will be sold through a farmer's cooperative, which will secure higher prices for members and full traceability of the product.





# MICROSOFT GLOBAL CARBON FEE

## TRANSFORMING CORPORATE CULTURE BY PUTTING A PRICE ON CARBON

Large companies typically have a substantial carbon footprint from their global operations, production and supply chain. Many private sector companies recognize they need to be part of the solution.

In 2012, Microsoft voluntarily introduced an internal carbon fee that holds its business units financially accountable for their carbon emissions. It's a financial model that puts an incremental fee on carbon emissions associated with the company's global operations for data centers, offices, labs, manufacturing, and business air travel.

The carbon fee is set each year based on the estimated cost of internal efficiency, renewable energy, carbon offset, e-waste

recycling, and other innovative research projects to be carbon neutral. The carbon fee is already changing behavior at Microsoft – because its business units now include the cost of carbon into their annual budgets, they have a real incentive to reduce their emissions.

Microsoft tracks and analyzes its energy use from data centers, offices, labs and manufacturing, as well as emissions associated with business air travel. Those kilowatt-hours and miles and class of air travel are then converted into tonnes of carbon. Microsoft offsets those emissions by investing in projects that reduce carbon emissions, recycle e-waste, generate green power, make buildings more efficient, and offset emissions through community projects around the world.





## KEY RESULTS:

- With the funds collected, Microsoft has purchased more than 10 billion kilowatt-hours of green power, reduced emissions by 7.5 million tonnes of carbon dioxide equivalent and saved more than USD 10 million per year.
- Microsoft's community offset projects have reached more than three million people around the globe since 2012.
- Microsoft expects to invest more than USD 50 million over the next three fiscal years from its carbon fee fund.



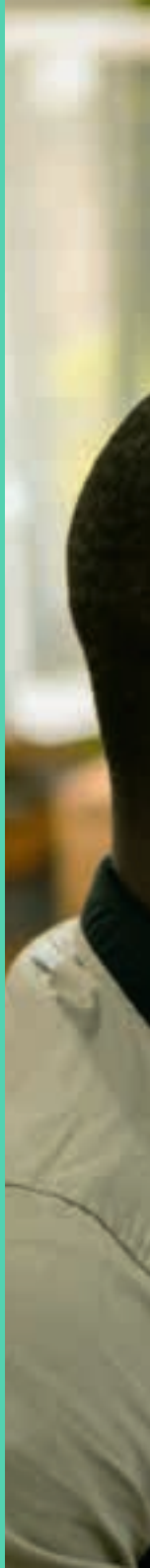


# ICT SOLUTIONS

Information and Communication Technology (ICT) can reduce energy use, cut greenhouse gas emissions and build resilience to climate change.

The Global e-Sustainability Initiative's SMARTer2030 report shows that ICT-enabled solutions can slash global greenhouse gas emissions by 20% by 2030, thus holding them at 2015 levels, while generating over USD 11 trillion in economic benefits and connecting an additional 2.5 billion people to the knowledge economy by 2030.

These Lighthouse Activities showcase innovative ICT solutions that are driving the world toward a low-carbon, highly resilient future. This focus area is implemented in partnership with the Global e-Sustainability Initiative.







# CHARGEPOINT ELECTRIC VEHICLE CHARGING CORRIDORS BUILDING A NETWORK OF ELECTRIC VEHICLE EXPRESS CHARGING STATIONS

Across the United States of America, transportation is responsible for 27% of all greenhouse gas emissions. The more electric vehicles on the road, the fewer greenhouse gas emissions will be produced. With more than 350,000 electric vehicles (EV) sold in the United States, EV owners need more charging flexibility while on the go.

ChargePoint, the world's largest EV charging network, is transforming the transportation industry by providing the charging stations, mobile app and the network that allow people to charge their cars everywhere they go. Its smart-energy management solutions help people and businesses

shift from fueling with gasoline to fueling with electricity.

With more than 25,000 charging spots across the country and by adding up to 100 charging stations in ICT-enabled “express charging corridors” on the east and west coasts of the United States of America, drivers can easily connect to a network of EV chargers, accelerating the transition away from fossil fuels.



## KEY RESULTS:

- ICT-enabled ChargePoint stations have delivered more than 12 million charging sessions and 88 gigawatt hours of energy.
- ChargePoint has enabled EV drivers to avoid more than 35 million kilograms of CO<sub>2</sub> and 41 million litres of gasoline, while driving more than 430 million gas-free kilometres.
- The ChargePoint mobile app allows drivers to find available stations, start a charging session with just one tap, get real-time updates about charging status and view charging history.





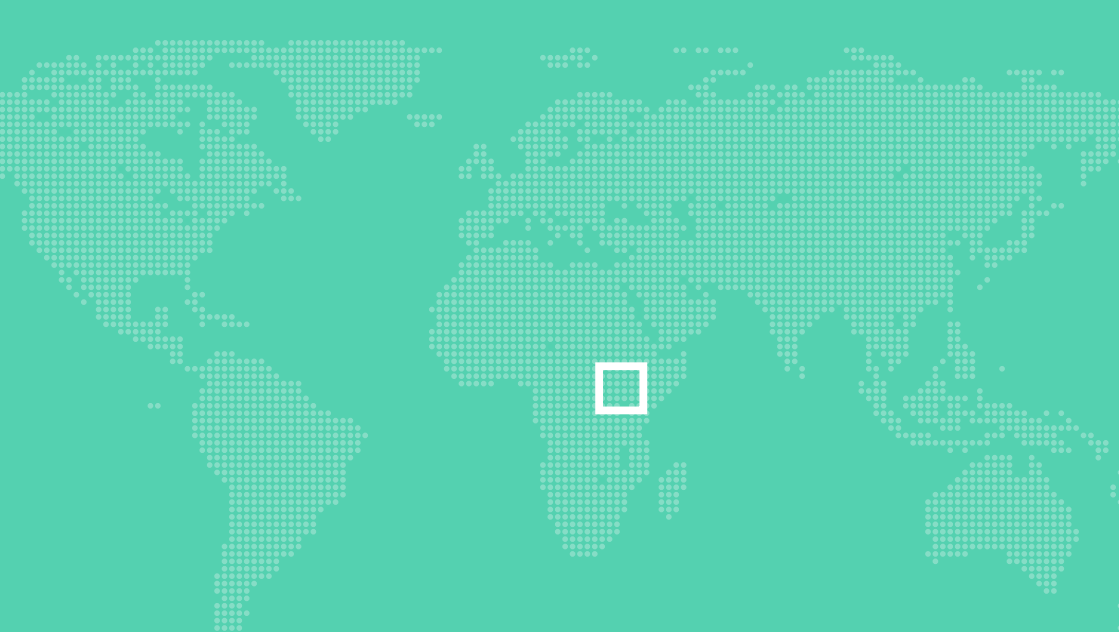
# ENABLING FARMERS TO ADAPT TO CLIMATE CHANGE USING ICT SOLUTIONS TO BUILD RESILIENCE

In Uganda, agriculture is primarily rain-fed, making it vulnerable to drought. The effects of higher average temperatures and more frequent and severe climatic changes in Uganda are seen primarily in the reduction in food security, decline in the quantity and quality of water and degradation of ecosystems, and negative impacts on health, settlements, and infrastructure. Yet, farmers here receive little or no relevant information to help them cope with drought and other climatic stresses.

The Enabling Farmers to Adapt to Climate Change project uses a set of ICT tools to collect, analyze and send

out agricultural advisories, crop and livestock market information and weather data to Ugandan farmers, who are among the most affected by the impacts of climate change.

More than 100,000 farmers now receive seasonal and short-term weather forecasts, agricultural advisories, weekly livestock and crop market information and guidance on low-cost rainwater harvesting techniques and drought and flood coping mechanisms via mobile-phone technology and interactive radio. As a result, farmers are able to minimize crop loss and damage, making them more resilient to a changing climate.



## KEY RESULTS:

- More than 100,000 farmers receive climate change adaptation information via mobile-phone technology, including seasonal weather forecasts and agricultural advisories tailored to their languages and regions.
- As a direct result of the project, crop loss and damage has been reduced by up to 65% (USD 474 – 573 per household per year).
- The project is designed in such a way that it is generic and customizable enough to be easily replicated in other countries.





# FAIRPHONE

## PRODUCING A PHONE THAT IMPROVES LIVES AND THE ENVIRONMENT

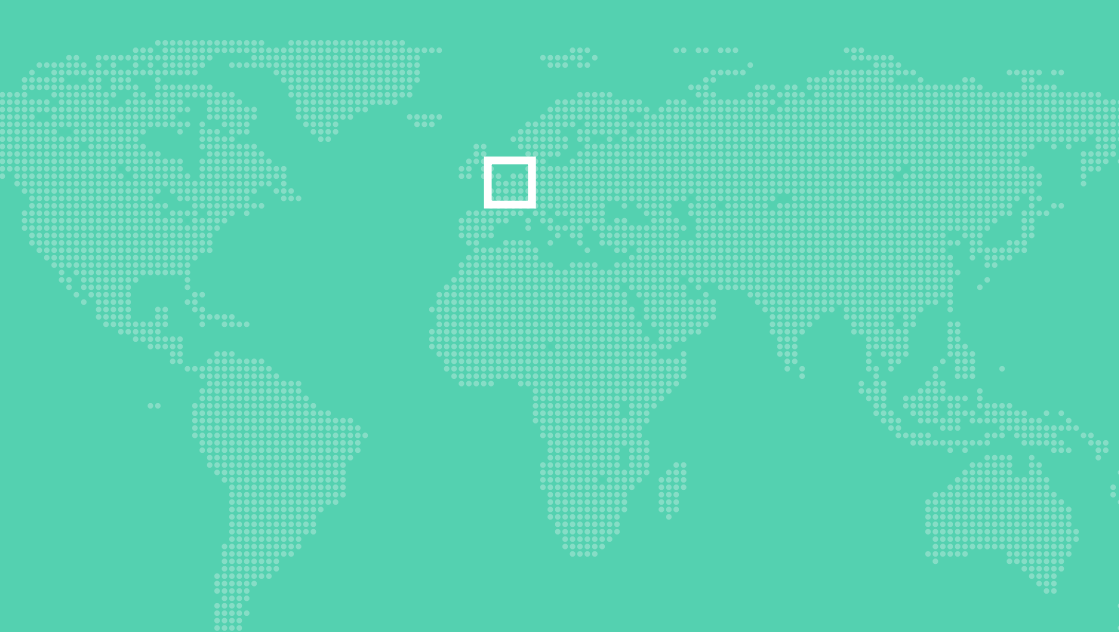
Every smartphone contains more than 30 different minerals from the mining sector. There are four minerals that are generally considered to be conflict minerals: tin, tantalum, tungsten and gold. Conflict minerals fund rebel groups, contributing to political and economic instability while neglecting workers' rights, safety and their ability to earn a fair wage.

Fairphone is a Dutch social enterprise that is working to build sustainable and conflict-free smartphones. Fairphone sources conflict-free tin and tantalum from mines in the Democratic Republic of Congo and works closely with its manufacturers

to improve working conditions in its factories. Fairphone also focuses on durability, reparability and the availability of spare parts that can be easily replaced to extend the smartphone's usable life. Building a phone that lasts longer reduces the overall toll on people and the environment.

Fairphone aims to achieve long-term transformational change, leading by example to expand the market for ethical products and giving a voice to consumers that care about social values.





## KEY RESULTS:

- 60,000 Fairphones have been sold so far and 20,000 Fairphones 2 have been pre-ordered. Profits are invested in social innovations within the electronics industry.
- Fairphone runs on the Android operating system. The Fairphone 2's inventive modular architecture gives users more control over their phone, including the ability to easily open and repair the most commonly broken parts.
- Fairphone plans to produce and sell 140,000 smartphones per year starting in 2016.





# LIFELINK WATER SOLUTIONS

## USING ICT TOOLS TO ADDRESS WATER SCARCITY

For most countries in Sub-Saharan Africa, access to safe and reliable water remains a major challenge. In Kenya alone, 16 million people do not have access to clean water. Increased incidences of drought linked to climate change is worsening water scarcity, particularly in areas that have limited and sporadic rainfall, leading to migration and increased urbanization.

Grundfos Lifelink Water Solutions helps build resilience to the effects of climate change by providing access to safe, sustainable and affordable water to people in developing countries. Lifelink systems can be installed

in large or small water schemes in both urban and rural settings. In urban areas, Lifelink systems can be connected to the water network or a water storage tank. In off-grid rural areas, Lifelink systems take the form of communal water points and mini-grids, drawing water from the ground or water treatment systems through solar-powered pumps.

To collect water, people charge a smart card with credit bought onsite or via their mobile phones, insert it into the dispenser and pay for the water they need.



## KEY RESULTS:

- 44 pilot sites have been established in parts of Kenya and Uganda, reaching more than 100,000 people since 2009.
- A new version of the core dispenser unit, AQtap, is being introduced to the market and now operated by Nairobi City Water in an informal settlement area.
- Grundfos has signed an agreement with World Vision International to reach 2 million people over the next 5 years by providing 1,000 Lifelink systems in 9 African countries. These 1,000 Lifelink units are expected to build resilience to climate change and reduce CO<sub>2</sub> emissions by 39,000 tonnes over their 15-year lifespan.





# MAPPING EXPOSURE TO SEA LEVEL RISE PREPARING FOR RISK WITH ONLINE SPATIAL TOOLS

The Pacific region includes some of the world's lowest-lying countries. However, most climate adaptation activities in the Pacific are not informed by the fundamental data required to identify the magnitude of, and communities at risk from, coastal flooding. Adaptation to future sea level rise to build resilience in communities requires a sound understanding of the potential impacts and risks associated with coastal inundation and erosion.

Innovative ICT solutions are helping Pacific Island countries prepare for and adapt to sea level rise brought about by climate change. The Mapping Exposure to Sea Level Rise project provides the fundamental data, skills and tools at-risk

communities need to make planning decisions.

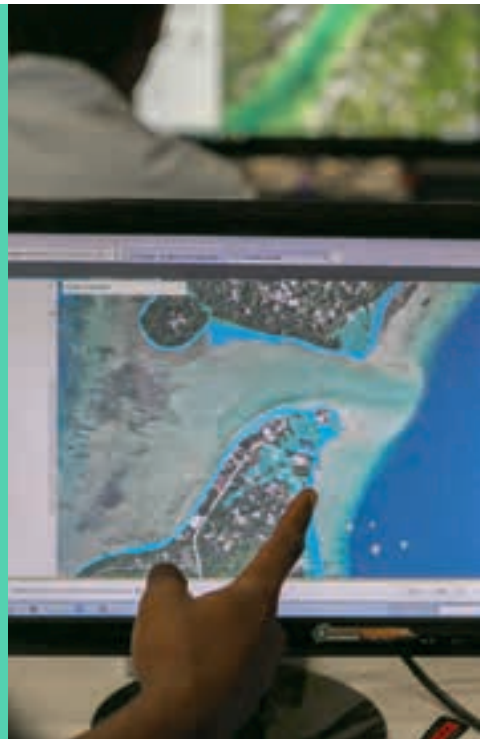
It trains government decision makers to use online tools and flood maps to understand and mitigate the risks of sea level rise. Using these maps, governments can better understand and communicate climate change risk to local communities and put adaptation plans in place.

The governments of Tonga, Vanuatu, Samoa and Papua New Guinea have been able to include predicted climate change impacts in planning and policy decisions. These governments are now implementing a range of measures to mitigate the impacts of storm surge and inundation including sea walls and mangroves.



## KEY RESULTS:

- More than 10,000 buildings identified at high risk of inundation within 80 years including schools, hospitals and critical infrastructure.
- 195 people from the governments of Tonga, Samoa, Vanuatu and Papua New Guinea were trained on how to manage and use LIDAR data.
- The Vanuatu Globe was a significant Open Data portal produced for the Vanuatu Government and set a new precedent for publically sharing sea level rise information. Through the Vanuatu Globe, the project was able to help the 2015 Cyclone Pam recovery by providing critical map information which was accessed by more than 1,000 people a day within days of the cyclone.





# MOBISOL SMART SOLAR HOMES POWERING HOMES WITH SOLAR ENERGY

This innovative ICT-enabled solution combines solar energy, mobile technology and microfinance to bring clean power to rural households in Rwanda and Tanzania. Mobisol Smart Solar Homes is a rent-to-own service that lowers the barrier to buying solar home systems upfront by allowing customers to pay the system off in 36 monthly installments. Each system can be monitored remotely. Generation and consumption of electricity, as well as customer payments, are tracked in real-time.

By helping people switch from polluting fuels, such as kerosene, petrol and diesel, to clean energy,

Mobisol is helping to tackle climate change and improving lives. More than one-third of Mobisol customers in rural areas have started small businesses selling excess energy produced by their personal solar systems, fuelling the transition to a low-carbon economy and generating incremental income.

The inclusion of mobile banking technology allows for effective microcredit and radically increases the affordability of a high quality solar home system. Mobisol's embedded monitoring system remotely tracks usage and payment patterns, as well as battery and panel data.



## KEY RESULTS:

- Mobisol has electrified more than 30,000 off-grid households in Rwanda and Tanzania, resulting in 3 MW of installed solar capacity and a reduction of 15,000 tonnes of CO<sub>2</sub> per year.
- Mobisol's Solar Home Systems are a substitute to the grid and provide all the electricity needs of a typical rural household.
- Mobisol is growing at a yearly rate of over 250% and will expand to other East African countries in 2016. Mobisol plans to install 10 million Solar Home Systems by 2020.





# MOMENTUM FOR CHANGE

## SPECIAL EVENTS AT THE 2015 UNITED NATIONS CLIMATE CHANGE CONFERENCE

### Tuesday, 8 December 2015

11:00 – 12:30

Momentum for Change: Urban Poor

18:30 – 20:00

Momentum for Change: Women for Results

### Wednesday, 9 December 2015

11:00 – 12:30

Momentum for Change: Financing for Climate Friendly Investment

13:15 – 14:45

Momentum for Change: ICT Solutions

### Thursday, 10 December 2015

18:30 – 20:00

Momentum for Change: Showcase Event to recognize and celebrate the 2015  
Lighthouse Activities

**Location:** Climate Action Arena (Press Conference Room 1), Paris-Le Bourget Conference Venue



**United Nations**  
Climate Change Secretariat