
USAID
FROM THE AMERICAN PEOPLE
USAID CLIMATE ACTION REVIEW:
2010–2016

MOZAMBIQUE – 2013: With climate change, less water is reaching the Zambezi Delta and floodplains, which are vital to subsistence farmers and fishermen. Photo by Robert Simmon

COVER PHOTO. PHILIPPINES – 2015: The mangrove forest of the Del Carmen landscape protects against coastal erosion and storm surges. Photo by Sam Harold K. Nervez

INTRODUCTION

USAID's mission is to end extreme poverty and advance global prosperity and security. Yet, just as economic growth is lifting millions of people from poverty, climate change is posing a new challenge to global development and a threat to humankind.

Countries around the world are experiencing more intense heat waves, droughts, floods and storms, as well as slower-moving changes like ocean acidification and sea level rise. These changes are threatening food and water supplies, as well as health, homes, livelihoods – and lives.

Climate work safeguards global development gains by helping countries prepare for climate risks and lay the foundation for sustainable, low-emission growth powered by clean energy and healthy landscapes.

Our story begins in 2010 with the launch of the U.S. Global Climate Change Initiative, one of three pillars of President Barack Obama's Presidential Policy Directive on Global Development. USAID had already been working on climate change for more than a decade when the initiative marshalled resources and expertise from across the U.S. Government to help countries accelerate climate-resilient, low-emission development.

USAID, the Department of State and the Department of the Treasury embarked on a greatly expanded climate change program as part of U.S. foreign assistance. The initiative also scaled up climate change adaptation assistance to help countries build resilience to climate risks.

In 2012, the initiative gave rise to a comprehensive new USAID strategy for addressing climate change in the development context. USAID's 2012 Climate Change and Development Strategy laid out three clear objectives:

1. To accelerate the transition to low-emission development through investments in **clean energy** and **sustainable landscapes**
2. To increase the resilience of people, places and livelihoods through investments in **adaptation**
3. To strengthen development outcomes by **integrating climate change** across USAID programs, learning, policy dialogues and operations

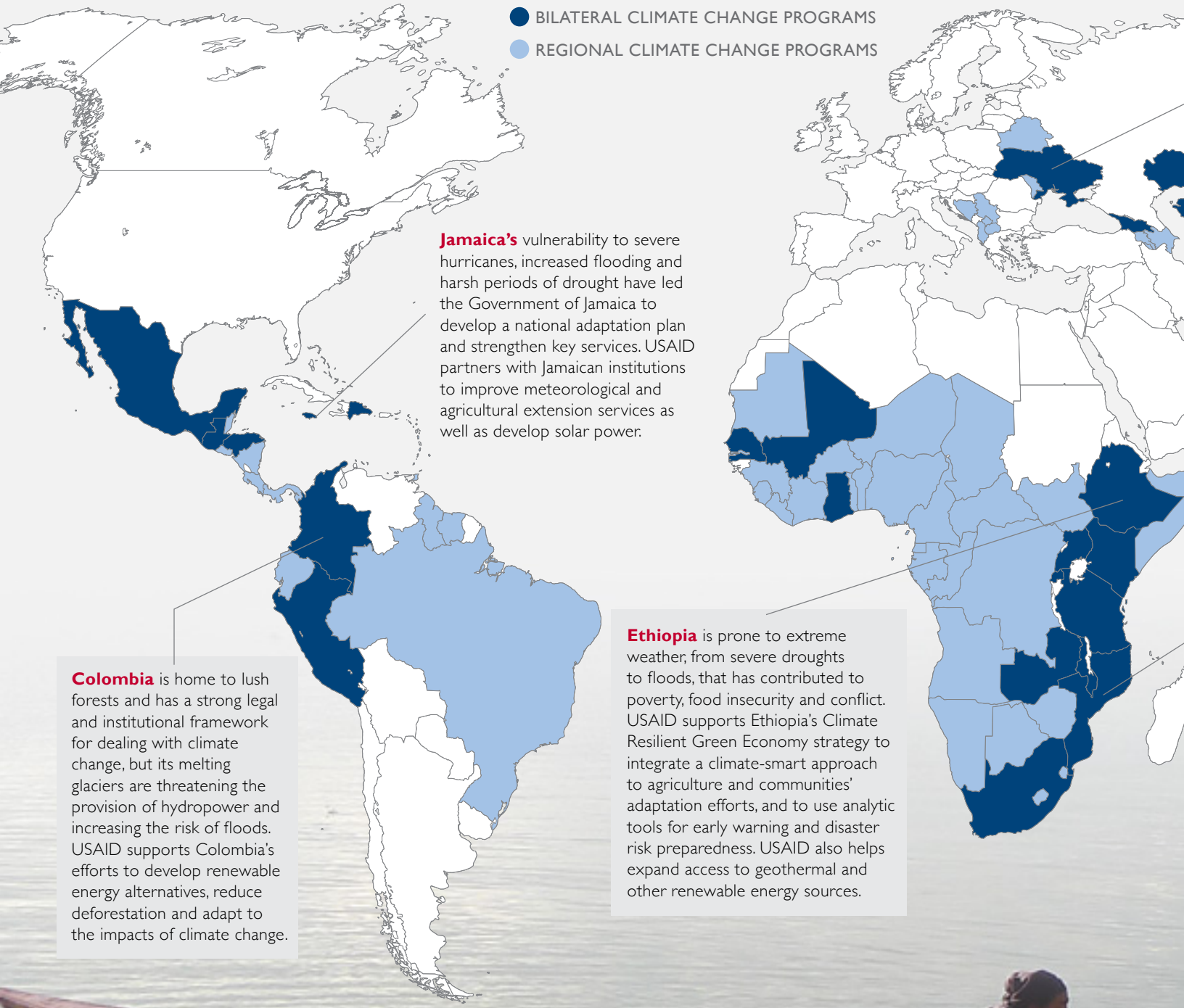
Today we are six years into this ambitious initiative. Our work has built the capacity and confidence of partners to make bold commitments to reduce greenhouse gas emissions and build their resilience to the impacts of a changing climate. Indeed, the Global Climate Change Initiative helped shape the historic Paris climate agreement reached in 2015, when nearly 200 countries came forward with pledges to join a worldwide plan to address climate change.

Though the Paris Agreement capped many years of hard work, our task is only just beginning. With the Paris Agreement as a guide, USAID will leverage U.S. knowledge and resources to help countries meet their climate commitments and respond to the effects of climate change.

This report looks back at what USAID and its partners have accomplished over six years. It describes how our approach has evolved, summarizes major achievements, distills lessons learned and shares examples from a portfolio of climate change and development activities across more than 40 countries and regional USAID missions.

Importantly, this report also looks forward. This is a time of rapid technological innovation, giving us great optimism for the expansion of clean energy. At the same time, we continue to see increasingly disruptive effects of climate change across the planet. The need for adaptation and resilient development has never been clearer, while the opportunity for climate-resilient, low-emission development is greater than ever.

WHERE WE WORK



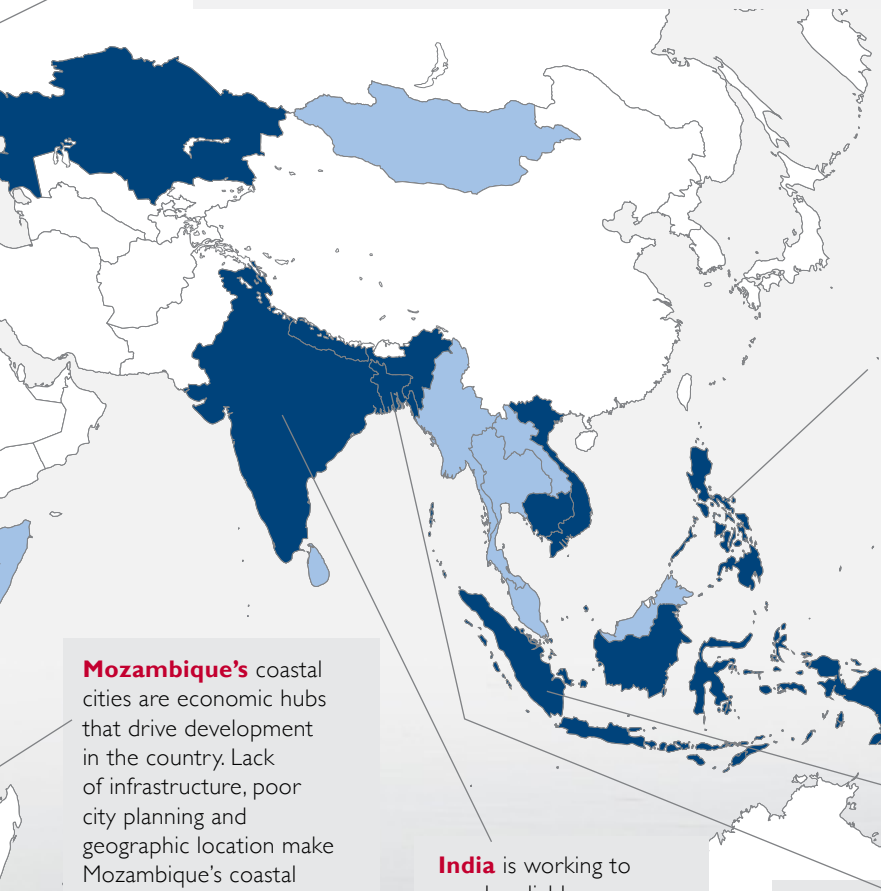
Jamaica's vulnerability to severe hurricanes, increased flooding and harsh periods of drought have led the Government of Jamaica to develop a national adaptation plan and strengthen key services. USAID partners with Jamaican institutions to improve meteorological and agricultural extension services as well as develop solar power.

Colombia is home to lush forests and has a strong legal and institutional framework for dealing with climate change, but its melting glaciers are threatening the provision of hydropower and increasing the risk of floods. USAID supports Colombia's efforts to develop renewable energy alternatives, reduce deforestation and adapt to the impacts of climate change.

Ethiopia is prone to extreme weather, from severe droughts to floods, that has contributed to poverty, food insecurity and conflict. USAID supports Ethiopia's Climate Resilient Green Economy strategy to integrate a climate-smart approach to agriculture and communities' adaptation efforts, and to use analytic tools for early warning and disaster risk preparedness. USAID also helps expand access to geothermal and other renewable energy sources.

NEPAL – 2013: Women in Pokhara collect fish traps.
Photo by Engility

Ukraine is heavily dependent on fossil-fuel energy and well positioned to increase its energy security, improve its air quality and reduce its carbon emissions via clean energy and energy efficiency. USAID is working with the Government of Ukraine to reduce waste and inefficiency by reforming the municipal heating sector and strengthening the energy sector's legal and regulatory frameworks.



The **Philippines** is one of the most vulnerable countries in the world to climate change. Increased temperatures and more frequent droughts, floods and storms, such as Typhoon Haiyan in 2013, have battered communities and their economies. USAID is working with local governments in typhoon-affected areas to better understand weather data, predict storm surges and develop early warning systems and other disaster response mechanisms. USAID also supports efforts to monitor and reduce GHG emissions through renewable energy and forest conservation.

Mozambique's coastal cities are economic hubs that drive development in the country. Lack of infrastructure, poor city planning and geographic location make Mozambique's coastal cities vulnerable to sea level rise, flooding and extreme weather. USAID works with national and local governments and communities to improve city planning and take measures to protect communities from the worst impacts of climate change.

India is working to supply reliable energy to its growing economy and to extend electricity access to the roughly 300 million Indians who currently lack it. USAID is supporting India's efforts to realize its ambitious renewable energy targets by supporting electricity grid improvements, while also building its ability to manage forests and strengthen agricultural resilience.

With two-thirds of the land less than 20 feet above sea level and rapidly growing urban centers, **Bangladesh** is among the countries most threatened by climate change. USAID is helping Bangladesh better protect vulnerable communities, conserve wetlands and enhance climate-smart agriculture and renewable energy development.

Indonesia is home to pristine tropical forest reserves so vast that land-clearing alone has made the country a major global source of greenhouse gas emissions. In addition, loss of forests is making Indonesia more vulnerable to flooding, landslides and forest fires. USAID supports Indonesia with better land management, adaptation and increasing renewable energy.

USAID helps countries pursue development goals and grow their economies in ways that reduce greenhouse gas emissions and increase climate resilience.

We call this **climate-smart development**.
Here's how USAID helps countries and communities achieve it.

USAID HELPS COUNTRIES…

ESTABLISH

CLIMATE-SMART LAWS AND POLICIES

Including:

- Low Emissions Development Plans
- Adaptation Plans
- Disaster Preparedness Plans
- Policy Incentives for Renewable Energy
- Coordinated & Capable Institutions
- Social & Environmental Safeguards

AND CREATE ACCESS TO

CLIMATE INFORMATION

Including:

- Greenhouse Gas Emissions Inventories
- Vulnerability Assessments
- Early Warning Systems
- Weather Information & Services
- High-quality, User-friendly Climate Information & Analysis

VIETNAM – 2015: Farmers plant new climate-resilient rice varieties to increase yields and build resilience. Photo by Phuong Nguyen

WHICH SUPPORT

CLIMATE ACTIONS

Including:

- Forest Management & Reforestation
- Climate Risk Management
- Climate-smart Agriculture
- Installing & Integrating Clean Energy into the Power Grid
- Mobilizing Finance for Climate Actions

AND ACHIEVE

DEVELOPMENT RESULTS

Including:

- Lives Saved & Losses Avoided
- Lower Emissions & More Carbon Storage
- Climate-resilient Infrastructure
- Clean & Secure Energy Supplies
- New or Improved Economic Activities
- Healthier Forests
- Disaster Preparedness

ADAPTATION

PHILIPPINES – 2015: A fisherman in Green Island displays his morning catch.
Photo by Anne Usher

Adaptation programs help countries safeguard development gains and pursue economic and social priorities in a climate-resilient manner.

The effects of global climate change are numerous and far-reaching, including unpredictable droughts and floods, changing precipitation patterns, stronger and more frequent storms, extreme heat events and rising sea levels. For developing countries, whose economies depend heavily on natural resources and activities that are sensitive to weather, taking action on climate change is essential.

Adaptation can be as straightforward as evaluating future climate projections before building a road or as complex as developing new grain varieties that can thrive in warmer or drier conditions.

Many of today's staple crops suffer losses with just a small rise in average temperatures, leading to episodes of food insecurity and hunger. Natural disasters, including those related to climate change,

compound this effect, undermining livelihoods, damaging property and costing nearly 100,000 lives every year. USAID is helping its partner countries predict and prepare for the risks posed by climate change, with a focus on critical sectors such as agriculture, water and disaster preparedness.

A NEW DEVELOPMENT CHALLENGE

Since 2010, awareness about climate change and the need for countries to adapt has risen dramatically. At the 2010 United Nations climate change conference, the idea of national adaptation planning took on more prominance, emphasizing the need to iteratively integrate consideration of climate risk and resilience into broader economic and development planning.

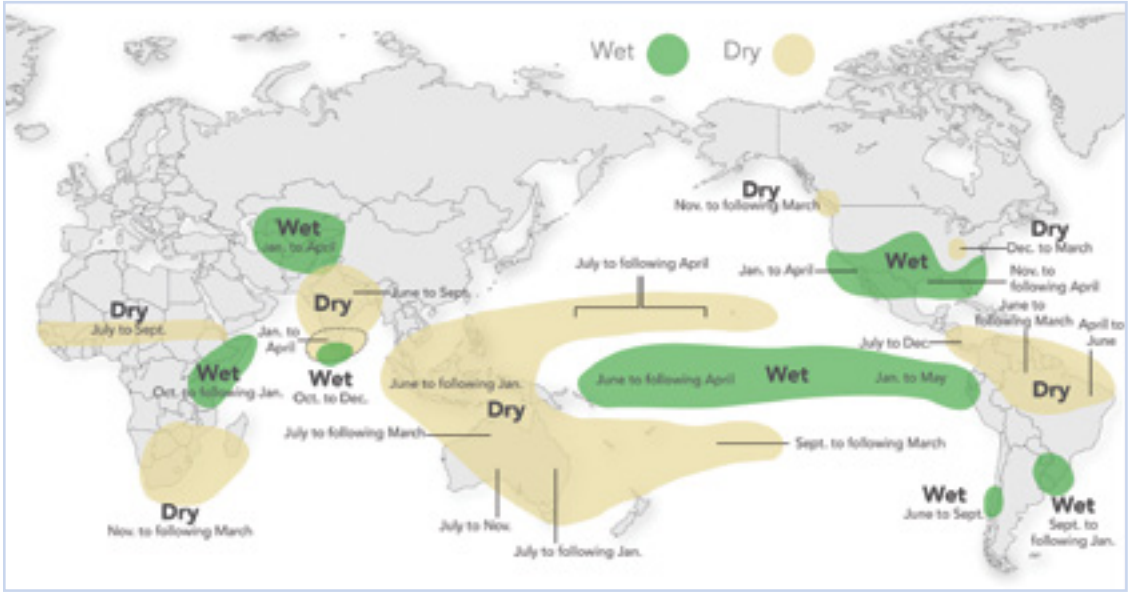
To support this, USAID adaptation programs focused on three critical areas:

- Supporting countries' capacity to use the climate information and tools needed to inform planning and decision-making
- Helping communities, countries and the private sector plan for climate change
- Assisting countries as they take adaptation actions

USAID has helped many countries take a "development first" perspective that recognizes that resilience-building is a means to achieving development goals. USAID's "Climate-Resilient Development Framework" helps the Agency and partner countries identify adaptation investments that will reduce climate risks to a country's development goals.

USAID has also enabled major advances in countries' access and use of climate information for better decision-making. We have enabled both countries and individuals to access and apply climate information. As a result, farmers in Senegal and Mali can better decide when to plant and when to harvest; urban planners in Vietnam are using climate information as they make decisions about costly infrastructure investments; and water managers and health officials across the Caribbean are coping better with the impacts of El Niño, to name but a few examples.

ANTICIPATING EL NIÑO'S EFFECT



USAID works on making weather and climate information, such as the impacts of El Niño and La Niña, more useable for decision makers and community members, including disaster managers, public health officials and farmers. In the Caribbean, knowledge of the influence of El Niño on rainfall enabled decision makers to prepare for a dry, low-activity hurricane season in 2014 and 2015. Source: International Research Institute for Climate and Society, Columbia University

WHAT WE ACCOMPLISHED

***Information:* Climate information, data, tools and services to better project anticipated short-, medium- and long-term impacts of climate change.**

Adaptation requires good information on current and future weather and climate conditions.

To make this possible, USAID builds the capacity of national and regional hydro-meteorological agencies, enabling them to provide this crucial information to decisionmakers. For example, in **Senegal**, USAID is working with the national meteorological agency to develop a text message-based weather warning service for fishermen. In Eastern Africa, the Regional Center for Mapping Resources for Sustainable Development is mapping vulnerable "hot spots" for the Government of **Malawi** and for USAID projects in Lake Victoria and the Northern Rangelands of **Kenya**. These tools help stakeholders undertake seasonal assessments, analyze extreme events, monitor crops and more.

To support such efforts globally, USAID also launched the Climate Services Partnership with the U.S. National Oceanic and Atmospheric Administration, the World Meteorological Organization and the U.K. Met Office to share lessons among developed and developing country weather and climate agencies. In 2015, the partnership produced a ground-breaking textbook on how to estimate the economic contribution of climate and weather information services to an economy. A good understanding of the benefits helps governments justify such services in their national budget.

Since 2005, USAID and the National Aeronautics and Space Administration (NASA), have worked together to build the SERVIR partnership as a platform for regularly communicating weather and climate information to USAID partner institutions. SERVIR uses state-of-the-art science and tools previously available only to the United States to achieve dramatic results in developing countries. Today, SERVIR reaches more than 40 countries by working through regional institutions in Eastern, Southern and Western Africa, the Himalayas and the Mekong region.

***Laws and Policies:* Helping communities, governments and the private sector plan for climate change.**

To manage climate risks, countries must first understand how climate change will affect their development goals, and they must develop clear plans to adapt. USAID is helping countries to undertake national and subnational adaptation plans, and adopt policies to manage climate impacts.

USAID aims to incorporate climate considerations into activities that drive development, such as agriculture and tourism, making it clear that addressing climate risks is everyone's business. In **Senegal**, for example, USAID helped the government launch its national adaptation planning process, starting with the vital fisheries sector. This complements assistance to seven Local Councils of Artisanal Fishermen to implement their coastal adaptation plans.

But planning alone does not lead to adaptation; it is also necessary to secure financing to move from planning to action. USAID is helping countries to identify sources of funding in their own budgets, to harness development assistance and international public funds such as the Green Climate Fund and—perhaps most important of all—to tap domestic and global markets for private finance. A regional program in Asia works in more than 20 countries to build capacity to prepare adaptation projects for funding.

Actions: **Demonstrating adaptation actions that reduce vulnerability.** Good information and planning enable thoughtful action. USAID helps demonstrate actions that can reduce vulnerability. In **Mali**, **Senegal** and **Rwanda**, climate information services supported by USAID have improved the timeliness, accuracy and utility of climate and weather information for agricultural decisions. This work has been closely coordinated with the Agency's agricultural development programs to ensure farmers have the resources they need to act.

In **Botswana**, our Southern Africa mission helped to diversify livelihoods in a water-scarce region expected to be hit hard by climate change. Because the marula tree can tolerate heat and drought conditions, the communities now produce high quality marula oil for export to the Western cosmetic market.

In the island nation of **Dominica**, USAID demonstrated the benefits of storm water management in the community of Mero. A USAID engineer introduced an approach that cleared natural drainage areas and channeled excess storm water into an improved drainage system designed to accommodate heavy flooding and debris. When Hurricane Erika hit in 2015, flood-related damage in Mero was modest compared to flood-related damage in other communities.

In **Mozambique**, storms and storm surges are becoming more severe and less predictable, while coastal erosion and sea level rise exacerbate flooding. In the coastal city Quelimane, USAID is helping municipal officials map flood-risk zones so developers build on safer sites. Quelimane is also planning affordable climate-smart homes that will keep floodwaters out and that come equipped with rainwater catchment systems to supply water for washing and drinking. Residents of Quelimane are also working to restore mangroves, which act as natural barriers to storm surges.

Results: **Already, USAID has helped 5.3 million people access and use climate data to reduce their vulnerability to climate change, with tens of millions more benefitting. Documented examples of impact include:**

- USAID brought Peruvian engineers to mountain communities in **Nepal** to share experiences on managing the risks of glacier melt. As a result, **villagers built barriers in the river bed to protect houses and other properties below. When a glacial flood occurred in 2016, villages were spared the flooding and destruction** that otherwise would have happened.
- In **Jamaica**, USAID is helping the country's weather and agriculture extension services provide farmers with tailored, seasonal drought forecasts so they can protect their livelihoods. In 2014, drought caused farmers to lose, on average, 50 percent of agricultural production, but **farmers who accessed the drought forecasts cut their losses by roughly 40 percent**.

WHAT WE LEARNED

Since 2010, USAID has learned that:

- **Climate change is more effectively managed if it is viewed as a potential constraint on—or occasionally an opportunity for—economic activity and development**. Often, it is viewed strictly as an environmental issue.
- **It is important to engage multiple stakeholders early in a planning process**. Doing so helps them understand why it is in their interest to address climate risk and builds support and a sense of ownership.
- **Countries with recurring crises, whether environmental or otherwise, find it challenging to take effective adaptation measures while coping with emergencies**. Decisions should focus on builidng resilience more broadly to break the cycle of recurrent crises, while adaptation investments should take account of this constraint.
- **Climate information and related tools are only valuable if people use them**. Understanding user needs and bottlenecks in information distribution and usage is crucial to delivering practical and useful information.
- **Users need to trust both the tool and the organization that provides it**. Addressing pre-existing biases and distrust of government entities can be as important as getting the science right.

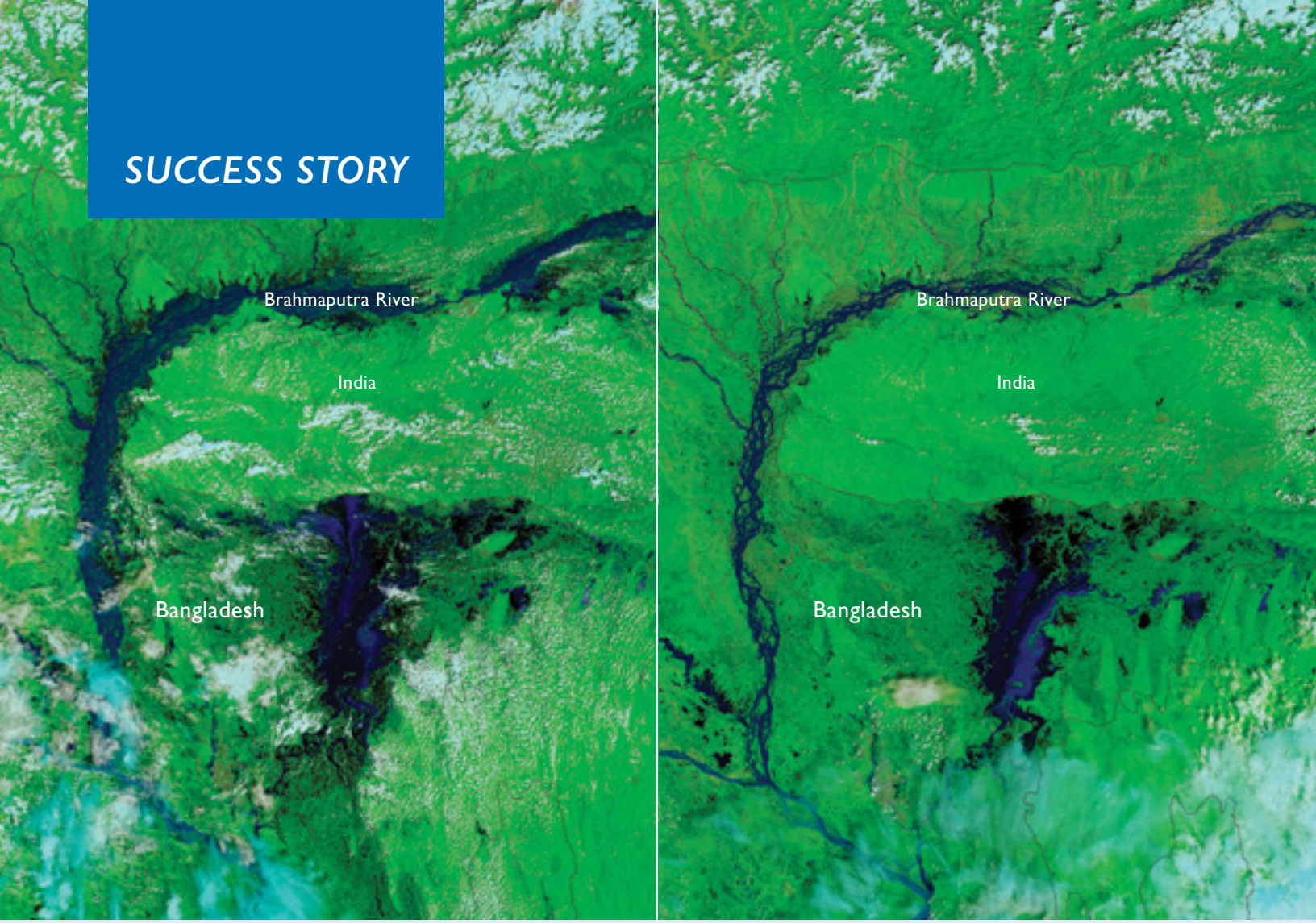
THE WAY FORWARD

As weather and climate impacts undermine development gains, the importance of adaptation will increase. USAID has demonstrated useful and effective ways to build adaptation into the broader development process. With our support, countries are finding ways to invest their own funds in more resilient ways while accessing other sources of international finance for adaptation.

USAID has an opportunity to build on this foundation and improve the lives of hundreds of millions more people around the world. For example, the National Adaptation Plan Global Network, a partnership among development agencies and developing countries, is helping countries develop their national adaptation planning processes and share lessons to move more quickly from planning to action. At the local level, USAID will continue to partner with city government officials to address climate risk and ensure sustainable delivery of municipal public services, with a particular focus on helping cities access and manage sustainable finance sources.

CAMBODIA – 2015: Women in Kampong Thom discuss the ways local livelihoods are vulnerable to climate change.
Photo by Pakprim Oranop na Ayuthaya

SUCCESS STORY



BANGLADESH – 2014: Unusually heavy monsoon rains and runoff from melting Himalayan glaciers caused severe flooding in Bangladesh in 2014. The top left image shows the extent of flooding; the image on the right shows the same area in 2012, a more typical year. Source: NASA

BANGLADESH is highly vulnerable to climate change, with its low-lying cities and millions of farmers and families who depend on seasonal monsoons to grow rice. Every year, severe monsoon floods pose a threat to lives, homes, crops and livestock. USAID and NASA's SERVIR satellite data program is helping to change that. In 2014, a SERVIR team of experts developed an early warning tool using satellite radar data to track river levels more than 600 miles upstream. In 2014, the government issued its earliest flood warning ever – eight days in advance – based on the system's projection. Seventeen lives were still lost, but that compared favorably with thousands in prior floods of similar severity. Satellite data can be a powerful alternative to costly local data collection and a lack of data sharing between countries. And thanks to training and local capacity building, experts at the Bangladesh Flood Forecasting and Warning Center are now independently operating the model, making daily flood forecasts and providing millions of Bangladeshis with life-saving information at a time when changing rainfall patterns are making flood cycles more destructive and erratic.

MITIGATION: CLEAN ENERGY & SUSTAINABLE LANDSCAPES

Climate Change Mitigation: Reducing greenhouse gas emissions to limit the magnitude of climate change.

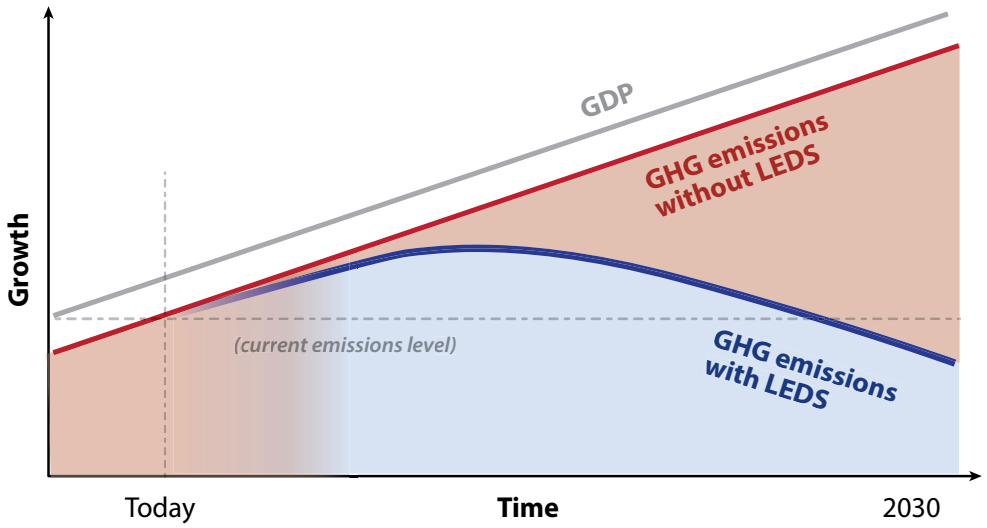
The goal of USAID's work in climate change mitigation is to reduce greenhouse gas (GHG) emissions and demonstrate that it is possible for countries to grow their economies in a sustainable, low-emission way. The concept of low-emission development can be summarized as improved livelihoods and economic growth *increasing* over time while emissions growth *decreases*.

USAID's mitigation work focuses on both the energy sector and land use, which represent two of the largest sources of emissions worldwide. These are sectors in which USAID has decades of experience.

To help build understanding and capacity in partner countries to pursue low-emission development, USAID—together with the Department of State and other U.S. Government agencies—has helped national and state governments inventory emissions and develop strategies for future economic growth.

Our approach to low-emission development helps promote the principles on which the Paris Agreement is based, including those of wide participation, nationally determined targets and transparency.

This whole-of-government approach is the cornerstone of the Enhancing Capacity for Low Emission Development Strategies (EC-LEDS) program.



EC-LEDS is a U.S. Government program that helps countries create and implement low-emission development strategies. The graph shows how the program helps to bend the curve of GHG emissions and encourage climate-resilient economic development.

ENHANCING CAPACITY FOR LOW EMISSION DEVELOPMENT STRATEGIES (EC-LEDS)

EC-LEDS is a flagship U.S. Government program that helps countries create and implement low-emission development strategies. EC-LEDS has provided a useful organizing structure, under which USAID's Clean Energy and Sustainable Landscapes country programs operate.

The program helps countries create policy and institutional frameworks that promote low-emission social and economic development over the long term.

Since 2010, we have helped countries identify promising areas to reduce emissions, develop targets and agree on a course of action:

- All 25 of our EC-LEDS partners identified sources of emissions from land use and energy sectors, prioritized strategic emissions reductions, submitted climate commitments and participated fully in the Paris climate change negotiations.
- USAID technical assistance helped eight partner countries significantly improve their GHG inventory systems and expand their ability to conduct the complex but necessary analyses and consultations on which their climate commitments are based.
- USAID programs provided technical assistance and capacity building that helped partner governments develop or establish 1,527 laws and policies promoting climate change mitigation. Some of these are described in the next two chapters.
- Through its low-emission development program, USAID furnished technical assistance to 12 partner countries to help develop their climate commitments for the Paris Agreement.
- By meeting the targets they proposed under the Paris Agreement, the 25 EC-LEDS partner countries will collectively reduce GHG emissions by more than 2.5 billion tons of CO_2 equivalent by 2030, a reduction of more than 30 percent from business as usual.

EC-LEDS RESULTS: 2010-2015

RESULTS (2010-2015)

Empowering Stakeholders

227,000 Men and women trained

4,217 Institutions with strengthened capacity

1,527 Laws or policies

83 Mitigation tools in use

Spurring National Action

2.7 BILLION USD Invested to mobilize LEDS action

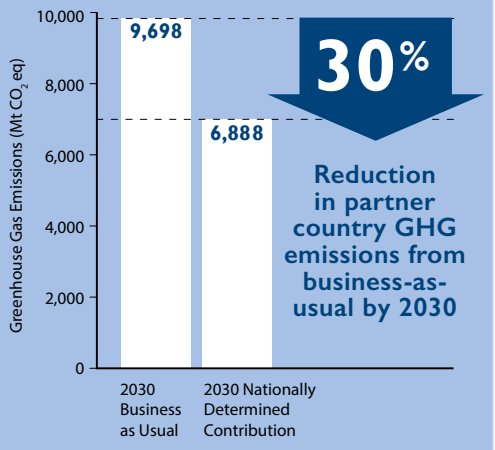
2 MILLION Hectares under sustainable management

600,000 Megawatt-hours of energy saved

12 Partner countries assisted in setting INDC targets

Realizing Global Impact

25 INDCs submitted to the UNFCCC



THE WAY FORWARD

USAID is building on the enormous progress our partner countries have made. Because implementation of current targets and more ambitious targets are required to meet the Paris Agreement goal of limiting a global temperature increase to "well below 2 degrees Celsius," USAID stands ready to help in both areas.

We will help countries take action to meet the mitigation targets they set for themselves in 2015, and we will support them as they establish more ambitious targets in the future.

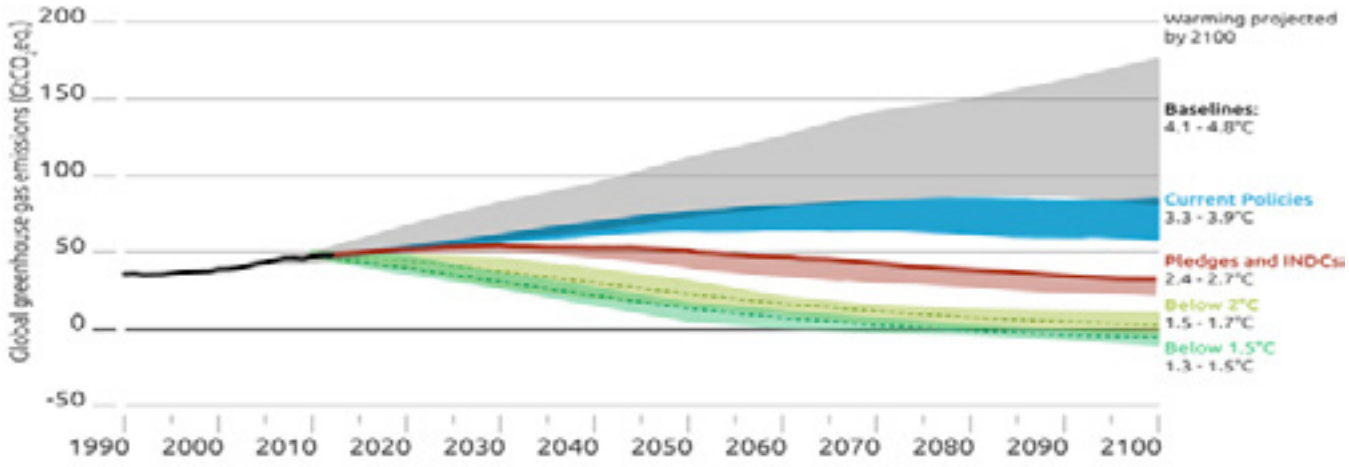
We will promote transparency as a crucial element of climate action. Transparency is fundamental to the legitimacy of the climate change agreement.

USAID support for tools, GHG inventories, local monitoring, reporting and verification systems and third-party data sources will promote accountability and ease the burden on countries seeking to meet international reporting requirements.

Examples of increasing access to good information, and growing the skills and understanding to apply that information in policy decisions, are highlighted in the following two chapters.

USAID will help partner countries translate long-term, national climate commitments into step-by-step action plans, policy reforms and actual GHG emission reductions. To this end, USAID is applying lessons learned over the past years to support climate action.

HOW MUCH GLOBAL GREENHOUSE GAS EMISSIONS MUST DECREASE TO REACH GLOBAL WARMING TEMPERATURE GOALS



In 2010, global temperatures were forecast to rise as much as 4.8°C above pre-industrial levels by 2100. Policies put in place before 2015 would limit warming to 3.6°C above pre-industrial levels. Pledges made under the 2015 Paris Agreement would limit warming further, to about 2.7°C. Still more ambition is needed to keep warming well below 2°C. Source: Climate Action Tracker

SUCCESS STORY

COLOMBIA – 2016: In the Guajira desert, the solar-energy pumping system pumps up water, which is collected by a truck at night and transported to local communities during the day. Photo by Hanz Rippe

COLOMBIA'S emissions make up only a small part of global emissions, thanks to the country's reliance on hydropower and its carbon-storing Amazon forests. Colombia's commitment to keeping emissions low is impressive. It has pledged to reduce emissions by 20 percent below business-as-usual by 2030 using its own resources, and up to 30 percent with international support. This target is credible because of the many low-emission development activities underway at the national, state and local levels. These activities are promising in their breadth and variety, and they are helping Colombia find the best ways to reduce emissions.

EC-LEDS has contributed greatly to Colombia's comprehensive response to climate change. In 2011, partly to support the new EC-LEDS program, and reflecting Colombia's proactive stance, the climate change office in the Ministry of Environment was transformed to a directorate. And other ministries hosted local advisors supported by USAID who mentored ministry staff on integrating climate change into their ministries' work. By the end of the program, eight ministries had established their own climate change teams, developed sector mitigation plans and were actively seeking financing to implement them. Many credit the EC-LEDS program with helping to change the perception of climate change from that of a Ministry of Environment responsibility to a shared responsibility across ministries.

Activities already reducing emissions in Colombia include a freight financing program that replaces older trucks by subsidizing their replacement with more efficient ones; a waste reduction program that is projected to reduce emissions from waste 15 percent by requiring industry and municipalities to increase recycling and composting; technical and financial support for energy efficiency and clean energy projects in industry and mining; projects that reduce deforestation and forest degradation that have already sold more than 460,000 carbon credits; and national construction guidelines for energy and water-efficient buildings that took effect in Colombia's four largest cities in 2016 and go into effect nationwide in 2017.

CLEAN ENERGY

COLOMBIA – 2016: A Colombian father explains solar energy to his daughter at the Bogota Green Race event. Photo by Juan Daniel Correa

Clean Energy programs help countries scale up renewable energy and energy efficiency to reduce emissions, improve energy security, lower energy costs and advance economic growth.

Rising demand for energy in fast-growing economies, combined with continued reliance on fossil fuels, generates unsustainable levels of greenhouse gas (GHG) emissions, posing a threat to the environment and people's health.

More than 1 billion people around the world lack access to electricity, and nearly 2.6 billion people rely on wood or charcoal to meet their energy needs, according to the International Energy Agency. By providing access to reliable and clean electricity, countries can develop their economies and improve their citizens' well-being.

If the growing energy demand were met with traditional fossil fuels, average global warming would greatly exceed 4 degrees Celsius, with disastrous results for all. Therefore, clean energy is key to curbing global warming and supporting long-term development.
Growth in energy demand will come overwhelmingly from emerging economies over the next two

decades. With the cost of clean energy plummeting, clean energy technologies can help countries secure reliable and affordable energy while combating climate change.

USAID is helping countries adopt clean energy policies and technology, enabling them to achieve sustainable economic growth while minimizing the local and global impacts of emissions.

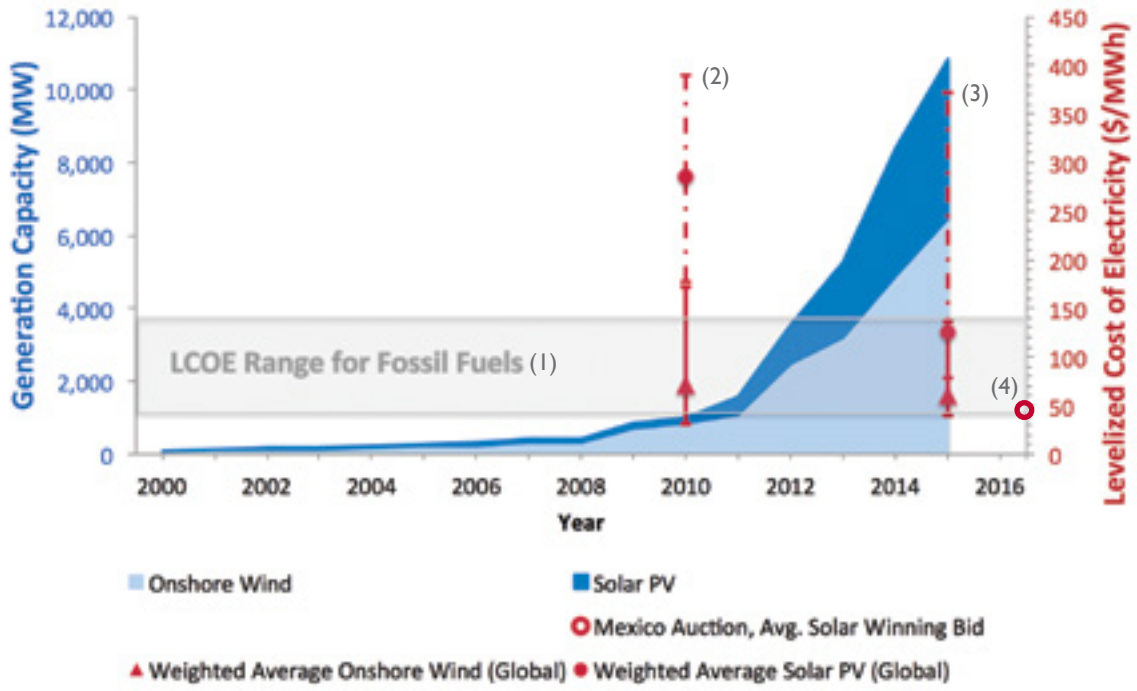
A NEW APPROACH

USAID has decades of experience helping countries reform their energy sectors, achieve greater energy efficiency and deploy small-scale clean energy solutions. Under the Global Climate Change Initiative, USAID is taking a more ambitious, economy-wide approach to help countries dramatically increase their use of clean energy.

USAID does this by supporting implementation of promising policy reforms and investment plans. For example, falling prices for clean energy technology coupled with approaches that foster competition and transparency, such as energy auctions, can dramatically increase clean energy investment.

At the same time, USAID helps deploy off-grid clean energy technologies to improve lives in remote areas. Around one-quarter of global investment in new clean energy capacity is going to small-scale, decentralized energy projects, including home solar installations.

SOLAR AND WIND CAPACITY INCREASES IN USAID PARTNER COUNTRIES AS PRICES DROP



(1) The typical price range for fossil fuel power generation is represented by the grey horizontal band. (2) The 2010 and 2015 range of the levelized cost of electricity (LCOE)—considered the minimum cost at which electricity must be sold to break even over a project's lifetime—is represented by a red solid line for on-shore wind and a red dashed line for utility-scale solar PV. (3) By 2015, solar and wind were cost-competitive with fossil fuels. (4) The red circle represents the weighted average price for solar in Mexico's first energy auction in 2016. As the cost of solar and wind generation has dropped, EC-LEDS countries have responded with steep increases in megawatts (MW) of solar and wind generation capacity installed—the light blue shaded area represents wind, the dark blue shaded area solar. The Graph does not include India, which is associated with but not a formal part of the EC-LEDS program. Data source: IRENA. Graph by Stephanie Bogle, EC-LEDS Performance Evaluation, MSI, 2016.

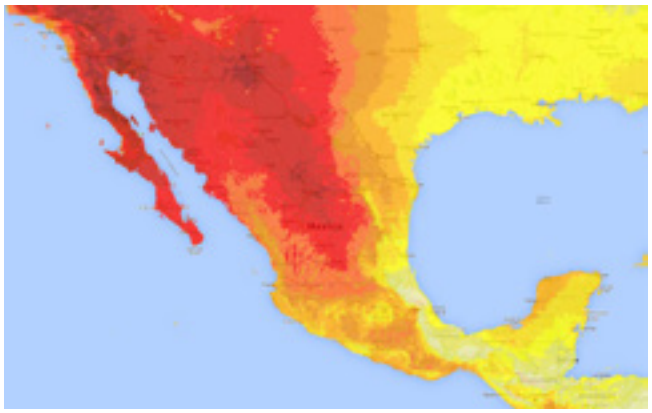
WHAT WE ACCOMPLISHED

***Information:* Emissions and energy data, economic analysis and information about best practices are critical to identify cost-effective, low-emission development options and to do strategic long-term planning.**

To identify and target the largest sources of emissions, countries need better information. For example, information on energy usage helps identify energy waste and guide energy efficiency solutions. Information on wind and solar resources helps to identify the most productive and economic locations to deploy clean energy. Wind maps created with U.S. assistance in **Bangladesh** and **the Philippines** will help investors and governments make better decisions, while estimates of grid capacity are helping the Philippines set realistic clean energy targets.

Guidance on emerging topics and best practices is an important element of USAID's approach. USAID's Greening the Grid program, for example, gives **India**, the **Philippines** and other countries the tools they need to improve the integration of clean energy into power grids, a prerequisite for large-scale deployment of wind and solar power.

MEXICO SOLAR RESOURCE MAP



This National Solar Radiation Database figure illustrates Mexico's excellent solar resources; darker colors indicate higher solar resources.
Source: National Renewable Energy Laboratory, 2016

***Laws and Policies:* To deploy clean energy at scale, countries need to create policies and regulations that allow clean energy to compete with traditional energy sources.**

To promote energy efficiency and renewable energy, USAID supports laws, regulations and institutions that are transparent and foster competition. Transparent policies and other smart incentives provide clear signals to which private sector actors can respond.

USAID often does this by connecting energy specialists and policymakers in our partner countries with world-class U.S. experts in clean energy technologies, policy and market design. For example, a USAID-funded partnership between regulators from Maine and **Moldova** gave the Moldovan regulators a better understanding of how clean energy might fit into the country's power sector and what legal and regulatory changes would be needed. This exchange informed a renewable energy law adopted by the Moldovan parliament in 2016.

USAID's policy work includes assistance to develop clean energy incentives, such as new building codes, reverse auctions for power generation, feed-in tariffs and other climate-friendly policies and mechanisms.

In **Vietnam**, for example, USAID helped the government establish laws and policies that support energy efficiency, including the Vietnam Energy Efficiency Building Code. Building codes and other energy efficiency measures can substantially reduce energy use in buildings, which are among the largest sources of greenhouse gas emissions in urban areas.

The **Indian** state of Karnataka launched a Solar Policy with a goal of installing 4,000 MW of solar power capacity by 2021, and its largest utility has set out to deploy 100 MW of rooftop solar over four years. The utility, BESCOM, addressed key structural gaps, such as interconnection procedures and permitting requirements, with USAID assistance. Karnataka will reduce its emissions by 484 million tons of CO_2 annually once the deployment target is achieved.

In **Georgia**, the Energy Regulatory Commission developed clear rules for connecting small clean energy resources to the grid and compensating for any electricity these sources generate.

***Actions:* Clean energy actions can include grid improvements, energy efficiency improvements to buildings and installation of photovoltaic and other renewable energy systems.**

Some countries that have moved rapidly to modernize their energy policies and regulations to include clean energy in the mix are experiencing a transformation of their energy sector.

Market-based approaches drive change and are necessary for long-term success. In **Afghanistan**, **Mexico** and **El Salvador**, USAID technical assistance has supported reverse auctions, which reward the lowest price that investors can offer for energy production. In Mexico, the government has mandated that 35 percent of energy for the national grid come from renewable sources by 2024. Mexico's state utility departed from almost 80 years of state-owned monopoly when it let private companies bid to supply energy. The first auction in March 2016 awarded contracts for 2 percent of the country's energy needs—all 1,860 megawatts of capacity will come from solar and wind power because these bids were the most competitive. In fact, the auction attracted a record-low solar photo-voltaic price of $3.6 cents/kWh.

USAID's Power Africa program, which receives climate change funding, helped the **Kenyan government** determine the national grid's capacity to integrate renewable energy. Information on wind power helped enable the signing of a power purchase agreement for the 310 MW Lake Turkana wind project. With additional Power Africa support through OPIC, the project reached financial close in 2014 and is currently under construction.

Through Power Africa, USAID helps countries bring electricity to isolated and rural communities. USAID also promotes micro grids and off-grid solar technologies in countries such as **Colombia** and the **Philippines**. Developing new sources of consumer and enterprise finance and encouraging partnerships that help reduce costs are key to these efforts. Also critical are entrepreneurial approaches to making clean energy attractive to customers, such as offering low-cost maintenance agreements to help sell unfamiliar solar or geothermal systems.

***Results:* USAID's work with governments and regulators has helped deploy thousands of megawatts of clean energy and institutionalize policies that are making clean energy more affordable. Since 2010:**

- The 13 Clean Energy countries USAID has supported have added more than **50,000 megawatts of new clean power capacity**—enough to power tens of millions of modern homes.
- USAID support has enabled more than **300 prospective clean energy investments**—through credit guarantees, business advice and other means—with a projected value of more than $12.5 billion.
- USAID's current credit guarantees have the potential to mobilize more than $200 million in financing for small-scale clean energy investments. USAID partners such as microfinance institutions provided more than **275,000 loans to consumers to purchase clean energy devices**.
- More than **2 million people now have improved access to energy** as a result of USAID small-scale, clean energy programs.

WHAT WE LEARNED

- **Policymakers and investors are not fully aware of the business opportunity created by falling clean energy prices**. Energy technology costs have fallen much faster than even the most optimistic forecasts.
- **Competition among power generators can bring down the price of clean energy and stimulate greater demand**. In addition, public competition attracts a lot of attention and raises awareness in wider circles that clean energy technologies can be competitive.
- **Clean energy zones can concentrate energy production in the most cost-effective areas and maximize use of existing transmission infrastructure**. Clean energy zones allow power system planners to locate renewable energy generation near where it is needed.
- **Power grid enhancement and grid integation are critical**. The variable and intermittent nature of renewable energy can create new challenges for grid operators. For example, wind can fluctuate over the course of an hour or a day. Integrating power grids over larger areas, increasing storage and other measures gives energy operators greater reliability and flexibility to maximize the use of clean energy.
- **Clean energy is playing an important role in stable, high quality power supply**. While most countries still rely on thermal generation for most of their energy, new technologies, better functioning energy markets and smart grids enable energy markets to draw on wind, solar and other renewable energy sources and locations for a cleaner and more consistent mix.

THE WAY FORWARD

Global investment in clean energy has soared to more than $300 billion per year. To ensure that USAID partner countries are part of this global economic transition, USAID will continue to work with governments, utilities and investors.

HAWAII – 2015: Indonesian officials visit a wind farm in Maui to learn about policies and regulations to attract private investment and spur clean energy development. Photo by Sarah Fretwell

SUCCESS STORY

INDIA – 2016: Farmers in a rural village use solar-powered pumps to irrigate their fields. Photo by USAID/India

In **INDIA**, 300 million people lack access to electricity, and millions more lack access to consistent, affordable and dependable power. India needs to increase power generation to fuel economic growth and to raise standards of living for its people, yet fossil fuels are already choking cities with air pollution and making India the world's third biggest emitter of greenhouse gases. Clean energy could increase energy supplies without the risks of climate and air pollution. Prime Minister Narendra Modi has pledged to bring 100 gigawatts of solar power online – enough to power 100 million Indian homes for an entire year. To bring this goal to life, India is selectively tapping U.S. expertise to design effective clean energy policies and attract private investment. There is already evidence of progress in places like India's Karnataka state, which developed its own ambitious solar energy policy with USAID support. Karnataka's largest power distribution utility now has a target to deploy 100 megawatts of rooftop solar every year for four years. And Karnataka's largest power generator, the Bangalore Electricity Supply Company (BESCOM), is selling solar-powered water pumps interest-free so small farmers can irrigate fields and improve harvests.

SUSTAINABLE LANDSCAPES

PERU – 2013: Workers at the Maderacre timber company use GPS technology to identify and mark appropriate trees to harvest. Photo by Marcela Youle

Sustainable Landscapes programs help countries reduce emissions from land use by promoting sustainable management of forest, agriculture and other lands to improve livelihoods while also reducing emissions and increasing carbon storage.

USAID helps countries protect forests and manage lands better.

For many developing countries, the majority of the population lives in rural areas and livelihoods are closely tied to agriculture, logging or mining. Likewise, the greatest source of greenhouse gas (GHG) emissions in most of these countries is from these same sources.

Emissions from deforestation, agriculture and land use change make up one-quarter of global emissions, and deforestation alone accounts for more than 10 percent of the total. Destructive land use practices that cause emissions also drive soil erosion and flooding, reduce water quality and supply, threaten biodiversity and undermine people's livelihoods.

While there are many ways to reduce emissions, increasing the carbon stored in soil and vegetation is currently the only viable way to remove large volumes of CO2 from the atmosphere. Recent analysis suggests that up to 50 percent of the

emissions reductions that are possible between now and 2030 could come from more sustainable land use. Our sustainable landscapes programs are focused on finding solutions that improve rural livelihoods while reducing emissions and increasing carbon storage.

Traditionally, the many benefits forests and other landscapes provide, such as clean water, have not been valued economically. Finding tangible ways to reward good stewardship is crucial to conserving and restoring the world's green space.

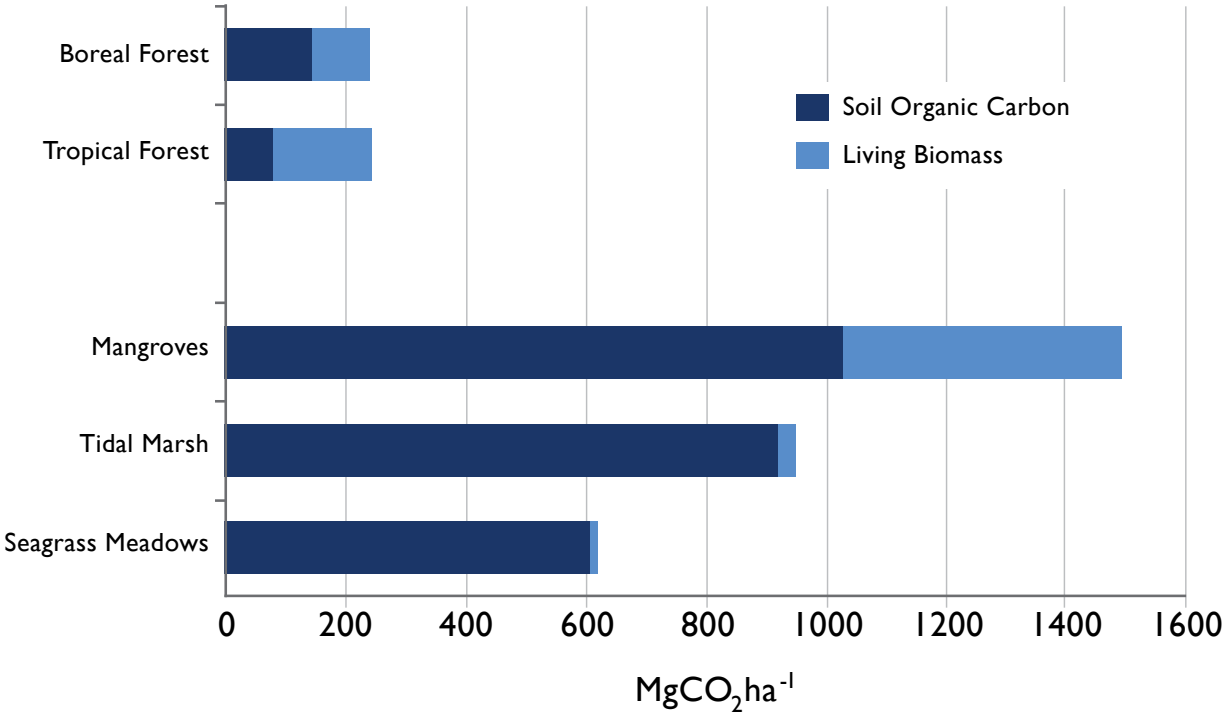
A NEW APPROACH

USAID has worked for years with local communities to adopt more sustainable forestry and land use practices. Long-standing efforts to address this development challenge are benefiting from a new emphasis on reducing emissions, engaging national governments and a global push to channel finance to better forest and land management.

In 2009, the United States committed assistance to Reducing Emissions from Deforestation and Forest Degradation (REDD+), which seeks to protect forests by helping countries to improve policies and implement sustainable practices, including through financial incentives. This commitment initially focused USAID's sustainable landscapes programs on forested lands.

USAID's sustainable landscapes work has expanded in recent years to include other landscapes, such as wetlands, peatlands and agricultural areas. Given the vital importance of food security, and that agriculture contributes 11 percent of global emissions, climate-smart agriculture has grown increasingly important to USAID.

MANGROVES STORE VAST AMOUNTS OF CARBON



Mangroves, tidal marshes and seagrass meadows have the potential to store significantly more carbon per hectare than forests do when carbon in soil is also considered. For this reason some countries are now including reforestation of mangroves as a way to increase carbon sequestration, which can also protect coastlines from storm surges and flooding.

WHAT WE ACCOMPLISHED

***Information:* Mapping and monitoring forests, forest carbon, deforestation and other land use.**

The dynamic and complex nature of deforestation and land use change requires good information on the location and state of forests and other landscapes. Forest cover and land use maps, carbon data and other information can help countries design effective policies, target illegal logging and restore degraded lands.

USAID has helped more than a dozen national governments access and use satellite data to improve forest mapping. In **India**, USAID developed mForest, a mobile phone app that four states' forest departments and communities use to gather information about the extent and condition of forests. This information connects seamlessly with national forest remote sensing data in a system USAID developed. Other states are also planning to adopt the system to improve forest monitoring and emissions reporting.

USAID has also supported applied research and programs such as the multi-agency U.S. government SilvaCarbon program. As a result, in **Peru** the environment and agriculture ministries are using new analytical techniques with LANDSAT satellite data to accurately track forest change.

USAID support for Global Forest Watch, which relies on satellite data and crowd-sourced local data to expose illegal logging, forest fires and other threats, has made quicker enforcement and fire-fighting response times possible in **Indonesia**.

***Laws and Policies:* Creating laws, policies and programs that reward good stewardship of forests and other landscapes and that are understood and supported by local communities**

Engaging government, community and private sector groups to achieve good forest management and sustainable cultivation of other lands is central to USAID's climate work. To achieve effective national policies, USAID has also promoted coordination among government ministries.

Good policies may clarify property or land-use rights or reward good stewardship through public programs and carbon finance.

In **Indonesia**, USAID focused on eight crucial landscapes, helping to improve governance in partnership with local governments, civil society organizations, logging companies and local communities. This led to conservation management

COLOMBIA – 2014: Rafael Cuero prunes cacao trees to increase their productivity and improve his harvest. Photo by Hanz Rippe

plans and tangible results such as training private sector partners in reduced impact logging techniques.

Through public-private partnerships such as Tropical Forest Alliance 2020, USAID builds on private sector investment and commitment to reduce deforestation from large-scale agricultural production, which accounts for over half of global tropical deforestation. For example, in **Paraguay**, USAID collaborates with civil society and private sector partners to adopt more sustainable practices in the beef sector, reducing pressure to expand commodity production in the vulnerable Chaco ecosystem

Actions: **Demonstration projects that produce tangible development benefits, immediate GHG emissions reductions or additional carbon storage while informing policies considered in capital cities.**

- More than 16 million hectares of land and forest in the **Democratic Republic of Congo** and **Republic of Congo** are better managed thanks to USAID's Central Africa Regional Program for the Environment. In 2015, the program supported local interventions that helped reduce or entirely avoid 14.5 million tons of GHG emissions, including certified sustainable cocoa production, improved fire management in savanna zones and the production and sale of fuel-efficient cook stoves. In **Malawi**, intergovernmental coordination on combatting deforestation led the Ministry of Energy to promote liquefied pressurized gas and improved cook stoves in the country's cities to reduce demand for charcoal, a chief driver of deforestation there.
- In **Guatemala**, **Peru** and other countries, USAID helped launch third-party-certified REDD+ programs, which put a premium on community involvement, planning and other good governance principles. In Guatemala, sustainable production and marketing of forest products generated more than $42 million for local communities and created more than 2,000 full time jobs. Communities participating in USAID-supported REDD+ projects in **Cambodia** and **Malawi** succeeded in selling $2.6 million and $409,000 in carbon credits respectively.
- In **Mexico**, USAID worked with more than 50 indigenous communities across the Yucatan Peninsula to implement sustainable agriculture, ranching and forest management practices. The practices combine traditional Mayan farming techniques with new technologies to increase incomes, create local jobs and reduce the need to clear forests.
- USAID has provided a 50 percent loan portfolio guarantee to Althelia Climate Fund for up to $90 million of private sector investment in vulnerable forests around the world. Projects use the funding to develop sustainable livelihoods for forest communities and to generate carbon credits. Two years into the partnership, investments in four countries and five projects have avoided 170,000 hectares of deforestation, improved management of 2.2 million hectares and created more than 1,000 livelihood opportunities.

Results:

- In FY 2015, USAID Sustainable Landscapes programs led to almost **50 million tons of CO_2 reduced, sequestered or avoided around the world.**
- Since 2010, seven EC-LEDS partner countries have generated nearly **$175 million for communities employing sustainable land use practices, with $165 million in Vietnam alone** (see Success Story on page 27).

- USAID Sustainable Landscape programs have improved the ability of **more than 12 tropical forested countries, and 14 additional countries via regional programs, to monitor their forests** in order to improve forest management and reduce emissions from deforestation.

WHAT WE LEARNED

- **A methodical, whole-of-government approach to low-emission development can lead to more cost-effective approaches**. Often the forestry department is not in a position to influence what is driving land use change, but other ministries can.
- **Communities respond to incentives to reduce deforestation and protect forests**. Securing land tenure or other tangible benefits motivates communities to be better stewards of their forests and lands.
- **Building the capacity of those with the responsibility for or opportunity to safeguard forests is crucial**. In Asia, where forest management is often the responsibility of the state, engaging skilled scientists and foresters to apply new techniques and work with newly available data is very effective. In other regions, indigenous communities or the private sector play essential roles.
- **Community engagement is labor-intensive yet critical to success**. Such consultations inform and spur change.
- **Other high-carbon ecosystems, beyond upland forests, provide important opportunities for climate mitigation**. Mangroves and peatlands store vast amounts of carbon and demand special attention. Joint research by the Center for International Forestry Research and the U.S. Forest Service, co-funded by USAID, produced definitive data on the vast amounts of carbon stored in mangroves, peatlands and palm swamps. This knowledge, combined with the protection mangroves provide to coasts, has motivated some countries to focus reforestation efforts on mangrove restoration.

THE WAY FORWARD

In the past few years, USAID's work to protect forests has taken significant leaps forward with cutting-edge science, data and tools. Thanks to the efforts of USAID and others, there has been a dramatic increase in countries' abilities to produce and share information about what is happening in their forests and other lands.

Public finance for REDD+ and other public sector payments for environmental services will be critical but not sufficient—all major actors must be involved. There is a need to explicitly engage private sector actors already investing in land use to find ways to harvest or use natural resources both profitably and sustainably. USAID will continue to support innovation in this area.

With most developing countries embracing sustainable land use in their 2015 commitments to the Paris Agreement, the potential for improving the health of forests and other lands on a large scale is great.

SUCCESS STORY

VIETNAM – 2015: A national decree in Vietnam mandates economic incentives for forest protection. Photo by USAID/Vietnam

VIETNAM is one of Asia's most densely populated countries, with about 95 million people living on 310,000 square kilometers of land. Two-thirds of the population lives in rural areas and many rely heavily on the country's vast forests for survival. To halt and slow forest exploitation and to provide economic and climate benefits, USAID partners with the Government of Vietnam to help implement a national decree that mandates economic incentives for forest protection. To create these incentives, payments are established between those who benefit from forest services and those who provide them. For example, hydropower users in Vietnam now pay communities that maintain and enhance upland forest watersheds. The system generates about $60 million annually, nearly 25% of the Government of Vietnam's total annual investment into the forestry sector. The system has expanded from three provincial forest funds to 37 funds servicing 100,000 forest owners and users and helping to protect nearly 3.3 million hectares of forest yearly. This represents 27 percent of Vietnam's total forested lands. This first such nationally mandated system in Asia has become a model in the region.

INTEGRATION

MACEDONIA – 2015: Macedonian farmers are learning new climate-smart techniques to maintain soil moisture and protect crops from harsh sun and hotter temperatures. Photo by Aleksandra Todorovska

Climate Change Integration: Factoring climate change knowledge and practice into USAID programs across sectors.

A NEW DEVELOPMENT CHALLENGE

Climate change is a reality that development can no longer ignore, and USAID is taking an agency-wide approach to address it. Climate change is hurting vulnerable populations in developing countries and posing new risks to long-standing USAID programming, threatening to set back development progress and hamper further gains. Increases in temperature and changes in precipitation patterns, for example, can decrease harvests from rain-fed agriculture or shift the geographic range and incidence of diseases such as malaria, contributing to poverty and straining existing aid and social safety nets.

Fulfilling USAID's mission of ending extreme poverty thus requires the integration of climate change adaptation and mitigation across USAID's development work.

To implement President Obama's Executive Order on Climate-Resilient International Development, USAID is now systematically factoring climate

risk into program design to increase the impact and sustainability of its development work while safeguarding U.S. taxpayer dollars. These climate change integration efforts help people, communities, governments and institutions better adapt to climate change, and lead to improved development results.

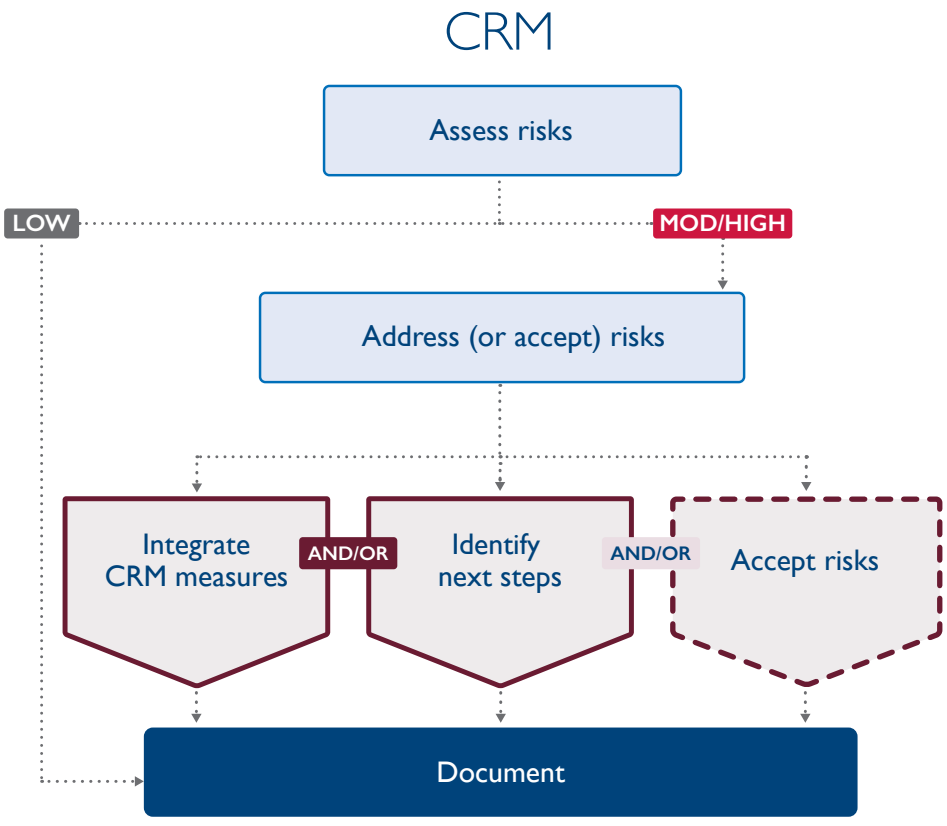
For example, in an agroforestry project designed to increase crop productivity, planting trees to improve the soil can also be a climate change adaptation strategy by conserving soil moisture and a climate mitigation action by storing additional carbon. Such climate-smart actions improve livelihoods while achieving reductions in greenhouse gas emissions.

REFINING OUR APPROACH

In recent years, USAID has built its capacity to integrate climate change across its development portfolio. USAID is providing staff and partners with the resources, knowledge and skills they need to effectively incorporate climate change in their work.

- **USAID has created guidance, tools and resources to support climate risk management throughout the Agency**. Consideration of climate change is now a formal part of the USAID process for programming development assistance. A climate risk screening and management tool—tailored for nine sectors including agriculture, health, and water and sanitation—and other resources help staff determine how to effectively assess and address climate risks. Easy access to the most pertinent country and regional climate information on an external knowledge portal, Climatelinks.org, enables USAID staff and implementing partners to make informed decisions about their programs.

CLIMATE RISK MANAGEMENT (CRM) IN THE USAID PROGRAM CYCLE



Climate risk management at USAID is an iterative process conducted at each stage of programming. First, climate risks are assessed and rated as low, moderate (mod) or high. Second, climate risks are addressed by selecting risk management options or accepting risks as needed.

- **The Agency has increased the climate change knowledge, skills and abilities of staff, while recruiting an extended team of climate change experts**. Because climate change is a cross-cutting issue, USAID has trained more than 800 staff in 72 missions on ways to address climate change. Staff across the Agency, including those working in agriculture, economic growth, energy, environment, governance, health, humanitarian assistance and infrastructure, are now better able to integrate climate change considerations in their sectors.
- **In addition, every USAID bureau and mission now has a Climate Integration Lead**. This point person is responsible for supporting climate risk management and helping colleagues identify opportunities to proactively integrate climate change adaptation and mitigation into their programs.

WHAT WE LEARNED

- **Taking a systems approach that begins with an understanding of development objectives and risks to achieving them facilitates integration of climate change**. For instance, in Southern Africa, a systems approach to achieving water security that balances human, economic and ecological needs for water resources reinforced connectivity, facilitated trade-off analysis and led to more integrated interventions. The traditional method of addressing one sector's needs and then searching for potential co-benefits with other sectors can impede programmatic integration.
- **Capacity building of USAID staff and partners is important to increase understanding and sustain climate change integration**. USAID staff, country counterparts and implementing partners must understand the importance of climate change to their objectives. Integration is successful when those involved view climate change as not just an environmental issue but understand that it is integral to the success of their project and sector.
- **Integration must be actively promoted and managed**. While integration can improve results, it can also require extra effort and time. For instance, conducting a climate change analysis to inform project location may delay implementation. Therefore, integration must be supported not only with technical tools and resources, but also with high-level support, integration champions, capacity building efforts and incentives.
- **Integrating climate change can bring new opportunities**. Integration can bring stakeholders together to tackle a development issue more effectively, providing common ground and improving social cohesion. In Macedonia, for example, local authorities, activists and citizens worked together on energy efficiency and adaptation activities, including

making municipal buildings energy-efficient, building a new water tank to improve water supply and improving the flow of flood-prone streams. The process of working together on the common threat of climate change increased civic engagement and strengthened the relationship between local governments and citizens.

- **Climate change funding can leverage additional resources for climate resilience**. The impact of activities funded with adaptation funding can be increased if they are well integrated into larger programs. For instance, a climate information activity that is integrated into a USAID-supported agricultural program is more likely to meet the needs of farmers and be put to good use.
- **Climate change activities can benefit from incorporating methods and knowledge from other sectors.** For instance, ensuring that climate change mitigation and adaptation projects explicitly consider local conflict dynamics reduces the likelihood that these activities will exacerbate existing grievances.
- **Finally, there is one important lesson that underpins all of our integration efforts: timing is critically important for integration**. Climate change is best considered early in the design of programs to be assessed at the right level of detail and addressed appropriately.

ETHIOPIA – 2015: Muktar Mohamed surveys his "keyhole" garden, which uses less water to produce more food, helping his family cope with drought. Photo by Fikiru Desalegn

Results Since 2010: **As a result of integration efforts, climate change is better incorporated in USAID's portfolio.**

Since 2010:

- Climate change has been **integrated into key USAID global initiatives and sector strategies**, including biodiversity, resilience, agriculture, water and urban policy.
- Climate change was **incorporated moderately or extensively in 62 percent of USAID's country and regional strategies from 2011 to 2015**. Beginning in October 2015, USAID has been systematically **assessing and addressing climate risks and considering climate change mitigation opportunities in all new country strategies**.
- **The integration of climate change in USAID solicitations across sectors has increased since 2009**. A review of a sample of solicitations that had no climate change funding found that on average 18.5 percent of them integrated climate change in FY 2012 and FY 2014, compared to 8 percent in FY 2009. USAID was integrating climate change in half of solicitations that dealt with climate-sensitive sectors.
- Climate change adaptation and mitigation has been **integrated into projects in 48 countries**, spanning multiple sectors and every region in which USAID works. Outside of Global Climate Change Initiative programs, **well over $1 billion of USAID funding has contributed to climate change objectives**.

THE WAY FORWARD

USAID has built a strong foundation to scale up climate change integration efforts in the future. Our experiences with adaptation, sustainable landscapes, clean energy and integrated programming all provide lessons that can inform climate change integration efforts in the coming years. USAID will also continue to build its human and institutional capacity for climate change integration, prioritizing missions with limited climate change experience and the sectors most affected by climate change.

USAID has made significant progress integrating climate change into a number of sectors, including agriculture and biodiversity, and will continue efforts to scale up integration in those sectors. In other important areas, such as health, there is still more to learn.

USAID will also pursue targeted opportunities to integrate climate change mitigation in a systematic way to deliver meaningful GHG emission reductions. While most of our development efforts are not associated with large GHG emissions, pursuing low-emission options can provide co-benefits such as improved sustainability, lower costs, enhanced agricultural productivity and better air quality.

We will increasingly engage with country partners to integrate climate change mitigation and adaptation into their development plans.

Whether through building the capacity of our staff across the globe or finding innovative ways to achieve development and climate change objectives together, USAID is committed to building on our progress.

SUCCESS STORY

ETHIOPIA – 2015: A family in Jijiga watches over their sheep at sunset. Photo by Kelly Lynch

ETHIOPIA: Nearly four in five Ethiopians earn a living from agriculture, and half of Ethiopian agriculture workers are poor farmers or pastoralists who depend on natural rainfall to water crops and livestock. In 2015, Ethiopia suffered a severe drought, as warming global temperatures combined with an El Niño weather event. USAID is helping Ethiopians increase their resilience to weather extremes by integrating climate science, climate data services and climate-smart practices into food security and other programs. One powerful example is the PRIME initiative, a Feed the Future activity with a climate change component. It is helping rainfall-dependent Ethiopian herders and farmers use climate information – including vulnerability assessments and improved early warnings – to make better decisions such as which crops to plant and the best time to plant and harvest them. PRIME also includes risk mitigation and management strategies, such as improved water storage, better animal nutrition and access to financial services like insurance, used by farmers around the world. More than 25,000 Ethiopian farmers who purchased affordable insurance under the R4 rural resilience program received payouts in 2015, based on the depth of drought. These payments helped them feed their families, care for their livestock and withstand the crisis.

FUNDING OVERVIEW

In Fiscal Year (FY) 2015 USAID programmed $331 million under the Global Climate Change Initiative, reaching more than 50 countries on four continents. From FY 2010 to FY 2016, USAID will have programmed an estimated $2.4 billion under the Initiative. USAID also has documented more than $1 billion in other development activities that have had tangible climate change benefits.

USAID represents one of several U. S. Goverment agencies providing international climate change assistance. Others include the Department of State, Department of Treasury, the Milennium Challenge Corporation and the Overseas Private Investment Corporation. The U.S. Government also contributes to the Green Climate Fund and other multilateral funds promoting climate-smart development. Between 2010 and 2015, the United States allocated $15.6 billion in climate finance across adaptation, clean energy and sustainable landscape activities. The United States is committed to double public, grant-based adaptation investments by the year 2020.

Countries and regions with USAID Global Climate Change (GCC) programs in FY 2016 are listed below.

USAID ADAPTATION COUNTRY AND REGIONAL PROGRAMS

Africa: Ethiopia, Malawi, Mali, Mozambique, Rwanda, Senegal, Tanzania, Uganda and regional programs in Southern and Western Africa

Asia: Bangladesh, Cambodia, India, Indonesia, Maldives, Nepal, the Philippines and Pacific Islands, Timor-Leste, Vietnam and the Regional Development Mission in Asia

Latin America and Caribbean: Colombia, Dominican Republic, Guatemala, Honduras, Jamaica, Peru and regional programs in Eastern Caribbean and Central America

USAID CLEAN ENERGY COUNTRY AND REGIONAL PROGRAMS

Africa: Ethiopia, Ghana, Kenya, South Africa and a regional program in Southern Africa

Asia: Bangladesh, India, Indonesia, Kazakhstan, Nepal, the Philippines, Vietnam and the Regional Development Mission in Asia

Europe and Eurasia: Georgia, Ukraine, and a regional program supporting EC-LEDS in Albania, Macedonia, Moldova and Serbia

Latin America and Caribbean: Colombia, Jamaica, Mexico and a regional program in Central America

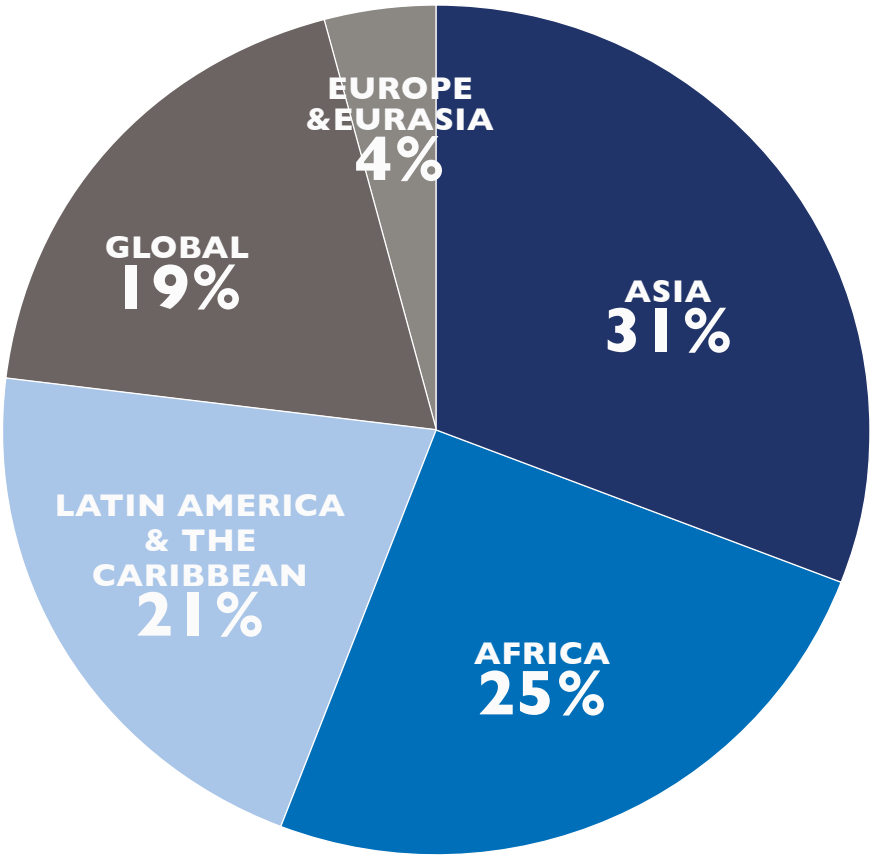
USAID SUSTAINABLE LANDSCAPES COUNTRY AND REGIONAL PROGRAMS

Africa: Malawi, Zambia, and regional programs in Central and Western Africa

Asia: Bangladesh, Cambodia, India, Indonesia, the Philippines, Vietnam and the Regional Development Mission in Asia

Latin America and Caribbean: Colombia, Guatemala, Mexico, Peru and a regional program in South America

USAID GLOBAL CLIMATE CHANGE INITIATIVE BUDGET BY REGION (FY 2015)



NEPAL – 2011: Melting glaciers form rivers and lakes in the mountains of Nepal. Photo by John Furlow

For more information on
USAID climate change programs,
see **www.usaid.gov/climate**.

To join our community of climate
change and development practitioners,
please visit **www.Climatelinks.org**.

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