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Climate Funding by United States of America

Contents

2010 Reporting[1]

Climate change is a global challenge that must be addressed in the context of a dynamic global economy. Since the United Nations Framework Convention on Climate Change (UNFCCC) was negotiated, patterns of economic growth and emissions in the developed and developing world have shifted substantially. It is now clearer than ever that no single country or group of countries can solve the threat of climate change alone, and all countries must take actions to alter their emission trajectories commensurate with the demands of science and consistent with their specific capabilities and circumstances.

In this context, the United States recognizes that poorer developing countries have urgent and growing needs for financial and technical support to adapt to the effects of climate change and to promote low emissions development pathways. As part of our commitment to implement the Copenhagen Accord, the United States is working with other developed countries to provide "fast-start" climate finance, approaching $30 billion during 2010–2012, to help meet the adaptation and mitigation needs of developing countries.

We are also committed to a leadership role in addressing the long-term climate finance challenge. On December 16, 2009, President Obama signed the Consolidated Appropriations Act, 2010, which more than tripled climate-related foreign assistance from the previous fiscal year (FY), to over $1 billion.

The FY 2010 enacted budget also includes a dramatic increase for adaptation assistance, including a first-ever U.S. contribution of $50 million to the United Nations Least Developed Country Fund (LDCF) and Special Climate Change Fund (SCCF). It also includes $375 million for the World Bank-managed Climate Investment Funds, and a substantial increase in funding for U.S. Agency for International Development (USAID) climate programs. This will lead to scaled-up cooperation in many parts of the world, including Africa and Asia and among the small island states.

President Obama has also taken major steps to promote new international technology cooperation on climate and energy issues with specific regions and countries. In June 2009, the President announced a new Energy and Climate Partnership of the Americas to promote the diffusion of clean energy technologies across the Western Hemisphere. In July 2009, leaders of the 17 major economies in the Major Economies Forum on Energy and Climate (MEF) announced the establishment of a Global Partnership to speed clean energy technology deployment. They are also working to develop and implement action plans for eight key technologies. The United States has accelerated collaboration with key partners, such as China, India, the European Union, Canada, Brazil, Mexico, and Russia, to combat

[1] United States Department of State (2010). U.S. Climate Action Report 2010. Washington: Global Publishing Services, June 2010, 180 pp.

climate change, coordinate clean energy research and development, and support efforts to achieve a successful agreement under the UNFCCC.

Most recently, the United States announced in Copenhagen that it would ramp up U.S. climate financing to ensure a fast start to post-Copenhagen efforts, contributing its share of developed country financing approaching $30 billion by 2010, and working with other Parties to the UNFCCC to mobilize $100 billion globally by 2020 for countries in need, from various public- and private-sector sources, given the existence of robust mitigation efforts by all key Parties. As part of that larger effort, the United States pledged $1 billion through 2012 to reduce emissions from deforestation, land degradation, and other activities, as part of a multilateral donor effort of $3.5 billion. Also as part of the broader multiyear, multidonor effort, the United States pledged $85 million toward the Climate Renewables and Efficiency Deployment Initiative (Climate REDI), which will channel a total of $350 million to fund programs over five years.

This chapter describes first the general roles of U.S. government agencies in climate change financial and technical assistance, and then ongoing programs and partnerships that involve significant U.S. government resources and investments. The latter are broken out further into cross-cutting initiatives, mitigation and forests, vunerability and adaptation, trade and development assistance, and private-sector assistance. Tables 1 through 3 present U.S. financial contributions to the Global Environment Facility (GEF) and multilateral institutions in support of climate change programs and activities. Table 5 at the end of this chapter presents U.S. financial contributions related to U.S. implementation of the UNFCCC. The United States expects that a transition to a larger and more robust foreign assistance program will include substantial new efforts to assist countries in their efforts to address climate change in FY 2010.

U.S. Financial and Technical Assistance by agency

U.S. government agencies provide developing and transition countries with finance and technical assistance for low-carbon and climate-resilient development. These agencies facilitate the transfer of technologies for mitigation, adaptation, capacity building, and research through official assistance, export credits, project financing, risk guarantees, and insurance to U.S. companies, as well as credit enhancements for host-country financial institutions.

U.S. Agency for International Development

As the foreign assistance arm of the U.S. government, USAID works in the areas of agriculture, the environment, economic growth, democracy and governance, conflict prevention, education, health, global partnerships, and humanitarian assistance in more than 100 countries. With headquarters in Washington, D.C., USAID provides assistance in sub-Saharan Africa, Asia and the Near East, Latin America and the Caribbean, and Europe and Eurasia. USAID's strength is its field offices in many regions of the world. In addition to partnering with other U.S. government agencies, the agency partners with private voluntary organizations, indigenous organizations, universities, American businesses, international agencies, and other governments.

Table 1 U.S. Financial Contributions to the Global Environment Facility for Climate Change Activities: 2003–2010 (Millions of U.S. Dollars)
During fiscal years 2003–2010, the United States allocated $242 million for Global Environment Facility programs related to climate change.

2003	2004	2005	2006	2007	2008	2009	2010	Total
56	32	24	26	26	26	26	26	242

Note: Since 2004, funding estimates represent the budget authority available to incur obligations, and not necessarily the amount of funds outlayed or spent.
Source: Office of Management and Budget.

Table 2 Annual U.S. Financial Contributions to Multilateral Institutions (Millions of U.S. Dollars)
The U.S. government provides direct funding to multilateral institutions and programs in support of sustainable economic development and poverty alleviation. Although in many cases a portion of this funding supports climate change activities, it is not currently possible to identify that amount. Therefore, this table represents total U.S. government contributions to these multilateral development institutions and funds, including amounts not directly attributable to climate change activities. Table 3 presents U.S. funding to multilateral programs that can be directly attributed to climate change activities.

Institutions, Funds, and Programs	2005	2006	2007	2008	2009
World Bank Group	**843.200**	**941.800**	**940.500**	**942.300**	**1,115.000**
International Bank for Reconstruction and Development	0.000	0.000	0.000	0.000	0.000
International Development Association	843.200	940.500	940.500	942.300	1,115.000
Multilateral Investment Guarantee Agency	0.000	1.300	0.000	0.000	0.000
International Finance Corporation	0.000	0.000	0.000	0.000	0.000
Other Multilateral Institutions, Funds, and Programs					
Inter-American Investment Corporation	0.000	1.700	0.000	0.000	
Inter-American Development Bank – Multilateral Investment Fund	10.900	1.700	1.700	24.800	25.000
Asian Development Bank	0.000	0.000	0.000	0.000	0.000
Asian Development Fund	99.200	99.000	99.000	74.500	105.000
African Development Bank	4.100	3.600	3.600	2.000	0.800
African Development Fund	105.200	134.300	134.300	134.600	150.000
European Bank for Reconstruction and Development	35.100	1.000	0.000	0.000	0.000
Global Environment Facility3	36.000	36.000	26.000	26.000	26.000
International Fund for Agricultural Development	14.900	14.900	14.900	17.900	18.000
North American Development Bank	0.000	0.000	0.000	0.000	0.000
United Nations Development Programme2	108.128	110.000	108.900	97.365	100.000
United Nations Environment Programme 2	10.912	10.262	10.159	10.415	10.500
UNFCCC Supplementary Fund (included under IPCC/UNFCCC, below)	0.000	0.000	0.000	0.000	0.000
Multilateral Scientific, Technological, and Training Programs					
OAS Development Assistance Programs 1	4.861	4.750	4.702	5.455	5.500
United Nations World Food Programme	1,173.720	1,123.113	1,183.235	2,076.430	
UN Development Fund for Women & UNIFEM Trust Fund 2	2.976	4.750	4.703	5.356	6.000
World Trade Organization Technical Assistance1,2	0.992	0.950	0.940	0.942	0.950
International Civil Aviation Organization 1,2	0.992	0.950	0.940	0.942	0.950
Montreal Protocol Multilateral Fund 2	33.381	32.185	34.729	30.413	32.797
International Conservation Programs 2	0.000	0.000	0.000	0.000	0.000
Intergovernmental Panel on Climate Change/UNFCCC 2	6.349	5.950	5.891	6.447	7.000
International Contributions for Scientific, Educational, and Cultural Activities 1	6.789	7.000	6930	6.447	9.000
World Meteorological Organization Voluntary Co-operation Programme 1,2	1.984	1.900	1.881	1.885	1.900
Center for Human Settlements2	0.149	0.150	0.149	0.992	2.000

1 These international organizations also receive assessed contributions through the Contributions to International Organizations account.
2 Voluntary contributions from International organizations and programs.
3 These numbers reflect fiscal year funding—i.e. "2005" funding is FY 2005 funding. The U.S. fiscal year begins October 1st of the preceding year and ends on September 30th.
IPCC = Intergovernmental Panel on Climate Change; OAS = Organization of American States; UN = United Nations; UNFCCC = United Nations Framework
Convention on Climate Change; UNIFEM = United Nations Development Fund for Women.

Sources: U.S. Department of State (http://www.state.gov/), U.S. Department of the Treasury (http://www.ustreas.gov/), UN World Food Programme (http://www.wfp.org/node/7359).

The types of assistance USAID provides include technical assistance and capacity building, training and scholarships, food aid and disaster relief, infrastructure construction, small-enterprise loans, budget support, enterprise funds, and credit guarantees. USAID plays a key leadership role in delivering climate change-related assistance to developing and transition countries through its Global Climate Change Program. The program is active in more than 40 developing and transition countries, integrating climate change mitigation and adaptation into a broad range of development assistance activities.

Table 7-3 Multilateral Programs Receiving U.S. Funding for Climate Change Programs and Activities: 2005–2009 (Millions of U.S. Dollars)
During 2005–2009, the United States provided funding to three multilateral programs specifically for programs and activities related to climate change.

Multilateral Programs	2005	2006	2007	2008	2009
Montreal Protocol Multilateral Fund	21.328	21.500	21.285	18.846	21.000
Intergovernmental Panel on Climate Change/UNFCCC	6.349	5.950	5.891	6.447	7.000
International Contributions for Scientific, Educational, and Cultural Activities	5.952	6.000	5.940	5.455	8.000

UNFCCC = United Nations Framework Convention on Climate Change.
Source: U.S. Department of State (http://www.state.gov/).

U.S. Environmental Protection Agency

The U.S. Environmental Protection Agency (EPA) designs and implements innovative programs on a variety of international environmental challenges, including efforts to make transportation cleaner, reduce greenhouse gas (GHG) emissions, and improve local air quality. As a global leader in methane mitigation, EPA spearheads the Methane to Markets Partnership, an international effort that promotes methane recovery and use as a clean energy source. EPA is also working through international partnerships to retrofit diesel engines (Partnership for Clean Fuels and Vehicles); bring energy efficiency labeling, like ENERGY STAR, to other countries; improve national GHG inventories; and reduce the impacts of buildings and vehicles on the environment.

U.S. Department of Energy

In addition to providing funding support for such interagency activities as the Climate Change Technology Program, the U.S. Department of Energy (DOE) works with numerous foreign governments and institutions to promote dissemination of energy efficiency, renewable energy, and clean energy technologies and practices. Since the 2006 U.S. Climate Action Report, DOE has enhanced its international engagement on technology transfer through such efforts as the Carbon Sequestration Leadership Forum (CSLF) and the MEF. DOE is participating in the International Partnership for Energy Efficiency Cooperation and the International Renewable Energy Agency (IRENA), and is working through the Global Bioenergy Partnership (GBEP) to reduce the climate change impacts of biofuel development. DOE has chaired the Climate Technology Initiative (CTI) that serves the UNFCCC, and is actively involved in the Private Financing Advisory Network (PFAN), which is seeking and finding opportunities for private entities to invest in clean energy projects in developing countries.

U.S. Department of State

The U.S. Department of State (DOS) coordinates bilateral and multilateral diplomatic efforts related to climate change, including the U.S. presence at the international climate negotiations hosted by the United Nations. DOS also deploys financial resources in support of key multilateral and bilateral priorities in adaptation, clean energy, and forestry and land use.

DOS is responsible for U.S. government commitments to the LDCF and SCCF. These multilateral funds provide financing to developing countries to help them adapt to the impacts of climate change, with a specific focus on assisting the most urgent adaptation needs of least developed countries. In FY 2010, DOS will also invest funds in pilot approaches that better integrate climate change objectives into other U.S. government development activities.

DOS, in coordination with other agencies, also funds clean energy programs in support of strategic bilateral diplomatic partnerships as well as multilateral efforts. For example, working with DOE, DOS supports the MEF, which provides an avenue for supporting low carbon technology projects and programs of interest to key emerging economies, including China, India, Brazil, South Africa, Mexico, and Indonesia. DOS funds, in conjunction with EPA technical assistance, also support the Methane to Markets Partnership.

In forestry and land use, DOS supports the World Bank Forest Carbon Partnership Facility, to help developing countries measure forest carbon stocks and design deforestation emission reduction strategies. In FY 2010, DOS will also invest funds to support capacity building for reducing emissions from deforestation and degradation (REDD+) projects in key forested developing countries.

U.S. Department of Agriculture

The U.S. Department of Agriculture (USDA) provides a broad array of technical and financial assistance to help countries carry out agriculture- and forest-sector activities that support their efforts to mitigate or adapt to the impacts of climate change. USDA activities are coordinated through the Foreign Agricultural Service and and the U.S. Forest Service's (USFS's) International Program and draw on the technical capabilities of USDA’s research and conservation programs.

Strong partnerships with land grant universities, environmental nongovernmental organizations (NGOs), and the private sector make this work integrated and comprehensive.

Specific activities include developing methods and protocols for measuring GHG emissions from agricultural sources, and estimating carbon fluxes from forest and agricultural systems; designing and implementing agriculture-and forest-sector components of national GHG inventories; reducing GHG emissions through improved agricultural practices; increasing carbon sequestration through improved forest management (including forest conservation, sustainable forestry, and agroforestry); and encouraging sustainable and renewable bioenergy technology and use. In addition, USDA provides technical assistance to the USAID missions and host governments to incorporate climate change strategies into country plans and carry out country-led projects to adapt to and mitigate the effects of global climate change.

The USDA Cochran and Borlaug Fellowship programs now offer training in areas related to global climate change, in response to country requests. In 2008, USFS completed a multiyear, multimillion-dollar program funded by USAID, to integrate the Incident Command System (ICS) into India's emergency response procedures, improving the country's ability to effectively coordinate and respond to large-scale climate-related disasters. A similar program was also completed in Sri Lanka. In recent years, cooperation has also occurred between USFS and partners in Mexico and China on technologies and methods related to forest carbon inventories.

National Aeronautics and Space Administration

The National Aeronautics and Space Administration (NASA) advances scientific knowledge by observing the Earth system from space; assimilating new observations into climate, weather, and other Earth system models; and developing new technologies, systems, and capabilities for its observations, including those with the potential to improve future operational systems managed by the National Oceanic and Atmospheric Administration (NOAA) and others. NASA is a major participant in the U.S. Global Change Research Program and in U.S. activities to support the Group on Earth Observations (GEO). NASA's Earth observation data are openly available to all nations, organizations, and individuals, and the agency has many active partnerships with U.S. and international agencies to facilitate the use of its data in research and operational applications.

U.S. Department of Commerce

The U.S. Department of Commerce (DOC) contributes to developing scientific data on climate change and facilitates the development and deployment of technology to mitigate and address the effects of climate change through its various agencies:

- The Patent and Trademark Office protects intellectual property rights that enable technological innovation.
- The National Institute of Standards and Technology and the National Telecommunications and Information Administration provide research into developing a smart-grid infrastructure.
- The Economic and Statistics Administration works on identifying and quantifying "green jobs."
- The International Trade Administration promotes the global deployment of U.S. climate mitigation technologies.
- The Economic Development Administration (EDA) works to help U.S. communities develop sustainable economic development plans, projects, and activities. EDA's Global Climate Change Mitigation Incentive Fund supports communities as they develop green projects, processes, and functions, helping to create new green jobs while simultaneously reducing global GHG emissions.

National Oceanic and Atmospheric Administration

NOAA, which is a DOC agency, plays a particularly critical role in international climate activities. NOAA provides weather, water, and climate services; manages and protects fisheries and sensitive marine ecosystems; conducts atmospheric, climate, and ecosystem research; promotes efficient and environmentally safe commerce and transportation; supports emergency response; and provides vital information in support of decision making. NOAA's climate mission is to: "Understand and describe climate variability and change to enhance society's ability to plan and respond."

NOAA's long-term climate efforts are designed to develop and deliver a predictive understanding of variability and change in the global climate system, and to advance the application of this information for decision making in climate-sensitive sectors through a suite of research, observations and modeling, and application and assessment activities.

Millennium Challenge Corporation

Established in January 2004, the Millennium Challenge Corporation (MCC) is a U.S. government corporation that works with some of the poorest countries in the world to reduce poverty through sustainable economic growth. MCC's innovative development assistance is based on the principle that aid is most effective when it reinforces good governance, economic freedom, and investments in people. MCC recognizes that alleviating global poverty requires urgent attention to climate change and responsible environmental stewardship, and is committed to helping partner countries integrate climate change and other environmental and social considerations into their poverty reduction programs.

To date, MCC has signed grant agreements with 20 countries totaling nearly $7.2 billion in assistance. Many of these compacts include funding for projects designed to help partner countries improve natural resource management, strengthen institutional capacity, and pursue lower-carbon growth strategies. For instance, in El Salvador, MCC is funding a $67-million community development project that includes approximately $1 million for the installation of 450 solar panel systems to serve more than 2,000 poor and isolated households in the country's northern zone, and the development of watershed management plans to promote water conservation as part of a broader water supply and sanitation program. And in the Republic of Moldova, MCC is providing $2 million in assistance to promote improved watershed management as part of a larger agriculture and irrigation development program, which will contribute to climate change adaptation and increased food security.

Looking ahead, MCC anticipates increasing opportunities to help developing countries incorporate climate change and other environmental issues into their poverty reduction programs. Future compact partners—such as Jordan, Malawi, Zambia, the Philippines, and Indonesia—face cross-cutting environmental challenges, like water scarcity, deforestation, and biodiversity loss, and are particularly vulnerable to climate risks, such as droughts and extreme weather events.

MCC is actively working with these countries, as with all of its partners, to help them adapt to and mitigate these risks. Moreover, MCC is committed to working closely with other donors to harmonize efforts to integrate climate change and natural resource management into development assistance.

Major U.S. cross-cutting Initiatives

Several major U.S. initiatives that cut across agencies and sectors provide technology transfer and financial assistance in support of climate change objectives.

USAID Global Change Program

In 2009, Secretary of State Hillary Rodham Clinton noted that USAID has for years been "a leader in advancing climate, clean energy, and conservation activities in the developing world, drawing the clear and important link between solving the climate problem and promoting sustainable development globally."

Since 1991, USAID has spent over $3 billion on projects and programs aimed at mitigating climate change and helping vulnerable communities build their capacity and resilience, while simultaneously meeting development objectives in the energy and water sectors, urban areas, forest conservation, agriculture, and disaster assistance. USAID is committed to further bolstering its efforts in this area, in recognition of the importance of global low-carbon growth and the increasingly urgent adaptation and resilience needs of vulnerable developing countries. USAID will continue to support and augment programs to promote the transfer of clean energy technologies, provide tools to measure and reduce GHG emissions, deploy tools for Earth observation and early-warning systems, facilitate carbon management through improved land use, and support climate vulnerability assessments and initiatives to help countries and communities increase their adaptive capacity.

World Bank Climate Investment Funds

On July 1, 2008, the World Bank Board of Executive Directors formally approved the creation of the Climate Investment Funds (CIFs). On September 26, 2008, donors gathered to pledge over U.S. $6.1 billion. The CIFs are hosted by the World Bank, but have separate, innovative governance structures that give developed and developing countries equal voice and representation, creating a consensus-based decision making model. The World Bank implements the CIF jointly with the Regional Development Banks (the Africa Development Bank, the Asian Development Bank, the European Bank for Reconstruction and Development, and the Inter-American Development Bank). The CIFs were established through an inclusive and consultative process in support of the Bali Action Plan. They are designed on the basis of consultations with potential donors and recipients, the United Nations (UN) system, the GEF, civil society organizations, and the private sector. These funds will be used to pilot new approaches to governance, and address new areas of common interest, such as reducing emissions from deforestation and increasing resilience to climate change impacts.

Global Hunger and Food Security Initiative

Early in 2009, President Obama joined fellow Group of Eight (G8) leaders in committing a collective $20 billion to jump-start a new, comprehensive approach to combating global hunger. Through the Global Hunger and Food Security Initiative, the United States is focusing on agricultural-led growth to raise the incomes of the poor and increase the availability of food, while providing support to strengthen the

capacity of countries to anticipate and prevent hunger-related emergencies. This commitment is particularly critical in the context of rapidly changing climate. As stated by the Intergovernmental Panel on Climate Change in its Fourth Assessment Report, the increased frequency of extreme climatic events, such as droughts and floods, will negatively affect global agricultural production, even beyond the impacts of increasing temperatures alone (IPCC 2007).

Global Earth Observation System of Systems

The United States is a founding member of the intergovernmental Group on Earth Observations (GEO), which is coordinating efforts to build the Global Earth Observation System of Systems (GEOSS) on the basis of a 10-Year Implementation Plan for 2005–2015 (GEO 2005). The purposes of GEOSS are to achieve comprehensive, coordinated, and sustained observations of the Earth system; improve monitoring and predictions; and increase understanding of Earth processes, especially those related to weather, climate, energy, water, agriculture, disasters, health, biodiversity, and ecosystems. The emerging public infrastructure connects a diverse and growing array of instruments and systems, including the Global Climate Observing System, for monitoring and forecasting changes in the global environment. This "system of systems" supports policymakers, resource managers, science researchers, and many other experts and decision makers. For example, an umbrella framework known as "GEOSS in the Americas" has resulted in significant increases in the availability and use of environmental data and new information tools in Central and South America and the Caribbean, particularly for coastal zone management, hurricanes and flooding, air quality, water, and agricultural management.

U.S. Mitigation Programs, Excluding Forest Programs

Major Economies Forum on Energy and Climate

The MEF brings together 17 developed and developing economies to engage in a meaningful dialogue on clean energy technology and the need to secure a broad international agreement to combat climate change. President Obama chaired a meeting of the leaders of the MEF partners in July 2009, and the group underscored its commitment to continue to work together to strengthen the world's ability to combat climate change and to facilitate agreement at the 15th Conference of the Parties to the UNFCCC (COP-15) in Copenhagen in December 2009. The group agreed to establish a Global Partnership to drive development and deployment of eight key transformational low-carbon technologies: advanced vehicles; bio-energy; carbon capture, use, and storage; energy efficiency (including buildings and industrial processes); high-efficiency and lower-emission coal technologies; smart grids; solar energy; and wind energy. Partners created action plans by late 2009 to seek to accelerate development and deployment of these technologies, and it is anticipated that MEF partners as well as other interested countries will subsequently cooperate on the implementation of the activities identified in the action plans.

Asia-Pacific Partnership on Clean Development and Climate

The Asia-Pacific Partnership on Clean Development and Climate (APP) is an effort by Australia, Canada, China, India, Japan, the Republic of Korea, and the United States to accelerate the development and

commercialization of clean energy technologies and practices. Partner countries work together and with their private sectors to meet energy security, national air pollution reduction, and climate change goals in ways that promote sustainable economic growth and poverty reduction. Using a sectoral approach that breaks climate and clean development challenges into more manageable task forces (e.g., cleaner fossil energy, renewable energy and distributed generation, power generation and transmission, steel, aluminum, cement, coal mining, and buildings and appliances) helps APP Partners take advantage of readily available opportunities to increase energy efficiency and reduce GHG emissions.

In addition to such targeted, immediate actions, a sectoral focus enables APP Partners to lay the foundations for long-term market transformation. The Partnership has endorsed 175 individual cooperative activities, including 22 flagship projects that exemplify the Partnership's goals. The United States has provided funding for 40 of these projects, and has contributed approximately $75 million to further Partnership's goals since its inception.

Methane to Markets Partnership

Emerging climate science is revealing the critical importance of reducing methane emissions to mitigate climate impacts, especially in the near term. Launched in 2004, the Methane to Markets (M2M) Partnership has made great progress in accelerating the development of methane emission reduction projects around the world. This international initiative also demonstrates how countries and the private sector can work together cooperatively to reduce GHG emissions, stimulate economic growth, develop new sources of clean energy, and improve local environmental quality.

Building off of its domestic methane programs, EPA is working with M2M partners—30 national governments, including the European Union, and more than 900 private- and public-sector organizations (the Project Network)—to advance methane energy projects from four major sources: agricultural and food processing waste, landfills, underground coal mines, and natural gas and oil systems.

U.S. efforts under M2M are led by EPA and involve the collective efforts of six agencies and departments across the federal government. Ongoing U.S.-supported projects potentially can reduce GHG emissions by approximately 60.7 million metric tons of carbon dioxide equivalents (MMTCO2 Eq.) annually, and actually reduced global warming pollution by 26.7 MMTCO2 Eq. in 2008. U.S. contributions of $38.9 million have also leveraged more than $277.9 million in investment from other partner countries, development banks, the private sector, and members of the Project Network.

In March 2010, New Delhi, India, hosted M2M's 2010 Expo. New Delhi will seek to build on the success of its first Expo, which featured more than 90 project opportunities with annual emission reduction potential of 11.5 MMTCO2 Eq.

Carbon Sequestration Leadership Forum

An international climate change initiative that includes both developed and developing countries, the Carbon Sequestration Leadership Forum (CSLF) is focused on developing improved and cost effective

technologies for the separation and capture of carbon dioxide (CO2) and its transport and long term safe storage. CSLF works to make these technologies broadly available internationally and to identify and address more comprehensive issues, such as regulation, relating to carbon capture and storage. To date, CSLF has endorsed 20 projects to evaluate and demonstrate carbon sequestration technologies.

U.S.-China Clean Energy Research Center

President Obama and President Hu Jintao formally announced the establishment of the U.S.-China Clean Energy Research Center (CERC) during the President's trip to Beijing in November 2009. Work to operationalize CERC began immediately, and further coordination of operations will continue in the months ahead. In March 2010, DOE Secretary Steven Chu announced the availability of $37.5 million in U.S. funding over the next five years to support CERC. Funding from DOE will be matched by the grantees to support $75 million in total U.S. research that will focus on advancing technologies for building energy efficiency; clean coal, including carbon capture and storage; and clean vehicles. An additional $75 million in Chinese funding will be provided. CERC will be located in existing facilities in both the United States and China.

U.S.-India Clean Energy Research Center

The U.S.-India Clean Energy Research Center aims to improve technologies to make clean energy more affordable and efficient. This center will include cooperation in wind and solar energy, second-generation biofuels, and energy efficiency, as well as unconventional sources of natural gas and clean coal technologies, including carbon capture and storage.

U.S. Climate Technology Cooperation Gateway

Sponsored by USAID and EPA, the U.S. Climate Technology Cooperation (U.S.-CTC) Gateway is an effort to increase public access to information about U.S.-sponsored international technology cooperation via an online tool.5 The U.S.-CTC Gateway aims to facilitate climate technology cooperation for mitigation and adaptation activities in developing and transition countries consistent with U.S. responsibilities under Article 4.5 of the UNFCCC. It highlights U.S.-sponsored activities that have resulted in clear, measurable benefits, and provides information and resources that can allow users to implement climate-friendly technologies and practices throughout the world. The site is designed to be used by government officials, private-sector project developers, financiers, technology providers, NGOs, and the general public.

EPA Partnership for Clean Fuels and Vehicles - International Diesel Retrofit Projects

Through its Partnership for Clean Fuels and Vehicles, EPA has funded and provided technical assistance on several diesel retrofit projects in other countries. Projects have been completed in Mexico City, Beijing, and Bangkok. In each of these projects, EPA has worked to demonstrate state-of-the art diesel particulate filters that can remove more than 90 percent of diesel particulate matter - including black carbon, which is implicated in climate change. The projects involve substantial capacity building. In the

Beijing project, Chinese entities have to date retrofitted more than 8,000 diesel trucks and buses following EPA's small demonstration project.

EPA has also funded a pilot project to retrofit twostroke gasoline three-wheeled vehicles used as taxis ("auto rickshaws") in Pune, India. These vehicles are ubiquitous throughout Asia and contribute significantly to air quality problems in many Asian megacities.

Adding electronically controlled direct-injection technology to these vehicles resulted in 30 percent fuel savings on top of substantial reductions in hydrocarbons, carbon monoxide, and particulate matter.

EPA Programs for Energy Efficiency

EPA continues to support several programs that promote energy efficiency in products and buildings.

Energy Efficiency Endorsement Labeling Programs

Drawing on experiences and resources from its successful ENERGY STAR program, EPA has worked with a number of countries, including China and India, to enhance their own voluntary energy efficiency endorsement labeling programs. For example, EPA worked with the China Standard Certification Center to harmonize product test procedures with international standards, and in India supported the technical analysis and market research for the development of labels for televisions and set-top boxes.

Vehicle Emissions and Efficiency Programs—SmartWay

EPA is working with Mexico, China, and other developing nations to export technical expertise from its successful SmartWaySM Transport partnership, which is touted as a model program in Australia, the European Union, Mexico, Canada, and elsewhere. Smart-Way promotes technologies and best practices that reduce fuel consumption throughout the freight industry and supply chain. EPA provides technical assistance, modeling tools, analysis, and "lessons learned" to enable developing nations in Asia and elsewhere to establish voluntary programs to reduce GHG and other emissions from new and legacy vehicles and to create vehicle labeling programs modeled after the Smart-Way vehicle designation.

In 2008, EPA held an international workshop attended by over a dozen countries. The World Bank is currently considering a SmartWay workshop for Asia. Recently, EPA met with officials from 11 Chinese cities and the Ministry of Transportation to discuss a pilot SmartWay program in the city of Guangzhou, with the aim of expanding it to other Chinese cities. EPA also met with engineers from China's Auto Research Institute and Automotive Testing and Research Institute to share information on test methods to evaluate GHG emissions from commercial trucks.

eeBuildings

This EPA program has provided technical assistance to building owners, managers, and tenants in China and India to improve the energy efficiency of buildings. In China, EPA successfully implemented an agreement with the Ministry of Housing and Urban-Rural Construction to assist with the development of a building energy benchmarking certification program, and worked with other organizations (e.g., Trade

Association of Shanghai Property Managers and the China Business Council for Sustainable Development) to introduce efficiency measures. In India, in partnership with the Indian Green Buildings Council, the Bureau of Energy Efficiency, and others, EPA conducted training sessions on low- and no-cost energy efficiency measures for corporate building owners, major hotel chains, property management companies, service and equipment providers, and electric utilities.

Greenhouse Gas Inventory Improvement Project

Building on a previous successful partnership with seven nations of Central America, USAID and EPA are continuing to provide support to countries in Southeast Asia, and are exploring opportunities to collaborate with institutions and/or experts in other regions, to improve the quality and sustainability of national GHG inventories produced by developing countries. A rigorous national GHG inventory is an essential tool for informing future climate change policy decisions, designing appropriate mitigation activities, and projecting future emission trends. High quality, transparent, consistent, and comparable inventories also provide the critical context within which mitigation actions and commitments may be monitored, reported, and verified.

The project focuses on developing long-term national inventory management systems, improving the methods and data used in the agriculture and the land use, land-use change, and forestry sectors, and training regional experts. Currently, direct assistance is being provided in collaboration with the UNFCCC Secretariat to Indonesia, Cambodia, Lao People's Democratic Republic, Malaysia, the Philippines, Thailand, and Vietnam. The project is also further refining the Agriculture and Land Use (ALU) software, which helps governments easily and accurately complete their national GHG inventories for the agriculture and the land use, land-use change, and forestry sectors.

ECO-Asia

Through the Environmental Cooperation–Asia (ECO–Asia) program, USAID develops a combination of national and regional activities in partnership with Asian governments, cities, and other organizations and agencies to promote regional dialogue in sharing and replicating innovation across Asia. Key program countries include Cambodia, India, Indonesia, the Philippines, Sri Lanka, Thailand, and Vietnam.

ECO-Asia's Clean Development and Climate Program (CDCP) works to catalyze policy and finance solutions for clean energy in Asia's largest developing economies through targeted technical assistance and training, regional cooperation, and knowledge sharing. In its first two years, ECO-Asia CDCP initiated programs with partners that are expected to avoid emissions of 1.6 MMTCO2 from fossil fuel consumption.

ECO-Asia CDCP and the Asian Development Bank have also co-organized the Asia Clean Energy Forum for the past two years. This forum has become an instrumental event in Asia for policymakers, financiers, and energy experts to network, present new research findings, and share best practices. To supplement this event and other regional workshops, ECO-Asia CDCP hosts an innovative, user-generated Web site

for clean energy experts to share and discuss information about clean energy solutions for Asia that help address climate change and energy security.

DOE National Laboratory Expert Technical Support

Recognizing the need for advanced technical assistance to support clean energy development across the globe, the U.S. government is establishing a network of U.S. experts to provide both targeted and crosscutting technical assistance to developing country partners. The underlying goal of this effort is to ensure that the best U.S. technical expertise is being accessed to support global efforts to combat climate change.

USAID began working with DOE in 2009 to launch the first component of this new initiative. A team of DOE laboratory experts will be formed to provide technical assistance to USAID missions and their partner countries in the analysis, design, and implementation of GHG mitigation initiatives and clean energy projects guided by local needs and priorities. Supported activities will include sector assessments to effectively target USAID resources, country analyses for prioritizing mitigation actions, access to energy-sector and economic modelling and end-use emissions models, and assistance with analysis and design considerations for carbon markets.

Ideally, these targeted efforts will aid in the development and application of analytical and technical resources to support the design and implementation of national- and sectoral-level low-carbon clean energy growth strategies in developing countries. It is anticipated that this initial effort will grow in scale and scope over the next three years, providing a framework for climate change mitigation and clean energy assistance across various U.S. government agencies and partners.

Global Bioenergy Partnership

The Global Bioenergy Partnership (GBEP) provides “a mechanism for Partners to organize, coordinate, and implement targeted international research, development, demonstration, and commercial activities related to production, delivery, conversion, and use of biomass for energy, with a focus on developing countries.” In response to the GBEP Steering Committee’s request, the Task Force on Sustainability is working to define voluntary, science-based sustainability criteria and indicators with the intent to provide governments a toolbox to monitor trends in environmental, economic, and social sustainability. The Task Force on GHG Methodologies, chaired by the United States, has produced a Version Zero methodological framework to provide countries and institutions with a consistent and transparent method to describe measurements of the GHG footprint of biofuels. Currently in the testing phase, a Version One publication is expected in 2010.

International Partnership for Energy Efficiency Cooperation

In May 2009, the Energy Ministers of the G8, India, South Korea, China, Brazil, Mexico, and the European Commission officially launched a high-level international energy efficiency partnership that will allow participating countries to share best practices and effective policies, conduct joint activities and research,

and showcase their successes in energy efficiency. The partnership will focus on developing energy efficiency tools, sharing best practices, expanding consumer awareness, and helping countries track their own progress toward national energy efficiency goals. As one of its first initiatives, the partnership will inventory the domestic energy efficiency policies of member nations.

International Renewable Energy Agency

The United States signed the IRENA Statute in June 2009. The International Renewable Energy Agency (IRENA) was launched to substantially scale up global use of renewable energy through capacity building, technical assistance, sharing of best practices, and networking that does not currently exist in any other multilateral forum on energy. IRENA can help improve public policymakers' understanding of renewable energy policy and regulatory and institutional requirements for technology diffusion. Renewable energy technologies can address the multiple domestic and international objectives of energy security, climate change mitigation, economic growth and job creation, and cleaner air quality.

Climate Technology Initiative

The Climate Technology Initiative (CTI) is a multilateral cooperative activity that supports implementation of the UNFCCC by fostering international cooperation for accelerated development and diffusion of climate-friendly technologies and practices. CTI was originally established at the first Conference of the Parties to the UNFCCC in 1995. Since July 2003, CTI has been operating under an implementing agreement of the International Energy Agency that includes the United States, Australia, Austria, Canada, Finland, Germany, Japan, Norway, Republic of Korea, Sweden, and the United Kingdom. Through a variety of capacity-building activities, CTI has promoted meaningful technology transfer to and among developing and transition countries. In addition to their current and future environmental benefits, these efforts are promoting near- and long-term global economic and social stability.

CTI Private Financing Advisory Network

In an effort to address the growing need for clean technology financing in developing and transition countries, CTI launched PFAN in 2006 to increase access to private capital markets. PFAN is comprised of a network of practicing private finance professionals who work with project developers and other project proponents to structure projects and supporting financing proposals to meet the standard of the international financial community. These consulting services are provided at no cost to the project developer. Although there are no formal restrictions on size, CTI PFAN has thus far targeted projects with a total investment volume of $1–$50 million.

CTI PFAN is technology-neutral and will consider any clean energy, renewable energy, or energy efficiency project that can demonstrate technical and economic feasibility. Typically, PFAN projects are mitigation and distributed generation types of projects, deploying a range of such technologies as biomass, geothermal, wind, solar, biofuels, waste to energy, and small hydro. However, PFAN will also consider adaptation and technology development projects as well.

One of the techniques used by CTI PFAN to bring project developers and investors together is regionally organized financing forums that are preceded by a call for proposals. Selected projects are provided with intensive one-on-one PFAN coaching and are showcased before specially convened investor audiences.

Projects identified through the calls for proposals are also considered for induction into the development pipeline. During 2009, this effort was significantly scaled up, with investor forums planned for Africa, Asia, and Latin America in early 2010.

Renewable Energy and Energy Efficiency Partnership

The United States is one of 45 countries whose governments contribute funding to the Renewable Energy and Energy Efficiency Partnership (REEEP). Conceived at the World Summit on Sustainable Development in 2002, REEEP seeks to lower the policy, regulatory, and financial barriers to implementation of renewable energy and energy efficiency technologies and projects in emerging markets and developing countries; improve access to reliable clean energy services in developing and transition countries; and increase the use of local renewable resources. Since 2004, REEEP has provided support for more than 100 projects in 40 countries.

U.S. Forest programs and Partnerships

Forest Carbon Partnership Facility

The United States is a donor to the Forest Carbon Partnership Facility (FCPF), a multilateral fund at the World Bank that assists developing countries in their efforts to reduce emissions from deforestation and forest degradation (REDD). The FCPF's first objective is to build capacity in developing countries to credibly estimate forest carbon stocks and sources of forest emissions, to assist countries in building a national strategy for stemming deforestation, and to create national reference scenarios or baselines against which to measure future performance. The FCFP will then test performance-based incentive payments in a few pilot countries to set the stage for a much larger system of potential financing flows from future carbon markets. The FCFP seeks to learn lessons from first of-a kind operations and develop a realistic and cost effective new instrument for tackling deforestation.

The experiences generated from the FCPF's pilot implementation and carbon finance experiences will provide insights and knowledge that can facilitate development of a much larger global program of incentives for REDD.

Tropical Forest Conservation Act

The Tropical Forest Conservation Act (TFCA) was enacted in 1998 to offer eligible developing countries options to relieve certain official debt owed to the United States, while at the same time to generate funds to support local tropical forest conservation activities. As of August 2009, TFCA programs are being implemented in Bangladesh, Belize, Botswana, Colombia, Costa Rica, El Salvador, Guatemala, Indonesia, Jamaica, Panama (two agreements), Paraguay, Peru (two agreements), and the Philippines.

The 15 agreements completed to date will directly generate more than $218 million for tropical forest conservation in these countries over the life of the agreements, and additional resources will be created through returns on investments and matching funds.

A number of other countries have expressed interest in the TFCA program. In addition to forest conservation and debt relief, TFCA is intended to strengthen civil society by creating local foundations to support small grants to NGOs and communities. The program also offers a unique opportunity for public–private partnerships. Nine of the agreements to date have included more than $14 million in cash raised by U.S.-based NGOs (and one Indonesian NGO), in addition to the approximately $135 million in appropriated debt-reduction funds contributed by the U.S. government.

Several TFCA national-level funds are exploring ways to catalyze REDD development in their respective countries. In addition, some national-level funds established through the Enterprise for the Americas Initiative, a predecessor to TFCA, are supporting the dissemination of clean technologies in several sectors.

Initiative for Conservation in the Andean Amazon

USAID's Initiative for Conservation in the Andean Amazon (ICAA) is a five-year program (2006–2011) that brings together the efforts of more than 20 public and private organizations currently working in the Amazon regions of Bolivia, Colombia, Ecuador, and Peru to build constituencies and agreements that promote the sustainable use and conservation of biodiversity and environmental services in the regions. Beyond sharing a common language and cultural patrimony, this area includes globally unique resources and ecosystem services that are important to local, regional, and global climate, health, and economies. ICAA activities include landscape and protected area management, improved natural resource management (timber, non-timber, and agriculture), improved environmental policy, and capacity building of local and indigenous organizations. These activities help to increase carbon sequestration and avoid GHG emissions by supporting improved resource management and minimizing conversion of natural habitats. The Woods Hole Research Center, an ICAA partner, is developing approaches to more accurately measure and monitor these GHG benefits using satellite and ground-based measurements, while also building the capacity of local NGOs to do these calculations.

Forest, Climate & Community Alliance

The Forest, Climate & Community Alliance (FCCA) is a public–private partnership between USAID and the Rainforest Alliance. A number of private-sector companies are also working with the Rainforest Alliance on this project, including Gibson Guitar Corporation, EKO Asset Management Partners, NatSource LLC, and others. Formed in 2009, the FCCA aims to increase economic opportunities for poor communities and forest management enterprises, and to combat threats to tropical forest biodiversity. The project will pilot technologies, organizational models, and local and national policies that help communities more effectively access revenue streams from payment for ecosystem services (PES) schemes, particularly carbon credits from the emerging voluntary and mandatory carbon markets. The

FCCA will pilot initiatives in the countries of Ghana and Honduras and will use lessons learned from these sites to provide options for other USAID missions and cooperators.

International Small Group and Tree Planting Program

The International Small Group and Tree Planting Program (TIST) is a public–private partnership between USAID, the Institute for Environmental Innovation, and the Clean Air Action Corporation. Begun in 2005 and now in its second phase, this initiative has grown to include over 35,000 small farmers planting over 4 million trees in four countries.

The TIST program amalgamates small farmers into clusters of farmers who work together to plant and maintain trees for carbon sequestration, biodiversity enhancement, environmental benefits, and personal use. It also builds capacity in farming technologies, HIV/AIDS (human immunodeficiency virus/acquired immunodeficiency syndrome) prevention, fuel-efficient wood stoves, and other development objectives.

TIST is a PES arrangement, which pays the individual participant approximately two cents per tree for each year that it is growing on the registered plot. There is also an agreement between the Clean Air Action Corporation and the individual participant that will allow the farmers to collect 70 percent of any profits from future carbon sales from the registered trees. Carbon stocks are monitored and verified through a rigorous auditing process that uses handheld computers and global positioning system (GPS) coordinates to verify the status of each plot on an annual basis.

Center for International Forestry Project

In 2007, USAID initiated a program to build capacity within the agency on issues related to forests and climate change in general, and specifically related to the international discussion about reducing emissions from deforestation in developing countries. Implemented in collaboration with the Center for International Forestry, this program included the following three components:

1. A series of training modules on topics related to forests and climate, including forest adaptation technologies, biofuels, carbon accounting methods, forest and climate policy, and a variety of other topics.

2. Technical assistance to USAID missions in Indonesia and Liberia, to help them assess their ongoing programs and look for opportunities to make adjustments to prepare for challenges and opportunities related to forests and climate change.

3. A series of training workshops on forests and climate issues, held in Thailand and South Africa in 2009.

Forest Carbon Calculator

USAID is supporting the development of a Forest Carbon Calculator, which consists of a cutting-edge set of carbon estimation calculators for the forest sector using a Web-based tool. Covering forest protection,

reforestation/afforestation, agroforestry, and forest management, the tool provides estimated CO2 emission reductions and sequestration from improved forest and land management practices. USAID is using this tool to estimate the mitigation impacts of existing programs and to explore options in the design of new programs. A public-access version of the tool will be available for the use of anyone who wishes to estimate the carbon emission reductions and sequestration of site-level activities. Future revisions of the tool are planned to allow estimation of CO2 benefits from grasslands and agricultural management.

USAID/USFS Interagency Agreement

Through its long-standing agreement with USFS, USAID accesses the technical expertise of USFS to implement training, technical assistance, capacity building, and policy dialogue in the countries where USAID works. With more than 100 years of experience managing over 77 million hectares (190 million acres) of national forests and grasslands, USFS has valuable experience to contribute to the issue of climate change in the global context.

Much of the land that USFS manages is already being influenced by climate change, requiring the development of adaptation strategies. As a result, USFS is closely involved in efforts to enhance the mitigation potential of U.S. forests and is well positioned to provide technical assistance in the context of longer-term development engagement with other nations facing land management and climate change challenges.

USFS is actively collaborating with numerous governments, NGOs, and the private sector to address climate change and avoided deforestation through collaborative research, policy dialogue, and technical cooperation.

In 2008, USFS experts participated in a USAIDfunded assessment to identify opportunities for USAID assistance in helping Bolivia address forest and climate change issues. In 2009, USFS worked with USAID to identify and pilot models for increasing women's involvement in forest carbon management and exchanges.

Illegal Logging and Forest Trade

Illegal logging is a significant cause of forest degradation that often leads to increased carbon emissions and less resilient ecosystems. USAID is taking measures to address both the supply and the demand sides of the global forest product trade through three multiyear, multimillion-dollar public–private partnerships. For example, USAID supported the Sustainable Forest Products Global Alliance in 2008 and launched a new program in 2009 to further promote transparent supply chain management in response to new and emerging consumer country laws, such as the amended U.S. Lacey Act. The new program aims to reach out to a wider group of forest stakeholders both in the United States and abroad, to raise awareness about illegal logging, and to provide information to encourage improved supply chain management from the stump to the shelf. In the Asia region, the Responsible Asia Forest and Trade program continues to work with partners in the retail, financial, and NGO sectors to assist governments

and the private sector to combat illegal logging and associated trade through the promotion of improved technologies, market strategies, management practices, and forestry policies.

Standing Forest Conservation Markets Initiative

USAID has been supporting activities in the field of PES, including the Global Assessment of Best Practices in Payment for Ecosystem Services Programs; Wildlife Conservation Society pilot projects integrating carbon emission reductions, biodiversity conservation, and community livelihoods in Madagascar and Cambodia; and Regional PES Network Meetings and site PES Incubator projects led by Forest Trends and the Katoomba Group. The Standing Forest Conservation Markets Initiative, which began in 2008, builds on these recent efforts. The initial targets for this initiative are the globally important forested watersheds of the Amazon, Congo, and Mekong River Basins. Project development documentation for reduced emissions from REDD projects are currently under preparation for voluntary private-sector carbon trading, as well as for water and biodiversity markets. Pilot PES sites within these mega-diversity areas—such as the Xingu and Surui Indigenous Reserves in Brazil, and the Mbe River headlands in Gabon—are being linked to encourage south-south collaboration and learning.

The initiative also offers project development tools, such as legal and institutional assessments and a PES curriculum that can be tailored to different stakeholder groups. Training workshops to build capacity in carbon baseline measurement and market assessment were held in 2008 and 2009 in Peru, Brazil, Nepal, Cambodia, Uganda, Tanzania, Ghana, and South Africa.

Finally, USAID is also providing partial support for Katoomba meetings, which aim to build regional networks and senior policymakers' interest in PES; for 2008–2010, avoided deforestation is a major theme.

U.S. Vulnerability and Adaptation programs

Through agencies including USAID, NASA, and NOAA, the United States continues to pursue a broad range of activities designed to help countries integrate adaptation and development concerns, understand their vulnerabilities to new climate-related risks, and build capacity at the household, community, national, and regional levels to address the urgent challenges posed by changing climatic conditions.

Adaptation Guidance Manuals

In August 2007, USAID published Adapting to Climate Variability and Change: A Guidance Manual for Development Planning (USAID 2007). The manual is designed to assist USAID missions and other development partners to understand, analyze, and respond to the potential impacts of climate change on development challenges, and to develop effective approaches to solving those challenges. It lays out a six-step process for assessing the potential for climatic changes to affect development efforts and engaging stakeholders in identifying alternative approaches for more climate-resilient development. The manual describes four pilot projects conducted by USAID to field-test the proposed methods, and also provides resources for further technical information.

In May 2009, USAID, International Resources Group, and The Coastal Resources Center at the University of Rhode Island published Adapting to Coastal Climate Change: A Guidebook for Development Planners (IRG and CRC-URI 2009). This coastal guide is designed to help coastal managers and other decision makers understand how climate change may affect processes in coastal areas. The guide also presents a number of well-known coastal management practices that deal with climate change, and assesses each practice or measure for its ability to address climate change or other coastal management challenges.

USAID continues to develop guidance to assist development practitioners in considering climate change impacts on development goals. However, USAID also recognizes that the methods laid out in the guidance require access to environmental, meteorological, and climatological data. To facilitate access to data, the agency has developed or leveraged a number of tools, described further in this chapter, in collaboration with other federal agencies and organizations.

Earth Observations for Decision Support

SERVIR

USAID and NASA support SERVIR, a Regional Visualization and Monitoring System that integrates satellite and other geospatial data for improved scientific knowledge and decision making by managers, researchers, students, and the general public. In addition to making available previously inaccessible data, online mapping tools, and training opportunities, SERVIR provides improved monitoring of air quality, extreme weather, biodiversity, changes in land cover, and the impacts of climate change. The first SERVIR regional operational facility—for the Latin America and Caribbean region—was established in 2005 in partnership with the Water Center for the Humid Tropics of Latin America and the Caribbean (CATHALAC). In 2008, NASA and CATHALAC helped set up a second SERVIR regional operational facility for East Africa, at the Regional Center for Mapping of Resources for Development (RCMRD) in Nairobi, Kenya. The SERVIR–Africa project is building upon RCMRD's existing strengths, while augmenting its data management and training capabilities.

Efforts are underway to replicate the SERVIR system model in other regions of the world, in support of climate-resilient development.

Climate Mapper

In 2008, USAID, NASA, the Institute for the Application of Geospatial Technology, the University of Colorado, and CATHALAC developed the Climate Mapper tool for SERVIR. The Climate Mapper makes historical weather records and the results of climate change models accessible to a broad user community. Data are currently available for all land portions of Earth for ½-degree grid cells, which, at the equator, corresponds to roughly 50 kilometers by 50 kilometers (31 miles by 31 miles). The Climate Mapper presents historical temperature and precipitation for the base period (1961–1990), as well as modeled monthly data averaged over the decades 2031–2040 and 2051–2060. Users can assess climate change projections for the 2030s and 2050s against three-dimensional visualizations of landscape. This

should enhance vulnerability assessments as development planners consider adaptation strategies and design projects to be more resilient to climate variability and change.

Climate One Stop

USAID and NASA are working with a number of other donors, NGOs, developing country institutions, and the UNFCCC to develop the Climate One Stop. As its name suggests, the One Stop will be a comprehensive Web site where a variety of users—from the public to project planners and researchers—can learn about climate change, access data and tools, find climate-related news and project case studies, and link with other people and groups interested in climate change through an online community. In the beginning, the One Stop will emphasize adaptation, but it eventually will have the flexibility to grow in whatever ways the user community demands.

Regional Climate Outlook Forums

NOAA, in collaboration with USAID and the UN World Meteorological Organization (WMO), provides regional institutions in developing countries with technical support for Regional Climate Outlook Forums. These forums are a principal vehicle for providing advance information about the likely character of seasonal climate in several developing regions. They bring together climate forecasters and forecast users to develop a consensus forecast from multiple predictions and to discuss methods of dissemination and application of information. The forums also provide a unique opportunity for stakeholders to meet, share information and concerns, and forge an informal network to address common problems.

Resource-Sharing Partnerships for Sustained Ocean-Climate Observations

NOAA's Climate Program Office is working with the National Ocean Service and other NOAA offices to build sustained capacity in the Indian Ocean for ocean-climate observations and their socioeconomic application. Partnerships for New GEOSS Applications (PANGEA) builds sustainable capacity in maritime regions by providing resources and in-country, practical training by NOAA experts for local policy and budget officials, scientists, and end users. In exchange, participating national institutes provide gratis ship time and expertise to NOAA for the deployment and regular servicing of NOAA's in situ ocean-climate instrumentation.

PANGEA complements existing efforts to achieve a more sustainable capacity for the region by increasing both in situ ocean data and information as well as the more effective application of these data for more informed decision making. Capacity-building workshop topics include Planning for Climate Change in the Coastal and Marine Environment, Societal and Economic Benefits of Delivering Enhanced Ocean Observing System Data, Tools for Assessing Community Resilience, and How to Select and Evaluate Adaptation Measures for Managing Impacts From Climate Change.

NOAA's current partners include Indonesia's Ministry of Marine Affairs and Fisheries and Agency for the Assessment and Application of Technology, India's Ministry of Earth Sciences, and the Agulhas and

Somali Current Large Marine Ecosystem for nine East African and Western Indian Ocean nations. The PANGEA model is equally applicable elsewhere and is being explored for other ocean basins.

International Research Institute for Climate and Society

NOAA provides approximately $9 million in annual funding to the International Research Institute for Climate and Society (IRI). IRI's mission is to enhance society's capability to understand, anticipate, and manage the impacts of seasonal climate fluctuations, in order to improve human welfare and the environment, especially in developing countries. IRI's international efforts involve research in climate prediction, monitoring, and analysis targeted to address problems of climate risk in agriculture and food security, water resources, public health, disasters, and such cross-cutting issues as drought management. A combination of scientific rigor, problem-centered analysis, and partner teamwork is beginning to yield successful approaches to climate risk management. IRI has several ongoing projects in Africa, Asia, and Latin America and has launched an effort to raise institutional and societal awareness of climate vulnerability and risk as an arena for action.

Coral Triangle Initiative on Coral Reefs, Fisheries, and Food Security

The Coral Triangle Initiative (CTI) on Coral Reefs, Fisheries, and Food Security is a new multilateral partnership to safeguard the region's extraordinary marine and coastal biological resources. Recognized as the global center of marine biological diversity, the Coral Triangle region embraces six countries—Indonesia, Malaysia, Papua New Guinea, the Philippines, Timor Leste, and the Solomon Islands. Home to some 363 million people, one-third of whom are directly dependent on coastal and marine resources for their livelihoods, the region faces immediate risk from a range of factors, including overfishing, unsustainable fishing methods, land-based sources of pollution, and climate change.

The CTI was officially launched in December 2007 during UNFCCC COP-13 in Bali, and was endorsed by the six heads of state at the CTI Summit in May 2009. Over the first five years of the initiative, USAID and DOS plan to invest at least $42 million in the regional initiative, in addition to providing bilateral support to Indonesia and the Philippines. Investments will strengthen the capacity of community groups, governments, and public and private organizations to conserve the Coral Triangle's globally important biodiversity, improve fisheries management, and enhance resiliency and adaptation to climate change.

Famine Early Warning System Network

The USAID-funded Famine Early Warning Systems Network (FEWS NET) is a 25-year-old program that analyzes remotely sensed data and ground-based meteorological, crop, markets and trade, and livelihoods information to provide early-warning and vulnerability information on emerging or evolving food security conditions. The network is comprised of a multidisciplinary team that includes a management unit at USAID, contractual relationships with NASA, NOAA, USDA, the U.S. Geological Survey (USGS), a private sector contractor operating a FEWS NET headquarters team, and USAID's 23 offices in food-insecure countries of the developing world.

FEWS NET includes a unique initiative to identify climate change impacts on specific food-insecure countries. This initiative has focused largely on Africa to date, and has produced a large volume of research that identifies how climate change is already affecting large parts of eastern Africa, including significant impacts on food security conditions. The broad conclusions of this research include the following: (1) climate change is already producing drought and eroding livelihoods in eastern Africa, and these drought impacts are likely to precede impacts from projected temperature rises; (2) climate change models fail to model precipitation accurately, are commonly wrong, and are inadequate tools for evaluating changes in precipitation, especially over land surfaces; (3) conversely, data sets based on precipitation observations, when properly constructed and analyzed, can provide one of the best tools for tracking decadal climatic variability; and (4) climate change impacts on food security must be assessed in an interdisciplinary investigation that can identify and trace the multiple interactions of food security with climate.

FEWS NET is also committed to the capacity and institution building of national and regional early-warning and response networks. Anticipating an increase in the threat of food insecurity in previously relatively unchallenged countries, FEWS NET will expand to cover up to 30 new countries over the next five years. New climate change research will also be conducted in additional African regions and Central Asia.

RANET Program

USAID and NOAA are working with a range of humanitarian and meteorological organizations to build the capacity of regional, national, and sub-national institutions to provide useful weather and climate information to rural communities and populations in remote regions of Africa, Asia, the Pacific, and Central America. RANET (Radio and Internet for the Communication of Hydro-Meteorological and Climate-Related Information for Development) utilizes and develops applications on a variety of communication platforms, such as satellite data broadcasts, satellite telephony, FM (frequency modulation) community radio, HD (high-definition) digital e-mail networks, mobile phones, and Web-based systems. RANET works with national partners to use these tools to deliver forecasts, bulletins, imagery, seasonal assessments, educational and training information, and data to rural and remote areas. The program stresses training, system development, and ongoing operation of communication networks to support country programs, and emphasizes local ownership of all systems.

In 2010 RANET will continue current activities, which include operation of satellite broadcasts, the RANET Alert Watcher Short-Message Service notification system, development of the Community Reporter Program, and creation of various technical training modules. Significant new activities will be development of GEONETCast capacity for current RANET country programs, continuation of the RANET Chatty Beetle pilot, and launch of a unified content management system designed to allow countries to publish information across multiple communications platforms.

Disaster Preparedness Activities

USAID is supporting a number of projects around the world to help vulnerable communities anticipate weather hazards and build resilience to climate change. In 2008, USDA, USAID, NOAA, and other partners began work to develop a Global Flash Flood Guidance and Early Warning System, to improve lead time for early warnings of flash floods and allow for rapid mobilization of response activities. USAID has also supported technical assessments and forums for decision makers and technical personnel from the Hindu Kush–Himalayan region to strengthen capacities on flash flood management, promote collaboration, and develop regional approaches to flood management and flood early-warning systems. USAID, NOAA, and USGS also support the Asia Flood Network, which aims to lessen flood hazard vulnerability in Asia by building regional and national capacities in climate, weather, and hydrological forecasting and warning, and by improving the dissemination of forecasts and warnings to at-risk populations.

Other programs receiving USAID support include community-based drought preparedness planning in Cambodia, East Timor, and Vietnam; training for Mekong Delta officials and affected populations on the use of flood mapping; the introduction of water management schemes that will enhance the sustainability of water supply activities in southern Swaziland; and a five-year project to support a community-based approach to flood monitoring and forecasting in Bangladesh. Finally, in partnership with the United Nations World Food Programme, USAID is supporting the development of a drought insurance program to protect against livelihood loss in Ethiopia.

International Technical Assistance Program

The Department of the Interior (DOI) International Technical Assistance Program (ITAP) leverages funds from other federal agencies, international organizations, and foreign governments to provide capacity building in other countries using the diverse expertise of technical experts from DOI bureaus. Currently, DOS and USAID provide the largest share of DOI-ITAP funds, which supports training and technical assistance efforts in Bahrain, Costa Rica, the Dominican Republic, El Salvador, Guatemala, Jordan, Morocco, Nicaragua, Oman, the Philippines, the Republic of Georgia, and Tanzania.

DOI-ITAP's capacity-building efforts span the range of DOI expertise, including protected area management, environmental education, natural and cultural resource law enforcement, mining policy and regulations, and endangered species management. Recent proposals have centered on DOI's unique positioning as a leader in climate change adaptation, mitigation, and education and outreach. DOI-ITAP is seeking to apply the combined expertise of its bureaus to establish programs addressing climate change in at least 10 countries worldwide.

U.S. Trade and Development Financing

The U.S. government facilitates the transfer of technologies by providing official assistance, export credits, project financing, risk and loan guarantees, and investment insurance to U.S. companies, as well as credit enhancements for host-country financial institutions. These activities help leverage direct investment by decreasing the risks associated with long-term, capital intensive projects or projects in

nontraditional sectors. Supported projects include a number of clean technology projects that further climate change objectives.

Overseas Private Investment Corporation

The Overseas Private Investment Corporation's (OPIC's) core mission is to support economic development by facilitating U.S. private investment in developing countries and transition economies. OPIC provides project financing and political risk insurance for U.S. company projects covering a range of investments, including many independent power projects in developing countries. OPIC also supports a variety of private investment funds that make direct equity and equity-related investments in new, expanding, and privatizing companies in emerging market economies.

OPIC evaluates all project applications on the basis of their contribution to economic development to ensure the successful implementation of the organization's core developmental mission, and prioritizes the allocation of scarce resources to projects on the basis of their developmental benefits. With its expanded commitment to the clean technology and renewable energy sector (i.e., via its existing Finance, Political Risk Insurance, and Investment Funds programs), OPIC anticipates significant increased future support of clean technology and renewable energy projects in OPIC-eligible countries.

OPIC Finance and Political Risk Insurance Programs

Support for renewable energy and clean technology projects is a priority area for OPIC. OPIC's Finance and Political Risk Insurance programs have considered over 100 proposals each year for 2008 and 2009 to determine projects suitable for OPIC support. OPIC is currently tracking renewable energy and clean technology projects that total nearly $2 billion for potential support, in the areas of energy-efficient buildings, solar power, hydroelectric power, wind power, geothermal power, waste-to-energy, and wastewater treatment. OPIC has a substantial portfolio of existing renewable energy and clean technology projects.

Investment Funds

In FY 2010 OPIC expects to commit $523 million in finance, investment funds, and insurance for renewable energy and clean technology projects, nearly a threefold increase over FY 2009. Target geographies include all OPIC-eligible emerging market countries throughout Asia, Latin America, Central and Eastern Europe, and the Middle East. Target sectors include those with proven renewable energy technologies (e.g., solar, wind, small hydro); energy efficiency systems and equipment; and water, waste, and emission control treatment.

OPIC financing will be provided to invest in existing companies and/or projects in the aforementioned renewable energy and environmental sectors in OPICeligible countries. Such investments will help to catalyze the sustainable development of emerging markets in which OPIC operates. By the end of 2010, OPIC anticipates signed formal commitments with the funds. Furthermore, OPIC expects the majority of

such funds to have already begun investing in existing companies and/or projects within the aforementioned renewable energy and environmental sectors in OPICeligible countries.

Export-Import Bank

The Export-Import Bank (Ex-Im), the export credit agency of the United States, provides financial support to exporters of U.S. equipment and services through its insurance, working capital, and loan guarantee programs. Ex-Im also features an Environmental Exports Program (EEP) that provides enhanced financial support for renewable energy and other environmentally beneficial exports. Under the EEP, Ex-Im provides special support for exports of air, water, and soil pollution cleanup; ecological and forestry management; renewable and alternative energy projects, including photovoltaic, wind, biomass, fuel cells, waste-to-energy, hydroelectric, clean coal, and geothermal projects; products to measure or monitor air or water quality; equipment to reduce emissions or effluents; environmental impact assessments and ecological studies; environmental training services; and products designed to improve energy efficiency.

Ex-Im also offers foreign buyers extended repayment terms of up to 18 years to cover the purchase of U.S. goods and services for renewable energy projects. This special support is available for exports to wind energy, geothermal energy, hydropower, tidal, wave power, solar photovoltaic, solar thermal, ocean thermal, sustainable biomass, and certain bioenergy projects. In FY 2010, Ex-Im expects to commit nearly $183 million in loan guarantees, insurance, and working capital guarantees to support U.S. renewable energy exports to various foreign countries, which greatly exceeded amounts authorized for these exports in previous years ($23.1 million in FY 2009, $30.4 million in FY 2008, $2.7 million in FY 2007, $9.8 million in FY 2006, and $16.8 million in FY 2005).

USAID Development Credit Authority

The Development Credit Authority (DCA) is a broad financing authority that allows USAID to use credit guarantees to pursue any of the development purposes specified under the Foreign Assistance Act of 1961, as amended. DCA seeks to provide USAID the flexibility to make more rational choices about appropriate financing tools used in development, including individual or combined loans, guarantees, and grants. DCA activities are designed and managed by USAID's overseas missions.

Credit guarantees offer several distinct and attractive advantages over other forms of assistance, and leverage and maximize USAID resources by providing access to local private capital, sharing risk to encourage lending, mobilizing local private capital, and enhancing "the demonstration effect" so that other financial institutions will be induced to enter the market. USAID/El Salvador used a DCA guarantee to enable Citibank de El Salvador to lend to businesses that wanted to invest in energy-efficient upgrades. One guaranteed loan for $300,000 allowed a family-owned milk processing company to invest in a new filtration system and wastewater treatment facility. With these upgrades, the company now meets the environmental compliance standards under the Central America–Dominican Republic–United States Free Trade Agreement, and is certified by the U.S. Food and Drug Administration.

USAID Global Development Alliance

USAID's Global Development Alliance (GDA) business model links U.S. foreign assistance with the resources, expertise, and creativity of governments, business, and civil society. Through public–private partnerships, USAID and its partners combine their assets to address pressing development problems, achieving a solution that would not be possible for any individual partner alone.

Through 2009, USAID has cultivated more than 900 alliances with 1,700 partners to extend development assistance programming. For example, USAID and Firestone are planning to launch a GDA that will reinvigorate Liberia's rubber industry and support the development of a clean energy power plant in Monrovia through a rubber tree cultivation and recycling program. The partnership is expected to increase export-driven trade and growth, while boosting Liberia's clean energy initiatives.

In 2005, USAID created a new obligating instrument—the collaboration agreement—to provide funding directly to a nontraditional partner. For example, PFAN, an alliance of private-sector companies and investors described earlier in this chapter, receives funding from USAID to help developers of climate-friendly technologies in developing countries find financing.

U.S. Trade and Development Agency

The U.S. Trade and Development Agency (USTDA) is a foreign assistance agency that delivers its program commitments through overseas grants and contracts with U.S. firms that are designed to support activities that will have a strong and measurable development impact on emerging markets and offer opportunities for commercial participation by U.S. firms. USTDA's approach to foreign assistance generates mutually beneficial results through the formation of long-term business relationships that foster sustainable development, facilitate local private-sector growth, improve trade and investment climates, and advance U.S. commercial innovations.

USTDA's efforts are helping to realize the Obama administration's goal of reversing the effects of climate change, creating green jobs, and helping move emerging economies to a low-carbon energy base. For example, USTDA programs are providing countries with the resources necessary to discern what technologies are needed to implement a low-carbon development strategy as well as manage the technologies if and when they are implemented. In this way, USTDA is a bridge and a catalyst in paving the way for the acceptance and deployment of more environmentally sound energy production in emerging economies. USTDA has been a catalyst for new geothermal power generation in Turkey and Ethiopia; deployment of methane-capturing coalbed methane (CBM) power generation in China; and the construction of new CBM power development in Botswana. Going forward, USTDA is investing in solar, wind, energy efficiency, and new advanced technologies to help emerging economies expand their use of clean renewable energy and optimize current energy resources.

U.S. Private-Sector Assistance

The private sector has a crucial and complementary role to play in the successful transfer of technical know-how and climate-friendly technologies to developing and transition countries. The private sector is well placed to provide much of the human and financial capital for effective deployment of these technologies. While public-sector funding for climate change activities continues to grow, U.S. foreign direct investment by the private sector still comprises the vast majority of funding going to climate change and related activities in developing and transition countries.

The Obama administration also recognizes the importance of creating incentives for the development of low-carbon energy sources. Yet, most information relating to financing and implementing private-sector projects is proprietary. Furthermore, the classification of domestic exports in available databases uses broad categories that do not allow for the specific and comprehensive identification of clean or lower-carbon technologies and products. As a result, only public sector funding is included in this chapter, with the intention of providing increased transparency.

2012 Reporting[2]

Overview of U.S. Fast Start Climate Financing in Fiscal Years 2010 & 2011

In December 2009, President Obama and leaders from around the world came together in Copenhagen at the 15th Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC) to chart a new course in the global effort to tackle climate change. The resulting Copenhagen Accord reflected - for the first time in an international outcome - measurable, reportable and verifiable mitigation targets and actions by all major economies, and set out new institutions and approaches for adaptation, technology and finance.

The finance outcomes in Copenhagen included a collective commitment by developed countries to provide resources to developing countries approaching $30 billion in the period 2010-2012. The elements that leaders endorsed in the Copenhagen Accord, including this "fast start" finance commitment, were carried forward in decisions of the 16th Conference of the Parties in Cancun in December 2010.

Fulfilling Our Commitment

Since Copenhagen, the United States has substantially increased its investments in international climate finance. U.S. fast start finance in Fiscal Year (FY) 2011 totaled $3.1 billion, consisting of $1.8 billion of Congressionally appropriated assistance and $1.3 billion from development finance and export credit agencies. To date, the U.S. contribution to fast start finance from these sources totals $5.1 billion, including a contribution of $2.0 billion from FY 2010. Ultimately, the total U.S. contribution to fast start financing will also include funding from FY 2012.

Consistent with President Obama's Global Development Policy, we are using the full range of mechanisms – bilateral, multilateral, and private – to ensure that our climate finance is efficient, effective, and innovative; based on country-owned plans; and focused on achieving measurable results. We are focusing our bilateral efforts on those countries and regions where we have a comparative advantage and are coordinating closely with other donors. U.S. fast start finance is provided to developing countries through a variety of channels, including:

- Congressionally appropriated climate finance: grant-based assistance through the Global Climate Change Initiative – a whole-of-government effort to promote low emission, climate resilient economic growth around the world – and additional grant based assistance that delivers significant climate co-benefits. This includes:
    - Bilateral, regional, and multi-regional programs, principally through the U.S. Agency for International Development (USAID) but also through the U.S. Department of State,

[2] USA (2012). Meeting the Fast Start Commitment: U.S. Climate Finance in Fiscal Year 2011, 7 pp.

Millennium Challenge Corporation (MCC), and other U.S. Government agencies administering such programs; and

- Multilateral climate finance vehicles, including the Climate Investment Funds (CIFs), the Global Environment Facility (GEF), the Least Developed Countries Fund (LDCF), and the Special Climate Change Fund (SCCF).

- Development finance and export credit agencies: the Overseas Private Investment Corporation (OPIC) and the Export-Import Bank of the United States (Ex-Im) use public money to mobilize much larger sums of private investment directed at mitigation through loans, loan guarantees and insurance for the deployment of clean energy technologies in developing countries.

Also, U.S. fast start finance falls under three pillars: adaptation, clean energy, and sustainable landscapes, the last of which focuses largely on helping countries to slow, halt, and reverse deforestation. Within each of these pillars, a clear set of criteria was developed to guide the scale and focus of investments.

For adaptation, U.S. foreign assistance prioritizes countries that are highly exposed to climate change impacts, and countries that are vulnerable to climate variability and change.

For clean energy, U.S. assistance focuses on countries and sectors offering significant emission reduction potential, as well as countries that offer the potential to demonstrate leadership in sustained, large-scale deployment of clean energy. We also are investing in regional energy programs to bolster regional energy grids to support clean energy development.

For activities to promote climate objectives with respect to land use and forests, U.S. support prioritizes mitigation potential; countries with the political will to implement large-scale efforts to reduce emissions from deforestation, forest degradation, and other land-use activities; and potential for performance-based approaches.

U.S. assistance and technical agencies are also supporting a cross-cutting objective – building national capacity for Low Emission Development Strategies (LEDS). This effort is currently developing a set of tools and methodologies to support partner countries and governments in their efforts to think strategically about, plan for, and initiate implementation of economic growth with a reduced emissions trajectory.

Of the $1.8 billion in FY 2011 Congressionally appropriated assistance, $563 million is for adaptation, and $1.28 billion is for mitigation, which includes $329 million for sustainable landscapes or REDD+ related activities and $946 million for clean energy. All resources provided by the development finance and export credit agencies support mitigation activities.

Bilateral Finance

Bilateral finance is a term that applies to grant based U.S. assistance programmed directly through multi-regional, regional and bilateral programs rather than provided as contributions to multilateral funds or organizations. For FY 2011, $1.5 billion of U.S. climate support is being provided through bilateral finance to developing countries, principally supported by USAID. This assistance is targeted to help the most vulnerable countries adapt to climate impacts and to partner with countries with significant opportunities to mitigate their emissions. Allocation decisions for each program are made by the administering U.S. federal agency.

Multilateral Finance

Multilateral channels also play an important role in U.S. climate assistance. Multilateral programs promote institutional structures governed jointly by developed and developing countries, which are needed for a coordinated, global response to climate change. Multilateral assistance leverages funding from other governments, development partners and the private sector, makes capital investment in infrastructure, provides a range of tailored financial products, and works across a wide range of countries. Similar to bilateral finance, multilateral finance is allocated for adaptation, clean energy, and sustainable landscapes activities in developing countries.

Examples of Bilateral Programs

- he United States is investing $15.7 million in a biodiversity program in central Africa that is providing climate change benefits in seven countries of the Congo Basin. The program will work to slow the rate of tropical forest and biodiversity loss by increasing institutional capacity, improving governance, expanding scientific knowledge of natural resources, and creating economic alternatives for local communities.

- In Bangladesh, the United States is providing $11 million in support of climate change adaptation and biodiversity conservation, and will expand its involvement with the conservation and better management of the Sundarbans—the largest mangrove forest in the world—aiming not only to mitigate the effects of natural disasters, but also to provide additional income for poor communities.

- In Indonesia, the United States is allocating approximately $332 million to the proposed “Green Prosperity” Project, which is a 5-year project designed to promote environmentally sustainable, low carbon economic growth consistent with its development and climate change strategies. The centerpiece of the Project is a funding facility that will support investments in two areas: (i) expansion of renewable energy; and (ii) sustainable management and use of natural resources.

- The United States is providing $4.6 million for the Africa Infrastructure Program (AIP) to provide clean energy capacity building assistance to governments in Southern Africa. The program will work with partner government agencies responsible for the development of policies, integrated resource plans, and energy sector reforms, and will result in the deployment of clean and renewable energy technologies and programs that reduce greenhouse gas emissions.

- In Guatemala, the United States is investing $7.6 million in a broad adaptation and sustainable land use program that works to build resilience to climate change impacts and reduce greenhouse gas emissions from land use change. The program will include activities to reduce risks from natural disasters and other projected climate change impacts, conserve biodiversity, and improve natural resource management.

- In six countries in Central America, the United States is providing $4 million to assist governments and nongovernmental organizations with building and harmonizing regional capacity for Reducing Emissions from Deforestation and Forest Degradation (REDD+) and, where possible, to build regional momentum by drawing lessons from Mexico's successful experience with REDD+.

- In the Andean region of South America, the United States is investing $2 million to support efforts to understand and manage glacial ice and water resources in the face of projected dramatic climate change impacts. Specific activities may include researching ice and water dynamics, supporting regional cooperation on glacier and related water management issues, and promoting awareness about the importance of modifying water resource management in response to climate change.

- In Mali, the United States is investing $3 million to reduce communities' vulnerability to climate change impacts and alleviate poverty in the process. In coordination with the Malian Department of Meteorology and other research institutions, the United States will improve the distribution of 10-day and seasonal forecasts and the generation of climate change impact data, while working with the agricultural community to integrate this information into decision-making processes.

In FY 2011, the United States delivered $235 million to the CIFs, including:

- $185 million to the Clean Technology Fund (CTF), which aims to catalyze sustained, long-term clean energy transformation in developing countries;

- $30 million to the Forest Investment Program (FIP), which provides financing for investments in forest governance and institutional capacity development, as well as measures to reduce deforestation drivers outside the forest sector;

- $10 million to the Pilot Program for Climate Resilience (PPCR), which helps highly vulnerable countries prepare for and respond to the unavoidable effects of climate change; and

- $10 million to the Scaling-Up Renewable Energy Program in Low Income Countries (SREP), which helps the poorest countries to use renewable energy to expand energy access, stimulate economic growth, and reduce vulnerability to energy shocks.

In addition, in 2011 the United States committed:

- $45 million to the GEF to support developing countries' efforts to develop and implement innovative programs in clean energy and REDD+.

- $25 million to the LDCF and $10 million to the SCCF, multilateral funds created under the UNFCCC that support financing to help developing countries adapt to the impacts of climate change.

Development Finance and Export Credit Agencies

U.S. development finance and export credit agencies play a critical role in using a core of public money to mobilize much larger sums of private investment directed at mitigation in developing countries. In FY 2011, OPIC and Ex-Im provided $1.3 billion in investments, direct loans, loan guarantees, and insurance to support the deployment of clean energy technologies.

OPIC, in particular, has implemented a substantial increase in its clean energy financing activities from FY 2010 to FY 2011. As the U.S. Government's development finance agency, OPIC contributes to U.S. development and foreign policy objectives in a way that catalyzes private sector investment.

Most Ex-Im and OPIC programs are transaction based, meaning that financing responds to market demand for their products rather than being pre-allocated to certain countries or activities. For purposes of U.S. fast start finance, only the value of OPIC and Ex-Im commitments to these transactions is counted, not the additional private capital leveraged by these commitments. But it is worth noting that the $1.3 billion of OPIC FY 2011 financing leveraged at least an additional $2.3 billion of private investment.

Looking Ahead

Public finance will continue to play a critical role beyond the fast start period, particularly for adaptation. For this reason, the United States remains committed to providing public climate finance contributions in the years beyond 2012.

However, public finance alone will not be sufficient to address climate change. Our aim is to take a finite but growing core of public money and combine it with smart policies to substantially increase private flows into climate friendly investments in both mitigation, and where possible, adaptation. These resources will be especially important as we, together with our developed country partners, work towards our collective goal to mobilize $100 billion per year by 2020, in the context of meaningful mitigation actions and transparency on implementation.

The United States has already started to lay the foundation for private sector investment in the post fast-start period by encouraging development finance and export credit agencies, such as OPIC and Ex-Im, to invest in clean energy technologies, and by leveraging strong private sector investments across all three pillars through our multilateral programs. We will continue to work aggressively to find solutions that include both public and private finance components.

U.S. Fast Start Finance Country Fact Sheets

In addition to this overview, the United States has prepared individual fact sheets for countries receiving U.S. fast start finance for FY 2011.

Each country fact sheet describes projects and programs funded in whole or in part by the U.S. government, including:

- U.S. Government programs focused exclusively in that country (e.g., bilateral assistance programs in a specific country);
- U.S. Government centrally- or regionally based programs that benefit that country among others (e.g., activities undertaken by the USAID Regional Development Mission for Asia in a group of Asian countries.)
- Projects financed by OPIC and the Ex-Im Bank, and;
- Initiatives funded by multilateral climate funds to which the United States is a donor (e.g., programs undertaken by the CTF).

In addition, more than $400 million of Congressionally appropriated assistance is delivered through global programs. These programs' benefits are spread across many nations, and cannot be narrowly attributed to any single nation.

Examples of Multilateral Programs

- The U.S. contributed $185 million to the Clean Technology Fund (CTF) in FY 2011, in addition to the $300 million we contributed in FY 2010. Among the investments approved by the CTF was for Egypt to continue to partner with the African Development Bank (AfDB), the International Finance Corporation (IFC), and the International Bank for Reconstruction and Development (IBRD) to implement a Clean Technology Fund (CTF) investment plan that uses $300 million in concessional CTF financing to mobilize more than $1.9 billion in total investments in wind power and sustainable urban transportation.
- The U.S. contributed $10 million to the Scaling-Up Renewable Energy Program (SREP) in FY 2011. Among the investments approved by SREP was a $30 million pilot program, in partnership with the Asian Development Bank (ADB) and the World Bank, for the Maldives to develop a program of investments that will help scale-up the use of renewable energy to expand energy access, stimulate economic growth, and reduce vulnerability to energy shocks.
- The U.S. contributed $10 million to the Pilot Program for Climate Resilience (PPCR) in FY2011. In partnership with the African Development Bank (AfDB) and the World Bank, Niger has developed a PPCR investment strategy that uses $50 million in grant funding and $60 million in concessional loans for projects in areas including water resource management, weather and climate forecasting systems, and social and economic infrastructure for high-risk climatic zones.

To ensure accurate and comprehensive reporting of this information, all U.S. Government agencies involved in fast start activities were asked to provide information on climate-related international programs or activities supported with FY 2011 funding. They were specifically asked not to include activities supported with FY 2010 funding and therefore included in last year's fast start finance report. Agencies also were given specific guidelines on what constitutes climate finance and asked to indicate whether activities supported adaptation, clean energy, or sustainable landscapes. To avoid double-counting, agencies were prohibited from attributing the same funding to multiple categories.

This overview and the country-specific fact sheets together represent a snapshot of activities planned and implemented at the time of writing. In many cases, plans and activities will be further refined in

consultation with partners, and any individual activity may be subject to change as circumstances evolve. While aiming to cover as many initiatives as possible, the fact sheets do not capture all activities, including all activities of U.S. Government agencies or all contributions to multilateral programs that focus in part on climate change.

Furthermore, this update only addresses U.S. fast start finance for FY 2011. In many instances, the FY 2011 finance reported for certain projects is only a portion of the ongoing funding associated with those projects, and projects undertaken with funding from any one fiscal year are typically carried out over multiple years. For example, activities undertaken with FY 2010 funds are, in most cases, ongoing. For information on FY 2010 activities, please see the FY 2010 fast start finance report, available at: www.state.gov/faststartfinance. Bilateral assistance is disbursed by each implementing U.S. Government agency according to its own financial procedures; these vary across agencies and accounts.

Examples of Global Programs

- The United States is providing $10.2 million for Enhancing Capacity for Low Emission Development Strategies (EC-LEDS), a whole-of-government program to support developing countries' efforts to pursue long-term, transformative development and accelerate sustainable, climate-resilient economic growth while slowing the growth of greenhouse gas emissions. The initiative will build LEDS-related capacities in up to 20 partner developing countries, provide targeted technical assistance – for example with greenhouse gas inventories, economic and sectoral modeling and analysis, stakeholder engagement, and forest and clean energy interventions – and build a shared global knowledge base on LEDS.
- The United States is investing $7 million in the SERVIR Regional Visualization and Monitoring System to improve capacity of government counterparts and key non-governmental stakeholders to make use of geospatial information and tools for decision-making related to climate change adaptation, land-based sequestration, and climate resilient agriculture, natural resources management, and health. SERVIR integrates satellite data, ground-based observations, and forecasts to provide information about environmental changes and to improve response to natural disasters.

The FY 2011 data will continue to evolve as some projects are still being developed. As necessary, we will provide updated information. Similarly, after further review and consultation with partners, we have revised our FY 2010 contribution level from a total of $1.7 billion to a total of $2.0 billion, consisting of $1.6 billion of Congressionally appropriated assistance and $400 million from development finance and export credit agencies. This increment from last year's account includes additional financing from agencies like the U.S. Trade and Development Agency, as well as a newly signed Millennium Challenge Corporation compact with the Government of Malawi, which includes $139 million of FY 2010 funds. The previous estimate of the FY 2010 U.S. contribution consisted of $1.3 billion of Congressionally appropriated assistance and $400 million from development finance and export credit agencies.

The fact sheets also include programs with significant climate co-benefits (e.g., relevant biodiversity and food security activities). Activities with climate co-benefits applicable to a certain country are included in many cases.

However, this update does not capture the totality of co-benefits provided through U.S. support. For example, in 2010, the U.S. invested a total of $900 million in atmospheric, oceanic, and terrestrial systems that provide global-scale climate observations and monitoring (2011 totals have not yet been finalized). In collaboration with other countries, the United States makes this data available globally, including for countries to help plan for adaptation. This spending on global-scale climate observations and monitoring is not counted as fast start finance or included in the fact sheets for FY 2010 and FY 2011.

Examples of OPIC and Ex-Im Investments

- In Kenya, OPIC committed $310 million for financing a project that will double the generating capacity of a geothermal power plant, adding new electricity to the country's grid through the use of environmentally friendly American technology, and creating both American and Kenyan jobs in the process. Geothermal power production emits negligible greenhouse gases and other air pollutants.
- In India, Ex-Im Bank authorized a loan of $84.3 million to finance solar photovoltaic modules and related equipment for the Dahanu Solar project located in the state of Rajasthan.
- In Georgia, OPIC is lending $58 million for the development, construction and operation of a 46.4 MW hydropower generation facility located on the Mtkvari River, increasing the supply of renewable electricity in the region.
- In the Kingdom of Thailand, OPIC is investing $250 million in the development, construction and initial operations of a portfolio of approximately 50 solar photovoltaic power projects, which will increase the capacity of Thailand's national grid.

For multilateral programs and projects, fact sheets differentiate between the total amount provided by the multilateral fund and the U.S. contribution to that fund in FY 2011. Only the U.S. FY 2011 contribution to the fund is included in the total U.S. FY 2011 fast start finance figures. In addition, this update does not discuss activities with climate co-benefits that fall under the regular programs of multilateral institutions, such as the World Bank, regional development banks, or United Nations agencies, such as the United Nations Development Programme. However, as the United States is the largest contributor to many of these institutions, the additional climate benefits from such programs attributable to U.S. support are substantial. The United States will continue to update information about its climate finance budgets and actual allocations through FY 2012.

2013 Reporting[3]

Summary of U.S. Fast Start Climate Finance i n Fiscal Years 2010 - 2012

In December 2009, President Obama and heads of state from around the world met in Copenhagen at the 15th Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC). The resulting Copenhagen Accord committed developed countries to collectively provide resources approaching $30 billion in the period 2010-2012 to support developing countries in their efforts to adapt to and mitigate climate change. This "fast start" finance commitment was carried forward in decisions of the 16th Conference of the Parties in Cancun in December 2010.

2012 marks the third and final year of the fast start finance period. This report reviews U.S. fast start finance provided in Fiscal Year (FY) 2012 and summarizes support provided across all three years of the commitment, covering FY 2010, 2011 and 2012.

In accordance with the fast start commitment made in Copenhagen, the United States has provided $7.5 billion during the three-year fast start finance period. Of this amount, $2.3 billion was provided in FY 2012. The three-year fast start finance total consists of more than $4.7 billion of Congressionally appropriated assistance and more than $2.7 billion from U.S. development finance and export credit agencies.

Highlights of U.S. Fast Start Finance 2010-2012

Since the beginning of the fast start finance period, the United States has substantially increased its support to developing countries to address climate change. In addition to providing a total of $7.5 billion of fast start finance, the United States has achieved significant progress in several areas:

- A fourfold increase in annual appropriated climate assistance since 2009, with a nine-fold increase in dedicated adaptation assistance.
- Increased support for clean energy financing in developing countries from the U.S. development finance institution, the Overseas Private Investment Corporation (OPIC). OPIC has increased its clean energy financing from $8.9 million in 2008 to an average of $663.8 million annually over the period 2010-12. This support has leveraged an estimated total of $2.7 billion in additional private investment over the 2010-12 period (The United States does not count this leveraged amount as part of its fast start finance commitment).
- Increased contributions to multilateral climate funds. Over the fast start finance period, the U.S. has contributed $1.2 billion to multilateral climate change funds. In addition to providing $148.9 million to the Global Environment Facility (GEF) for climate change programming, and $914.5

[3] USA (2013). Meeting the Fast Start Commitment: U.S. Climate Finance in Fiscal Year 2012, Executive Summary, 14 pp.

million to the Climate Investment Funds (CIFs), the United States became a contributor for the first time to the Least Developed Countries Fund (LDCF) and the Special Climate Change Fund (SCCF), providing up to $120 million over the period 2010-12 (the 2012 contribution is still to be determined).

- Innovative programs launched to catalyze significant climate benefits, including the U.S.-Africa Clean Energy Finance initiative (U.S.-ACEF); the Renewables, Efficiency, and Deployment Initiative (Climate REDI); and Enhancing Capacity for Low Emission Development Strategies (EC-LEDS). In addition, U.S. support helped foster international communities of practice to accelerate knowledge sharing across regions through efforts such as the Adaptation Partnership and the Low Emission Development Strategies Global Partnership. Details of these and many other programs are provided below and in the country fact sheets.

- Clear, comprehensive, and transparent reporting of fast start finance information.

U.S. Fast Start Finance through Three Lenses

This section describes U.S. fast start financing in three ways: by channel, thematic pillar, and geography.

A. CHANNELS OF U.S. FAST START FINANCE

U.S. fast start finance is provided to developing countries through the following channels:

- Congressionally appropriated finance, which is delivered through both bilateral and multilateral channels;

- Development finance, delivered through OPIC; and

- Export credit finance, delivered through the U.S. Export-Import Bank (Ex-Im).

Table 1 – U.S. Fast Start Finance by Channel (in US$ millions)

CHANNEL	2010	2011	2012	TOTAL
Congressionally Appropriated Assistance (channeled through USAID, State, Treasury, MCC, and other USG agencies)	1,583.8	1,878.5	1,255.2	4,717.5
Development Finance (channeled through OPIC)	155.0	1,114.8	721.6	1,991.4
Export Credit (channeled through Ex-Im)	253.0	194.7	301.2	748.9
TOTAL	1,991.8	3,188.0	2,278.0	7,457.8

* Included in these totals are 1) activities that were conceived and funded specifically to achieve climate-related objectives, and 2) activities that provide climate co-benefits (e.g., biodiversity and food security activities). In cases where only a fraction of a program's budget supports climate benefits, only that relevant fraction has been counted, not the entire program budget.

The United States provides its fast start finance support through a variety of different financial instruments. All Congressionally appropriated funds are grant-based, as is all U.S. support for adaptation. Development finance and export credit agencies provide support in the form of concessional loans, loan guarantees, and insurance.

- Congressionally appropriated grant-based assistance

The United States provides Congressionally appropriated, climate change-dedicated grant-based assistance via the U.S. Global Climate Change Initiative (GCCI) – a whole-of-government effort to promote low emission, climate resilient economic growth around the world – as well as additional Congressionally appropriated grant-based assistance that delivers climate co-benefits. This assistance is delivered through both bilateral and multilateral channels.

- Bilateral climate finance

Grant-based U.S. bilateral climate assistance is programmed directly through bilateral, regional, and global programs. These programs are principally supported by the U.S. Agency for International Development (USAID) but also through the U.S. Department of State, Millennium Challenge Corporation (MCC) and other U.S. Government agencies. Allocation decisions for each program are made by the administering U.S. Government agency. Assistance is targeted to help the most vulnerable countries adapt to climate change impacts and those countries with significant opportunities to mitigate their greenhouse gas (GHG) emissions. Specific details on U.S. bilateral climate finance are provided in the country fact sheets.

- Multilateral climate finance

Multilateral climate change funds feature institutional structures governed jointly by developed and developing countries, and they play an important role in promoting a coordinated, global response to climate change. Multilateral assistance – channeled through the Department of Treasury and Department of State – leverages funding from other governments, development partners and the private sector to enable large-scale infrastructure investments with a range of tailored financial products across a wide range of countries. As with bilateral finance, U.S. contributions to multilateral climate funds are allocated to adaptation, clean energy, and sustainable landscape activities.

Over the period FY 2010-12, the United States is providing $1.2 billion through multilateral climate change funds including the Climate Investment Funds (which include the Clean Technology Fund, the Forest Investment Program, the Pilot Program for Climate Resilience, and the Scaling-Up Renewable Energy Program in Low Income Countries), the Global Environmental Facility, the Least Developed Countries Fund, the Special Climate Change Fund, and the Forest Carbon Partnership Facility. Support to these multilateral funds is detailed in the table below.

Table 2 – U.S. Fast Start Finance to Multilateral Climate Funds (in US$ millions)

MULTILATERAL FUND	2010	2011	2012	TOTAL
Clean Technology Fund	300.0	185.0	229.6	714.6
Forest Investment Program	20.0	30.0	37.5	87.5
Pilot Program for Climate Resilience	55.0	10.0	18.7	83.7
Scaling-Up Renewable Energy Program in Low Income Countries	0.0	10.0	18.7	28.7
Global Environment Facility	44.0	45.0	60.0	149.0
Least Developed Countries Fund	30.0	25.0	25.0	80.0
Special Climate Change Fund	20.0	10.0	10.0	40.0
Forest Carbon Partnership Facility	10.0	8.0	tbd	tbd

EXAMPLES OF U.S. FAST START FINANCE TO MULTILATERAL FUNDS

The United States has contributed $714.6 million during the fast start period to support the critical work of the Clean Technology Fund (CTF). The CTF catalyzes clean energy investments in emerging economies with rapidly growing emissions by helping countries achieve access to renewable energy, green growth, and energy efficiency in transport, industry and agriculture. The CTF has already provided funding for 26 projects, including the installation of one gigawatt of concentrated solar power across the Middle East and North Africa, wind power in South Africa, sustainable transport in Colombia and energy efficiency in Ukraine. These projects are part of 13 Investment Plans totaling over $4.3 billion which are expected to attract over $36 billion in total planned investments. The Investment Plans are estimated to reduce or avoid 1.6 billion metric tonnes of carbon dioxide over time – the equivalent of Russia's annual emissions.

In FY 2010, the United States made its first contributions to the Least Developed Countries Fund (LDCF) and the Special Climate Change Fund (SCCF), multilateral funds created under the United Nations Framework Convention on Climate Change. During FY 2010 through FY 2012, the United States has contributed $80 million to the LDCF and $40 million to the adaptation window of the SCCF 3. U.S. support has increased the average funding available per country, enabling countries to integrate adaptation into larger development programs that address multiple sectors and are therefore anticipated to result in more substantial and long-lasting resilience to climate risks. Farmers now have access to a range of climate-resilient technologies, such as drought-resistant crops. More communities around the world are using early warning systems, reducing their risk to disasters from extreme events, such as storms and droughts.

The United States provides multilateral funding to support all three phases of REDD+ from readiness (Phase 1) through strategy implementation (Phase 2) to payment for results (Phase 3). The U.S. funds both the Readiness Fund of the Forest Carbon Partnership Facility (FCPF), which supports 36 developing countries in preparing strategies and programs, as well as engaging stakeholders, to advance REDD+; and the Forest Investment Program (FIP), which supports efforts to strengthen forest governance and institutional capacity, as well as measures to reduce drivers of deforestation outside the forest sector in eight countries. The U.S. also funds the FCPF Carbon Fund to pilot an international results-based system that will reward progress made in reducing deforestation and the associated emissions. Together the FCPF and FIP have contributed to advancing global knowledge and technical approaches to REDD+, as well as supporting the strategies and programs that will lead to increased forest protection, reduced GHG emissions, and the many other benefits provided by healthy, intact tropical forests.

During the fast start finance period, the United States has contributed $149 million to the Global Environment Facility (GEF) to support developing countries' efforts to develop and implement innovative programs in clean energy and sustainable landscapes. Since the start of GEF's Fifth Replenishment in FY 2011, the GEF has committed nearly $620 million of funding for projects promoting sustainable landscapes and clean energy. Estimated GHG emissions reductions from these committed projects have already surpassed the GEF's Fifth Replenishment target of reducing 500 million metric tonnes of CO2.

- **Development finance and export credit finance**

The Overseas Private Investment Corporation (OPIC) and the Export-Import Bank of the United States (Ex-Im) play a critical role by using public money to mobilize much larger sums of private investment directed at mitigation through loans, loan guarantees and insurance in developing countries. In FY 2012, OPIC and Ex-Im provided over $1 billion in investments, direct loans, loan guarantees, and insurance to support the deployment of clean energy technologies. Over the three-year fast start finance period, these agencies have provided over $2.7 billion in public finance support. Those numbers do not include private investment leveraged.

OPIC, in particular, has implemented a substantial increase in its clean energy financing activities over the fast start finance period. As the U.S. Government's development finance agency, OPIC contributes to U.S. development and foreign policy objectives while catalyzing private sector investment. During the fast start finance period, OPIC's clean energy investments are estimated to result in the creation of 853 megawatts of new renewable energy capacity in developing countries.

KEY U.S. FAST START FINANCE INITIATIVES OF GLOBAL OR REGIONAL SCOPE

At the recent Rio+20 Conference on Sustainable Development, U.S. Secretary of State Hillary Rodham Clinton announced the U.S.-Africa Clean Energy Finance (U.S.-ACEF) initiative, which brings together different financing tools of the U.S. Government to unlock low-carbon energy

investments across Africa. The initiative is providing $20 million in grant-based resources from the Department of State to cover project preparation costs for clean energy and energy efficiency. These projects are then aligned with direct project financing from the OPIC. The initiative will unlock hundreds of millions of dollars through direct OPIC financing and private sector investment into Africa clean energy projects over a four-year period. By addressing up-front investment hurdles and providing long term financing, the initiative allows private capital to flow toward the most promising clean energy projects in Africa.

During the fast start finance period, the United States launched the Enhancing Capacity for Low Emission Development Strategies (EC-LEDS) program. EC-LEDS supports developing countries' efforts to pursue low-emission, climate-resilient economic development and growth. The program now has official partnerships with thirteen countries, with a goal of twenty partners by 2013. The EC-LEDS program supports the development and implementation of country driven LEDS by providing targeted technical assistance for efforts such as greenhouse gas inventories, economic and sector modeling and analysis, and forest and clean energy-related interventions. Going forward, the EC-LEDS program will support partner governments in implementing low emission development strategies through actionable projects and programs.

The U.S. has provided $28 million over the past three years to the Global Methane Initiative (GMI). Formerly known as Methane to Markets, GMI advances the cost-effective, near-term abatement, recovery and use as a clean energy source of methane from such sources as coal mines, leaking oil and gas infrastructure, landfills, agricultural waste and municipal wastewater treatment facilities. U.S. assistance has supported technical, financial, or capacity-building efforts to more than 700 projects in GMI partner countries around the world. These efforts have led to actual GHG emission reductions of more than 86 million metric tonnes of carbon dioxide equivalent over the past three years.

During FY 2010 through FY 2012, USAID invested over $15 million in the Africa Infrastructure Program (AIP) to provide clean energy capacity building and transaction advisory assistance across sub-Saharan Africa. AIP is helping partner governments and agencies in African countries to plan and implement the key institutional, legal, commercial, and regulatory reforms that are needed to attract private investment in clean energy. AIP also provides specific technical assistance and advisory services to support governments in evaluating and negotiating clean energy projects.

Over the fast start period, USAID is providing $10 million for Powering Agriculture: An Energy Grand Challenge for Development, a program designed to increase agricultural productivity and value by supporting clean energy technologies with applications for farmers and agribusinesses in low income countries. This program is providing grant funding and technical assistance to organizations, businesses, financial intermediaries, and academic institutions that propose innovative approaches to boosting agricultural productivity and food security using clean energy.

The Export–Import Bank of the United States has committed over $750 million to support renewable energy exports to developing countries over the period FY 2010 to FY 2012. These authorizations were made in the form of loans, financial guarantees and export credit insurance policies. This financing will result in the establishment of over 850 MW of clean electricity generation capacity mainly from new solar power plants and wind energy farms.

The U.S. Trade and Development Agency (USTDA) invested $59.6 million in 139 activities to support mitigation and adaptation in emerging economies between FY 2010-2012. Through the Agency's various programs, USTDA is supporting projects designed to advance the export of U.S.-manufactured clean energy technologies and services through funding for feasibility studies on clean energy infrastructure investments, technical assistance to advance the deployment of clean energy technologies and reverse trade missions for foreign public and private sector delegates seeking to purchase goods and services from U.S. firms.

B. U.S. FAST START FINANCE BY THEMATIC PILLAR

U.S. fast start finance falls under three thematic pillars: adaptation, clean energy, and sustainable landscapes, the last of which focuses largely on helping countries to slow, halt, and reverse deforestation and related GHG emissions (Reducing Emissions from Deforestation and Forest Degradation, or REDD+). The latter two pillars are often described jointly as "mitigation" because their ultimate goal is to mitigate GHG emissions.

- For adaptation, dedicated U.S. climate assistance prioritizes countries, regions, and populations that are highly vulnerable to climate change impacts. By increasing resilience in key sectors such as food security, water, coastal management, and public health, U.S. programs help vulnerable countries prepare for and respond to increasing climate and weather-related risks. Assistance identifies and disseminates adaptive strategies; makes accessible the best available projected climate change impact and weather data to counterparts; and builds the capacity of partner

governments and civil society partners to respond to climate change risks. Examples of U.S.-supported adaptation activities include, but are not limited, to:

- Strengthening government and local community planning, response and communications capacity for climate change-related disasters, such as floods
- Increasing water storage and water use efficiency and improving natural resource management to address increased variability in water supply
- Developing innovative financial risk management tools such as index insurance to help smallholder farmers and pastoralists manage risk associated with changing rainfall patterns and drought
- Distributing drought-resistant seeds or promoting management practices that increase farmers' ability to cope with reduced rainfall

EXAMPLES OF U.S. FAST START FINANCE ADAPTATION PROGRAMS

USAID is investing in the Glacier-dependent Countries Partnership to facilitate cooperation and expert exchange between Peru and Nepal on managing glacier-related adaptation risks, which are projected to worsen due to climate change. In Peru, the United States is working with community groups and municipal governments to restore and protect critical high-mountain grasslands that will help maintain a more sustainable water supply. At Nepal's Imja Lake, USAID is partnering with local scientific institutions to study the structure of the lake, working with communities to identify the risks that need to be managed, helping the national park develop a disaster management plan, and organizing exchanges with Peruvian scientists and engineers who can share what they have learned from managing similar risks in the Andes.

To help Mozambique's coastal cities become climate resilient, USAID is investing $4 million in 2012 in the Climate Change Urban Adaptation program to support activities that increase understanding of climate change impacts and strengthen municipal adaptive capacity and climate readiness. Activities include working with coastal cities to develop early warning systems and to strengthen planning and zoning in response to sea level rise and other climate change stresses.

- For clean energy, dedicated U.S. climate assistance focuses on countries and sectors offering significant emission reduction potential over the long-term, as well as countries that offer the potential to demonstrate leadership in sustained, large-scale deployment of clean energy. The United States also supports regional energy programs that improve the enabling environments for regional energy grids to distribute clean energy, as well as global programs that focus chiefly on information sharing and building coalitions for action on net clean energy technologies and practices. U.S. fast start finance for clean energy goes to support the following activities:

- Promoting and deploying clean energy, including renewable energy technologies, energy efficient end-use technologies, and carbon accounting
- Supporting efforts to reduce gas flaring through the creation of domestic markets and productive uses for the otherwise-flared gas
- Supporting an improved enabling environment (law, regulations, policies) for integrating renewable energy into national grids

EXAMPLES OF U.S. FAST START FINANCE CLEAN ENERGY PROGRAMS

In Colombia, USAID invested a total of $17.8 million over the three-year fast start period to reduce greenhouse gas emissions through clean energy and REDD+ projects, as well as activities under the Enhancing Capacity for Low Emission Development Strategies (EC-LEDS) program. Since joining EC-LEDS, the Government of Colombia has begun to integrate climate change into its development objectives through its Low Carbon Development Strategy (LCDS). In addition to helping develop the LCDS, USAID support is enabling Colombian EC-LEDS consultants in seven government ministries to build sectoral climate action plans and create the Colombia National System for Climate Change. The EC-LEDS partnership with Colombia provides a clear example of how both the United States and its partner countries can benefit from technical collaboration to reduce greenhouse gas emissions while advancing economic growth.

OPIC is investing $16.7 million into Pakistan's first grid-connected independent biomass power project. The project will help Pakistan address its shortage of power, reduce its GHG emissions and reliance on fossil fuel, and ultimately serve as a replicable biomass model for the rest of the country. It involves construction of a 12-megawatt power plant in the Sindh Province, one that is able to exploit a variety of locally abundant agricultural waste products as fuel, such as bagasse, rice husks, cane trash, and cotton stalk.

- For activities related to land-use related mitigation (or "sustainable landscapes"), including REDD+, dedicated U.S. climate change assistance works to combat unsustainable forest clearing, for example for agriculture and illegal logging, and helping ensure good governance at local and national levels in order to support the sustainable management of forests. U.S. support prioritizes mitigation potential; countries with the political will to implement large-scale efforts to reduce emissions from deforestation, forest degradation, and other land-use activities; and potential for investments in monitoring, reporting and verification of forest cover and GHG emission reductions. Examples of activities include:

  - Supporting forest conservation projects that lead to reduced-impact logging, reduced deforestation, and thus CO2 emissions reductions

  - Supporting programs that help create incentives for communities to restore forested areas

  - Promoting the adoption of: harmonized standards; methods to measure, monitor and verify forest-related emission reductions; best and transparent practices; environmental and social safeguards; and effective participation by local communities

EXAMPLES OF U.S. FAST START FINANCE SUSTAINABLE LANDSCAPES PROGRAMS

USAID has invested $12.8 million over the three-year fast start period in sustainable forest conservation and management in the Indonesia Forest and Climate Support (IFACS) program Indonesia is the world's third largest greenhouse gas emitter, home to a globally important tropical forest basin, highly vulnerable to climate change impacts, and an important regional leader and U.S. partner. IFACS assists the Government of Indonesia, communities, and the private sector to engage in sustainable economic development and to enhance food security, while reducing deforestation rates and greenhouse gas emissions in eight major forested landscapes covering 10 million hectares on Indonesia's three largest islands—Sumatera, Kalimantan and Papua.

The year 2012 marks the beginning of the third phase of USAID's landmark Central Africa Regional Program for the Environment (CARPE) with a $13.6 million investment. The third phase of CARPE will include two major components: the Central Africa Forest Ecosystems Conservation Project (CAFEC) and the Environmental Monitoring and Policy Support Project (EMAPS). CAFEC is a program that promotes responsible management of tropical forests. EMAPS is a program that strengthens central African nations' capacity to better govern their natural resources, develop new scientific methods to monitor changes to forests, and manage natural resources in a way that strengthens biodiversity and reduces landscape-related GHG emissions.

As an organizing framework for much of its climate change mitigation assistance, the U.S. supports a cross-cutting objective – building national capacity for Low Emission Development Strategies. The U.S.

provides technical assistance to support partner countries and governments in their efforts to achieve long-term economic growth with a reduced GHG emissions trajectory.

The table below shows a breakdown of Congressionally appropriated fast start finance by pillar. All resources provided by the development finance and export credit agencies support mitigation activities but are not included in the table below.

Table 3 – U.S. Fast Start Grant-Based Assistance, Summary by Pillar (in US$ millions)

PILLAR	2010	2011	2012	TOTAL
Clean Energy	898.8	956.8	579.4	2,435.0
Sustainable Landscapes	249.0	361.5	276.2	886.7
Adaptation	436.0	560.2	399.5	1,395.8

FOCUS ON REDD+

As part of the United States' contribution towards Fast Start Financing, the U.S. announced in 2010 that it would dedicate $1 billion to help countries that put forward "ambitious REDD+ plans." The United States supports REDD+ activities as they offer cost-effective opportunities to reduce global greenhouse gas emissions while providing other sustainable development benefits. Since 2010, REDD+ assistance has been scaled up substantially to support the three U.S. objectives of REDD+ Architecture, REDD+ Readiness, and REDD+ Demonstration.

In 2010, the first year of U.S. REDD+ funding, we contributed $249 million to REDD+ activities around the world. In 2011, we significantly increased the scale and contributed $362 million to REDD+ activities. Our 2012 numbers on REDD+ currently stand at $276 million, and we expect these estimates will be revised upward as more data becomes available. Our 2013 funds are still being finalized; the United States expects to exceed $1 billion in REDD+ assistance in the very near future.

C. GEOGRAPHIC FOCUS OF U.S. FAST START FINANCE

U.S. fast start finance is notable for its geographic breadth – more than 120 countries received U.S. climate finance in the period 2010-12 across all regions.

U.S. clean energy programs prioritize today's major emerging economies and tomorrow's potentially large GHG emitters. U.S. sustainable landscapes programming focuses on globally important tropical forests, such as those in Central Africa, the Amazon, and Southeast Asia. The following table shows the regional distribution of U.S. fast start finance only for programs that can be attributed to a particular country or region (the chart does not include global or multi-regional programs).

Regional distribution of FY 2012 Congressionally-appropriated funds

Africa	36%
Asia	39%
Europe and Eurasia	2%
Latin America and Caribbean	22%
Middle East	1%

For adaptation assistance, the United States prioritizes its support to the most vulnerable developing countries, such as the Least Developed Countries (LDCs), Small Island Developing States (SIDS) and Africa, in line with the commitments made in the Copenhagen Accord. In FY 2012, the U.S. has provided nearly 80% of its country-specific adaptation funding to LDCs, SIDS or Africa.

Looking Ahead

Public finance will continue to play a critical role beyond the fast start period, particularly for adaptation. For this reason, the United States remains committed to providing public climate finance contributions in the years beyond 2012.

However, public finance alone will not be sufficient to address climate change. Our collective aim must be to combine a finite core of public money with targeted policies to substantially increase private flows into climate-friendly investments in both mitigation and adaptation. These resources will be especially important as developed countries, including the United States, work towards a collective goal of mobilizing $100 billion per year in climate change finance for developing countries by 2020, in the context of meaningful mitigation actions and transparency on implementation. The United States is laying the foundation for larger scale investments in the post fast start period by beginning to integrate climate change into its full portfolio of development assistance; by encouraging development finance and export credit agencies, such as OPIC and Ex-Im, to invest in clean energy technologies; and by leveraging significant private sector investments across all three pillars through multilateral programs. Meaningful mitigation actions and transparency in implementation will in turn serve an important role in enabling and spurring the mobilization of resources toward the 2020 goal.

U.S. Fast Start Finance Country Fact Sheets

In addition to this summary, the U.S. fast start report for FY 2012 contains individual fact sheets, organized by region, for countries receiving U.S. fast start finance for FY 2012 only (for FY 2011 and FY 2010 fact sheets, see www.state.gov/faststartfinance). Each country fact sheet describes activities funded by the United States in FY 2012, including:

- U.S. Government bilateral programs focused exclusively in that country;
- U.S. Government regional programs that benefit that country among others (e.g., activities undertaken by the USAID Regional Development Mission for Asia);
- Projects financed by OPIC and Ex-Im; and
- Initiatives funded by multilateral climate funds to which the United States is a donor (e.g., programs undertaken by the FCPF).

In addition, almost $716 million of U.S. fast start finance in FY 2012 is being delivered through global and multi-regional programs whose benefits cannot be narrowly attributed to any single country. While aiming to cover as many initiatives as possible, the fact sheets do not capture all activities, including procurement-sensitive activities or activities with ancillary climate change benefits.

In many instances, the FY 2012 finance reported for certain projects is only a portion of the ongoing funding associated with those projects, and projects undertaken with funding from any one fiscal year are typically carried out over multiple years. For example, implementation of activities undertaken with FY 2011 funds is, in most cases, still ongoing.

Fast start finance data for FY 2012 will continue to evolve as some projects are still being developed. Updated information will be provided as appropriate.

The data presented in this report represents a snapshot at the time of writing, and will continue to evolve as more information becomes available and as projects are further developed. The FY 2010 and FY 2011 totals reported here reflect slight revisions to previously reported levels, based on additional information received since the release of the 2011 report.

The fact sheets also include some programs with significant and measurable climate co-benefits (e.g., relevant biodiversity and food security activities). However, this update does not capture the totality of co-benefits provided through U.S. support.

For multilateral programs and projects, fact sheets differentiate between the total amount provided by the multilateral fund and the U.S. contribution to that fund in FY 2012. Only the U.S. FY 2012 contribution to the fund is included in the total U.S. FY 2012 fast start finance figures. In addition, this update does not discuss activities with climate co-benefits that fall under the regular programs of multilateral institutions, such as the World Bank, regional development banks, or United Nations agencies, such as the United Nations Development Program. However, as the United States is the largest contributor to many of these institutions, the additional climate benefits from such programs attributable to U.S. support are substantial.