Resource Mobilization Information Digest N° 361 July 2013

Climate Financing by Canada

Contents

2010 Fifth National Report[1]

1. Provision of "new and additional" resources

Preventing climate change is a global challenge that requires a global solution. Canada supports international efforts to address climate change in developing countries through various multilateral, bilateral and partnership channels.

Canada's most recent significant provision of new and additional resources is its contribution of CAD$100 million to the World Bank's Pilot Program for Climate Resilience (PPCR) in 2008-2009. The goal of the PPCR is to support national-level planning for adaptation to climate change in the poorest and most vulnerable developing countries. The pilot program is also expected to provide important lessons to the Canadian International Development Agency (CIDA) on integrating climate resilience and adaptation into the development and rollout of country and regional program strategies.

Canada also continues to support climate change activities through its assessed and regular contributions to the Global Environment Facility (GEF) – currently CAD$145 million over 2006-2010 for the 4th replenishment period, of which approximately one-third supports climate change activity. Since submission of its 4th National Communication, Canada has contributed CAD$13.5 million to the Special Climate Change Fund (SCCF) under the UNFCCC and administered by the GEF. Canada's contributions to the GEF are new and additional to its ongoing development assistance.

Consistent with Canada's commitment to the 2009 Copenhagen Accord, Canada will contribute its fair share to the total developed country contribution of US $30 billion for the period 2010-2012 in support of mitigation and adaptation in developing countries. Canada will also work with partner countries to mobilize US $100 billion per year by 2020 from private and public funds in support of climate change action in developing countries.

Canada's financial support to address climate change has primarily been delivered through multilateral channels. Canada's multilateral activities on climate change largely consist of its contribution to the World Bank PPCR ($100 million over 2008/09 -2009/10) and Canada's assessed contributions to the Global Environment Facility (GEF) Replenishment, approximately $36 million/year (of which the GEF directs approximately one third, or $12 million/year, to its climate change focal area).

Within Canada's geographic programming on climate change, efforts have been primarily focussed on Asia followed by the Americas with limited programming in Africa and Europe, Middle East and Maghreb. This is due to the large amount of climate change programming channelled towards China. China has

[1] Canada (2010). Fifth National Communication on Climate Change, Submitted to the UNFCCC Secretariat on 12 February 2010, 185 pp.

received almost three times more climate change funding than any other CIDA bilateral or regional program and represents almost 25% of CIDA total geographic programming in climate change.

As demonstrated in the Tables 1 and 2, while Canada's financial support to address climate change has been primarily delivered through multilateral channels, it also includes significant bilateral and international partnership activities across a range of mitigation and adaptation activities such as capacity building, forestry, agriculture, clean technology, etc.

Table 1.: Highlights of Recent Canadian International Climate Change Support

-	Partner	Year	Total (CAD$ Million)
Adaptation			
Pilot Program for Climate Resilience	Multilateral – World Bank	2008-2010	100
Caribbean Disaster Risk Management Program	Multilateral – World Bank	2007-2015	20
Global Facility for Disaster Risk Reduction: Track II	Multilateral – World Bank	2006	3.5
GEF: SCCF – Adaptation	Multilateral – Global Environment Facility	2005-2007	11
Building Response to Climate Change in Nigeria	Bilateral	2007-2012	5
Tomini Bay Sustainable Coastal Livelihoods and Management	Bilateral	2007-2012 4.7	
Sahara and Sahel Observatory	Bilateral	2005-2009	3.3
International Research Initiative on Adaptation to Climate Change	International Partnership	2010-2015	6.25
Adaptation in Africa	International Partnership	2006-2012	15
Climate Change, Agriculture and Food Security" Challenge Program - CGIAR	International Partnership 2010-2012	5.5	
Mitigation			
GEF Trust Fund	Multilateral – Global Environment Facility	2006-2010	48
GEF: SCCF - Technology	Multilateral – Global Environment Facility	2007-2009	2.5
African Model Forest Initiative	Bilateral	2009-2012	15
Olade Sustainable Energy Project	Bilateral	2002-2010	4.8
Technology Early Action Measures (TEAM)	Bilateral	2006-2009	7.1
Global Alliance on Agricultural Greenhouse Gases	International partnership	2010-2015	27
Asia-Pacific Partnership on Clean Development and Climate	International Partnership	2009-2011	12
Methane to Markets (M2M)	International Partnership	2009-2010	0.7
Renewable Energy & Energy Efficiency Partnership (REEEP)	International partnership	2009-2011	0.2

Table 2: Other Climate Change Related Support

-	Partner	Year	Total (CAD)
UNFCCC Technical and Financial Support			
UNFCCC Contribution to Core Budget	Multilateral - UNFCCC	Annual	$1 Million
UNFCCC ITL	Multilateral - UNFCCC	Annual	$0.25 Million
UNFCCC supplementary (support for Copenhagen)	Multilateral - UNFCCC	2009	$0.30 Million
Least Developed Country Expert Group (LEG)	Multilateral -	2008-	$0.13 Million plus Canadian Member

	UNFCCC	2010	
Nairobi Work Program (NWP)	Multilateral - UNFCCC	2008	$0.25 Million
Expert Group on Technology Transfer (EGTT)	Multilateral - UNFCCC		$0.40 Million in 2008 plus $0.20 Million annually plus Canadian Member
Least Developed Country Group - Support for 2009 Negotiations	Bilateral	2009	$0.40 Million

2. Adaptation Assistance to developing country parties that are particularly vulnerable to climate change

Canada's efforts to support adaptation in developing countries aim to reduce vulnerability, enhance resilience and build adaptive capacity to prepare for or respond to the observed or projected impacts of climate change. This includes measures to address prolonged periods of drought, increased frequency or intensity of extreme weather events, food and water insecurity, the spread of infectious disease, and sea level rise. Canada's assistance targets on-the-ground activities at the household and community-levels as well as strategic, national level efforts in adaptation planning.

Caribbean Disaster Risk Management Program

2007-2015 CAD$20 Million

The goal of the Caribbean Disaster Risk Management Program is to increase the capacity of regional organizations, national governments and local communities in the Caribbean to respond to and manage natural disasters such as hurricanes and floods and to reduce their impact on the people of the region. It supports the implementation of the disaster risk management framework adopted by the member states of the Caribbean Community (CARICOM).

The project is in the form of a responsive fund worth CAD$20 million in total. The fund supports initiatives led by organizations such as the Caribbean Disaster Emergency Response Agency (CDERA) that improve coordination and disaster preparedness at local, national, and regional levels and that encourage the integration of disaster risk management into policies, planning, and decision-making in the public and private sectors.

Canada-China Cooperation in Climate Change Project

The Canada-China cooperation in Climate Change (C5) Project is organized around four components: awareness and outreach, national communication, adaptation and impacts and clean development mechanism. The most significant benefits of the C5 Project include an increased ability for China to address the issue of climate change (from emissions reductions through to adaptation), and the improved abilities for Chinese organizations and individuals to make decisions and take action that include climate change considerations. New domestic and international partnerships have been developed, and stronger foundations have been laid to address the issue of climate change more effectively, while gaining positive environmental, social and economic benefits.

The success of the Awareness and Outreach Component is a prime example of how C5 helped build professional skills for women and men while getting the climate change message to the public, and

youth in particular. The C5 project also resulted in numerous benefits for Canada. Environment Canada's well-established relationship with China has been furthered with new trust and relationships as well as technical transfers in the areas of drought and agricultural adaptive capacity assessment. These benefits will reach into the future as Canada's researchers have a better understanding of considerations for developing countries, as businesses serving climate change needs can better market their products, and indirectly as another country becomes more capable of addressing the global challenge of climate change.

Building Climate Change Adaptive Capacity in Western Africa

This project supports the AGRHYMET Regional Centre (ARC) in Western Africa in its mission to make people less vulnerable to the effects of climate change and to protect the environment. The AGRHYMET Regional Centre is a specialized institution of the Permanent Interstate Committee for Drought Control in the Sahel (CILSS), which has nine member countries: Burkina Faso, Cape Verde, Chad, Gambia, Guinea Bissau, Mali, Mauritania, Niger, and Senegal. ARC's objective is to produce, disseminate, and manage information about food security, combating desertification and managing renewable natural resources. The centre carries out training and information programs. Canada's project focuses on building their adaptive capacity to climate change in the region through defining a framework for vulnerability, impacts and adaptation studies in the Sahel region, support for managing social and climate databases for these studies, developing methods for analyzing the precipitation regime in the regime, and validating climate models for the region.

Climate Change Adaptation in Africa

The CCAA is a joint program of the International Development Research Centre (IDRC), Canada, and the Department for International Development (DFID), U.K. The Climate Change Adaptation in Africa (CCAA) research and capacity development program aims to improve the capacity of African countries to adapt to climate change in ways that benefit the most vulnerable. Building on existing initiatives and past experience, the CCAA program works to establish a self-sustained skilled body of expertise in Africa to enhance the ability of African countries to adapt.

The purpose of the CCAA is to significantly improve the capacity of African countries to adapt to climate change in ways that benefit the most vulnerable. Four objectives support this purpose:

- To strengthen the capacity of African scientists, organizations, decision makers and others to contribute to adaptation to climate change.
- To support adaptation by rural and urban people, particularly the most vulnerable, through action research.
- To generate a better shared understanding of the findings of scientists and research institutes on climate variability and change.

- To inform policy processes with good quality science-based knowledge Climate Change and Biodiversity in the Americas

The changing climate is a significant driver of biodiversity and is already altering many ecosystems throughout the Americas. It is necessary to prevent and mitigate these changes to preserve the biodiversity and ecological integrity of the region. In order to begin addressing these issues, CIDA funded Environment Canada and the Smithsonian Institution to co-host an international science symposium titled Climate Change and Biodiversity in the Americas at the Smithsonian Tropical Research Institute in Panama City, Panama. The goals of the symposium were to: review the baseline data and systematic observation networks to assess biodiversity conservation and policy responses to global climate change; integrate our knowledge of likely future changes on forest biodiversity from a changing climate; report on predictive models and decision support tools to guide the design and selection of adaptation strategies from local to regional scales; and establish a framework for future collaborative research on climate change and biodiversity. The symposium brought together top researchers, industry representatives and managers of climate change and forest biodiversity research and monitoring activities from 21 countries in North, Central and South America, as well as the Caribbean.

Climate Change Impacts and Adaptation in the Polar Region

Dramatic changes are occurring in the Arctic due to climate change, including increased shipping activity and the development of natural resources as sea ice continues to melt. In response to these pressures, Canada is a member of the Arctic Council, a high-level intergovernmental forum that provides a mechanism to address the common concerns and challenges faced by the Arctic Governments and the Indigenous Peoples of the Arctic.

The Arctic CouncilWorking Group for the Protection of the Arctic Marine Environment (PAME) considers the impacts of climate change in future projects with the intention to inform and advise decision-makers of important issues and trends. The Group conducted the Arctic Marine Shipping Assessment, and updated the Offshore Oil and Gas Guidelines and Regional Programme of Action for the Protection of the Arctic Marine Environment from Land-based Activities which have defined a set of recommended practices and outlined strategic actions for consideration by those responsible for the regulation of offshore oil and gas activities (including transportation and related onshore activities) in the Arctic. Canada is also represented on the International Arctic Science Committee, which coordinates international collaboration on circumpolar science priorities, including climate change impacts on Arctic ecosystems and communities.

Nairobi Work Programme

The UNFCCC Nairobi Work Programme on impacts, vulnerability and adaptation is a five year program of work established in order to assist countries to improve their understanding and assessment of impacts, vulnerability and adaptation, and to make informed decisions on practical actions and measures to respond to climate change. Canada has contributed actively to the UNFCCC Nairobi Work Programme

since its inception both through the provision of financial support and through the provision of expert support for participation in workshops and publications.

3. Activities related to the transfer of technology

Canada is engaged in international climate change technology innovation and diffusion through both multilateral and bilateral channels. Canada's previous approach to engaging with developing countries focused on technology assistance through development programs such as the CCCDF. More recently, the government of Canada has increased peer-to-peer collaboration with emerging economies. Engaging emerging economies is a priority for Canada, as they are projected to be the sources of most of the increase in GHG emissions.

Emerging economies have the opportunity to avoid following a high emission path with the use of low-carbon technologies developed internally as well as through the transfer of low-carbon technologies that are developed within Canada and other Annex I countries.

3.1 Multilateral engagement

Canada engages with key international organizations like the International Energy Agency (IEA), Organization for Economic Cooperation and Development (OECD), and the Asia-Pacific Partnership on Clean Development and Climate (APP) to facilitate technology cooperation.

International Energy Agency

The IEA has 42 implementing agreements to encourage technology collaboration among members. Canada participates in 34 of these agreements covering the entire technology research-to-diffusion spectrum. Canada provides $500,000 annually to the IEA, with additional funds at targeted agreements, such as the IEA Climate Technology Initiative. These agreements form the framework for facilitating initiation, implementation, monitoring and review of collaborative R&D between developed countries and emerging developing countries in renewable energy, energy end use, fossil fuels, information centres and modelling, and nuclear fusion.

Asia-Pacific Partnership on Clean Development and Climate

The APP is a public-private partnership initiative created to address the issues of sustainable development, clean energy and climate change through the development, deployment and diffusion of clean, efficient and climate-friendly technologies. The APP's approach emphasizes practical actions in cooperation with the private sector. Given the magnitude of investment and innovation sources required to deploy technology is beyond the reach of governments, it is vital for governments to involve the private sector to leverage the scale of financing needed. The APP includes Australia, Canada, China, India, Japan, Republic of Korea, and the United States. Canada has committed $20M to this initiative between 2007 and 2011.

Poznan Strategic Program for Technology Transfer

Canada looks forward to the implementation of the GEF's Poznan Strategic Program for Technology Transfer. This program will be funded in part from the technology portion of the Special Climate Change Fund (SCCF) under the UNFCCC, for which Canada is one of the largest donors.

Technology Early Action Measures

Technology Early Action Measures (TEAM) was a Government of Canada interdepartmental technology investment program that began in 1998. During its 10-year history, TEAM brought together private and public sector partners, and identified, developed and supported the most promising environmentally sound technologies with the greatest potential to reduce greenhouse gases (GHGs). TEAM brought 140 technology demonstration projects to reality in Canada and around the world. TEAM's $129 million in investments was leveraged into over $1.15 billion, with nearly $800 million coming from Canadian private companies. Of these projects, 21 had international components, reaching 15 countries. Over its lifetime, TEAM leveraged $22 million from foreign governments and $27 million from foreign private companies. Between 2006 and 2009, TEAM provided over $7.1 million in funding for international projects in India, Cuba, the United Arab Emirates, Argentina and the United States of America. TEAM has transitioned to the Government of Canada's new ecoACTION program under the ecoENERGY Technology Initiative.

The Expert Group on Technology Transfer

The UNFCCC provides a strong platform to encourage greater collaboration amongst Parties in technology development and deployment. The Expert Group on Technology Transfer (EGTT) brings together national level expertise within the UNFCCC that provides guidance to Parties on issues regarding the development and transfer of environmentally sound technologies while respecting Parties' rights and obligations to determine, implement and execute technology strategies appropriate to their specific circumstances. Among its various deliverables, the Guidebook on preparing technology transfer projects for financing has provided a practical tool to project practitioners, and facilitated links between technology projects and private financing sources allowing these projects to move ahead. Canada has an elected representative on the EGTT, and provides $40,000 in 2008 to support developing country participation in the EGTT, as well as contributes $20,000 annually for membership.

Climate Adaptation in Africa

Canada's International Development and Research Centre (IDRC) jointly funds the Climate Change Adaptation in Africa (CCAA) program with the United Kingdom's Department for International Development (DfID). The CCAA program works to establish a self-sustained skilled body of expertise in Africa to enhance the ability of African countries to adapt to the adverse effects of climate change. Through this program, Canada is investing $15 million between 2006 and 2012 to ensure that research institutions are better able to assess climate-related vulnerability and develop adaptation options.

International Partnership for Energy Efficiency Cooperation

Canada, its G8 partners, the European Commission and the Governments of China, India and South Korea signed the International Partnership on Energy Efficiency Cooperation (IPEEC) at the 2008 G8 Meeting. IPEEC, launched in May 2009 and hosted by the IEA, aims to facilitate actions that yield high energy efficiency gains. It will provide a forum for discussion, consultation and information exchange on energy efficiency, including building codes, energy-using product and services standards, and tools for the financing of energy efficiency measures. IPEEC has outlined five projects: the Sustainable Buildings Network task group; the Energy Management Action Network for Industrial Energy Efficiency; the Assessment of Energy Efficiency Financing Mechanisms; the Global Energy Efficiency Action Initiative; and a project on improving public and private sector methods for measuring and verifying energy efficiency improvements.

Generation IV International Forum

Canada is working, through the Generation IV International Forum on Nuclear Power (Gen IV), with other countries to develop the next generation of commercial nuclear energy systems. Countries that participate alongside Canada include the US, France, Switzerland, China, Korea, Japan and South Africa. In 2008-09, the Canadian government provided $4.9 million in financial support for Gen IV, while Atomic Energy Canada Limited, a Crown Corporation, provided a further $2.6 million in kind.

North American Energy Working Group

Canada engages in energy science and technology partnerships with the United States and Mexico under the auspices of the North American Energy Working Group (NAEWG). The goals of the NAEWG are to foster communication and cooperation among the governments and energy sectors of the three countries on energy-related matters of common interest. There are now nine working groups under the NAEWG, on topics including oil sands, energy efficiency and science and technology.

Canada, the United States and Mexico, under the North American Energy Working Group (NAEWG), signed an Agreement for Cooperation in Energy Science and Technology in July 2007. The Agreement provides an umbrella for bilateral and trilateral cooperation in the areas of renewable energy, energy efficiency, nuclear energy, fossil fuels and electricity, with a view to advancing science and technology in areas including low, or zero emission energy production, low carbon fuels; technology for cyber security related to energy infrastructure; carbon dioxide (CO2) sequestration; energy-related fundamental science; hydrogen and fuel cell technologies; electricity generation, storage and transmission; and energy security planning tools.

The agreement is in force for five years and shall be automatically renewed for further five year periods. The forms of cooperation in this Agreement include execution of bilateral/trilateral studies, projects or experiments; exchange and provision of information and data on scientific and technical activities; exchange of scientists, engineers and other specialists for agreed periods of time in order to participate in energy-related analysis, research and development; meetings in various forms to discuss and exchange information on energy science and technology; and development of networks for efficient

communication and information exchange among/between the three governments and the public/private sectors.

International Science and Technology Partnerships

To support the development of stronger science and technology relationships with key countries and jurisdictions, including China, India, Brazil, Isreal, and California, Canada established the International Science and Technology Partnerships Inc. (ISTP), and committed $13.5 million between 2005 and 2009 for technology cooperation with these countries and jurisdictions. Climate change related projects include work on increasing fuel efficiency and use of biofuels in India and research and development of tidal and wave energy in China.

Global Bioenergy Partnership

The Global Bioenergy Partnership (GBeP) provides a mechanism for international cooperation on research, development, demonstration and commercial activities related to the production, delivery, conversion and use of biomass for energy, with a particular focus on developing countries. GBeP also provides a forum for identifying effective policy frameworks and means to support investments and the removal of barriers to collaborative project development and implementation.

Renewable Energy & Energy Efficiency Partnership

The Renewable Energy & Energy Efficiency Partnership (REEEP) is a global partnership with the aim of reducing policy, regulatory and financial barriers that limit the uptake of renewable energy and energy efficiency technologies and projects. REEEP works with governments, businesses, industry, financiers and civil society across the world to expand the global market for renewable energy and energy efficiency technologies.

Methane to Markets Partnership

Canada is a member of the Methane to Markets Partnership (M2M), a voluntary international cooperative initiative to address fugitive emissions of methane from four major sources: agriculture, coal mines, landfills, and oil and gas systems. The Partnership encourages market-oriented clean energy technology solutions that address climate change and energy security concerns in addition to opening up market opportunities for Canadian clean energy technology developers and exporters.

Canadian investments in M2M have supported public-private projects at upstream oil and natural gas facilities in China and Mexico that have facilitated the development of effective strategies to reduce fugitive emissions, decrease greenhouse gas externalities and improve energy efficiency. Canada is also involved in projects for landfill gas collection and flaring systems, as well as agricultural activities that support the use of bio-digesters on pig and dairy farms coupled with biofiltration through composting.

RETScreen

The RETScreen Clean Energy Project Analysis Software is a decision-support and capacity-building tool developed by the Government of Canada that allows users worldwide to evaluate various feasibility

factors associated with renewable energy and energy efficiency project development (e.g. cost, emission reductions, financial viability etc). Available on the internet in 22 languages, the RETScreen tool has facilitated over 1000 MW of energy projects outside Canada, including hydro projects in Brazil, the Czech Republic, Guatemala, and Nicaragua, as well as photovoltaic projects in Costa Rica, Mauritania, and Senegal.

More than 40 new workshops for renewable energy, energy efficiency and cogeneration have been scheduled across Canada and around the world recently, in locations ranging from Calgary, Canada, to Manila, the Philippines and from Thurles, Ireland to Brazzaville, Republic of Congo. In addition, a RETScreen Clean Energy Project Analysis Course has been created for use by educational centres and training organisations around the globe. 166 colleges and universities worldwide now use RETScreen for training and more than 25,000 people visit the RETScreen website each week to access this information.

Carbon Capture and Storage

Canada is investing heavily in research, development, and demonstration of carbon capture and storage (CCS) technologies. In recent years, Canada's federal and provincial governments have committed a total of approximately $3 billion in funding for CCS, which could lead to as many as five or six large-scale demonstration projects in Canada. This funding is provided through a number of federal and provincial programs such as the Government of Canada's recently created Clean Energy Fund. Canada's ecoENERGY Technology Initiative also provides funding of $151 million for seven CCS projects in a wide-range of sectors. The Government of Alberta is also contributing $2 billion toward large-scale CCS projects. Canada has been a global leader in CCS technology, including as host to the IEA GHG Weyburn-Midale CO2 Monitoring and Storage Project, one of the world's first and largest CCS demonstration efforts. Canada is also an active member of the Carbon Sequestration Leadership Forum (CSLF), an international climate change initiative focused on the development of improved cost-effective CCS technologies, including for transport and long-term safe storage. In November 2007, Canada hosted one of three workshops that resulted in the development of key recommendations to the G8 to advance the development and deployment of CCS technologies. Canada's work on CCS continues in partnership between the IEA and CSLF to advance global implementation of these recommendations. The IEA will report back on progress in in 2010, when Canada hosts the G8 Summit. Furthermore, Canada has recently joined the new Global Carbon Capture and Storage Institute (GCCSI) which will also aim to accelerate implementation of CCS demonstration projects.

Engineers Canada

Engineers Canada, through its Public Infrastructure Engineering Vulnerability Committee and in partnership with the federal government (NRCan), developed an engineering protocol to assess the vulnerability of infrastructure to climate change from an engineering perspective. Working both through the World Federation of Engineering Organizations and by making presentations at various international fora, Engineers Canada is working on making the protocol available to infrastructure owners and operators in other countries to assist in assessing their vulnerabilities to climate change.

Carbon Budget Model (CBM-CFS3)

In 2002, the carbon accounting team of the Canadian Forest Sector (CFS-CAT) and the Canadian Model Forest Network (CMFN) developed a carbon accounting tool to help forest managers meet criteria and indicator reporting requirements for sustainable forest management and certification. The tool helps managers understand how their actions affect the net carbon balance of their forest estate. The CBM-CFS3 is a standard landscape-level modeling framework that simulates the dynamics of all forest carbon stocks required under the UNFCCC. It is compliant with the Good Practice Guidance for Land use, Land-use Change and Forestry (2003) report published by the IPCC.

Canada makes the accounting tool available at no charge, has undertaken numerous projects with forest management agencies in other countries, and has run training workshops for forest managers from Russia, Madagascar, Uganda, Thailand, Philippines, Mexico, China, and Korea and others. Over 500 people in 42 countries have obtained the software to date, and it is being used by individuals around the world.

In 2005, NRCan began a bilateral project with the Russian Federal Forest Agency to share knowledge and approaches to forest carbon accounting with scientists in Russia where the model has been used for regional and national-scale analyses. More recently, the CFSCAT has worked with the ComisiUn Nacional Forestal, Mexico's Ministry of Forests and with forest managers in Spain, China, Italy and Korea.

Global Observation of Forest and Land Cover Dynamics (GOFC-GOLD)

Since the project's inception in 1999, Canada has provided one-third of the GOFC-GOLD Implementation Project's annual $900,000 budget. GOFC-GOLD is a coordinated international effort to ensure a systematic long-term program of space-based and on-the-ground observations of land cover and forest change, including the role of fire. It is designed to help provide the data needed for global monitoring of terrestrial resources, study of global change, and improved natural resources management. As a panel of the Global Terrestrial Observing System (GTOS), GOFC-GOLD interacts with several United Nations bodies and numerous international and national scientific and technical organizations. It develops contributory products at regional and global scales in two thematic areas: Land Cover Characteristics and Change; and Fire Monitoring and Mapping. A new biomass mapping theme is being developed.

Among other uses, it is designed to help provide information needs under the UNFCCC, including methods and procedures for monitoring, measuring and reporting on reducing greenhouse gas emissions from deforestation and degradation in developing countries. The Canadian Forest Service hosts the GOFCGOLD Project Office. During the 2006-2009 period the Project office sponsored or co-sponsored 92 GOFCGOLD events including technical seminars, workshops, missions, meetings and training courses held internationally and in Canada. In addition, initiative produced and released 40 documents during the reporting period. Example projects undertaken during the reporting period included:

- Technical support to the Chinese State Forest Administration in developing the Asia-Pacific Forest Monitoring Network.

- Collaboration with the Canadian Space Agency (CSA) to improve global monitoring of reducing emissions from deforestation and forestation (REDD).
- Coordination of data acquisition for the radar data to be provided by several space agencies (CSA, ESA, JAXA, etc.).
- Support to the CFS Carbon Accounting team's collaboration with Mexico to transfer the Carbon Budget Model of the Canadian Forest Sector (CBM-CFS3).
- Collaboration international REDD organizations including the Prince's Rainforest Project, Google Foundation, UN-REDD Programme and Clinton Foundation.
- Sourcebook of measurement and monitoring methodologies for REDD:
- Central Africa Regional GOFC-GOLD network: OSFAC (Observatoire Satellital des ForRts d'Afrique Centrale, http://osfac.umd.edu/index.htm) works to improve the quality and availability of satellite observations of forest and land cover in the Congo Basin and to produce useful and timely information products for a wide variety of users.
- Africa Pilot of the GOFC-GOLD Regional Network Data Initiative.

Table 7.4: Financial contributions to multilateral institutions and programmes (CAD$ Million)

-	2005/06	2006/07	2007/08	2008/09
World Bank	375.42		392.55	392.55
International Finance Corporation	10.68		6.08	6.08
African Development Bank	92.85	88.85	1.50	90.35
Asian Development Bank	73.27	95.77	29.40	125.17
European Bank for Reconstruction and Development	3.04		4.99	4.99
Inter-American Development Bank	3.12		21.48	21.48
UNDP	130.89		100.50	100.50
UNEP	1.60	1.45		1.45
UNFCCC	0.75			

3.2 Bilateral Technology engagement

Canada engages bilaterally with both developed and developing country partners. Efforts with other developed countries tend to focus on the early stages of the technology continuum, taking the form of collaborative research, development, and demonstration of new technologies. Work with developing countries leans towards the later stages of the technology cycle, usually in the form of efforts to share knowledge and foster enabling environments in order to transfer technologies.

The Government of Canada has taken steps to assist developing countries directly with their technology needs. For example, CIDA has undertaken bilateral activities which have included technology transfer projects for climate change development with a capacity-building approach to help developing countries reduce their emissions of greenhouse gases and contribute to sustainable development. While much

success has been achieved through these bilateral projects, key challenges remain with respect to supporting technology development in developing countries. These included the need to develop long-term approaches to support technology activities and the need for greater attention to the appropriateness of technology selection, with input from developing countries themselves.

Canada also makes use of other bilateral avenues to advance international collaboration. Canada has signed bilateral S&T agreements with several partner countries, including China, the EU, France, Germany, India, Israel, Japan, and Korea. These agreements serve as the guidelines for business and government to effectively work with partner countries to increase international science and technology capacity.

Canada works with the U.S. Department of Energy on a range of issues including oil sands technology, fuel cell technology, and solar energy, and has ongoing projects with American universities, research centres, and laboratories.

The Canada – US Clean Energy Dialogue (CED), is the most significant development in continental, environmental and energy policy since the North American Free Trade Agreement. The Clean Energy Dialogue focuses on three critical areas: expanding clean energy research and development; developing and deploying clean energy technology, especially carbon capture and storage; and, building a more efficient electricity grid based on clean and renewable generation.

2012 Reporting[2]

Canada's fy2011/12 Fast-Start Financing Highlights

Since our last report, a number of key initiatives have been identified:

- $250 million to mobilize scaled up private sector climate change investment in Latin America and the Caribbean, through the establishment of the Canadian Climate Fund for the Private Sector at the Inter-American Development Bank;
- $200 million to support clean technology deployment in developing countries through the Clean Technology Fund, a component of the Climate Investment Funds;
- $27.5 million to support adaptation research for policy makers in Africa, the Americas and Asia, through Canada's International Development Research Centre;
- $27 million to support sustainable forest management, notably through a major contribution to address deforestation in the Congo Basin, as well as further support for the Forest Carbon Partnership Facility;
- Nearly $20 million to help smallholder farmers adapt to a changing climate, through the International Fund for Agricultural Development; and,
- $10 million to support the mitigation of short lived climate pollutants, including a $3 million commitment to support the new Climate and Clean Air Coalition to Reduce Short-Lived Climate and $1.8 million to support the Global Alliance for Clean Cookstoves.

Supporting Global Action on Climate Change

As a constructive and active Party to the United Nations Framework Convention on Climate Change (UNFCCC), Canada has significantly scaled up its climate change related support to accelerate global progress and effective action by all countries with an overall commitment of $1.2 billion in fast-start financing support for developing countries. Canada continues to deliver on this commitment under the Copenhagen Accord, providing its fair share of new and additional fast-start financing to support climate change actions in developing countries. This report provides details on programs announced and funding delivered during Canada's 2011/12 fiscal year, the second year of fast-start delivery, as well as a progress update on key initiatives undertaken in 2010/11, Canada's first year of fast-start financing.

[2] Canada (2012). Canada's Fast-Start Financing: Progress Report - May 2012, 8 pp.

Meeting Our Commitment

Canada will provide its fair share of fast-start financing, namely $1.2 billion in new and additional climate change financing during the fast-start financing period. Of this amount, over $1 billion has already been committed to programs that will support developing countries efforts to address and adapt to climate change. So far, $400 million was disbursed to delivery partners in year one of the fast-start period, and over $394 million in year two. Canada will continue to work with its international partners to disburse the remaining funds during the final year of fast-start financing.

Canada's fast-start financing is new and additional to other climate change financing committed prior to Canada's association with the Copenhagen Accord.

The geographic distribution of Canadian fast-start financing delivered to date has been estimated. It is estimated that 19% will flow to Africa, 33% to Latin America and the Caribbean, 12% to Asia and 3% to developing countries in Central Asia and Eastern Europe. 33% has been allocated to global programs for which it is not possible to estimate a geographic distribution at this time.

Canada's support primarily focuses on three broad areas: adaptation by the poorest and most vulnerable countries; clean energy; and, forests and agriculture. Canada also supports activities to help developing countries strengthen their capacity to implement their obligations under the UNFCCC and works with partner countries to develop and implement Nationally Appropriate Mitigation Actions (NAMAs).

A portion of Canadian support was delivered as concessional financing through multilateral institutions that have the reach and capability to achieve our objectives, in particular ensuring the impact and sustainability of supported projects through the mobilization of private sector investment and innovation.

Key New Initiatives

A number of initiatives and programs were developed and funded since the May 2011 report; a few are highlighted below. Table 1 at the end of this report provides a summary of all fast-start financing to date.

Climate Change Adaptation Research

Canada recognizes the importance of helping to build capacity in the poorest and most vulnerable countries to adapt to the adverse effects of climate change. In this regard, strengthening local knowledge and research capacity is a good way to help build appropriate solutions to specific local, national, or regional challenges. To this end, Canada's International Development Research Center (IDRC) used Canadian fast-start financing to strengthen research on climate change impacts through direct financial and technical support to research institutions in developing countries. Through this programming, IDRC is partnering with more than 20 institutions across the world.

In year one, Canada contributed $10 million to IDRC for the African Adaptation Research Centres (AARC) initiative to support seven centres of excellence across Africa to conduct research and build

organizational strength on climate change adaptation. Building upon this, Canada provided an additional $20 million in year two to IDRC for the Research Initiative on Water Resources and Climate Change Adaptation which will help build national capacity to produce scientific advice and expert assessments to guide adaptation investments and policy decisions in Latin America, the Caribbean and Asia. This funding will be delivered to institutions in those regions based on a call for proposals.

Canadian Climate Fund for the Private Sector in the Americas

Working with our partners in the Americas is a key way Canada will support effective climate change actions that will significantly reduce greenhouse gas emissions and build resilience to climate impacts.

Canada recently announced a contribution of $250 million to establish the Canadian Climate Fund for the Private Sector in the Americas at the Inter-American Development Bank (IDB), with $200 million delivered in year two and $50 million to be delivered in year three of the fast start period. Canadian support will help mobilize scaled-up investment to private sector climate change projects in Latin America and the Caribbean that require financing with concessionary terms to be viable.

An innovative feature of the Fund is that it will offer up to US$125 million of concessional financing in the currency of the local country. This will encourage the investment of local companies by protecting them from unexpected borrowing costs that might result from fluctuations in the value of the U.S. dollar relative to the local currency.

Although focusing primarily on clean and renewable energy, Canada's investments will also provide opportunities to support private sector projects in sustainable forest management, agriculture and adaptation. It is anticipated that Canada's contribution to the Fund will lever up to US$5 billion in private sector investment, providing increased energy security, while leading to the reduction of up to 50 million tonnes of greenhouse gas emissions over the Fund's 25-year life. The IDB, the Inter-American Investment Corporation and/or the Multilateral Investment Fund will co-finance Fund projects.

Sustainable Forest Management in the Congo Basin

The Congo Basin in Central Africa is home to one-quarter of the world's tropical forests. This vast area is critical for regional and global ecological services as it acts as a carbon sink and catchment basin. The Congo Basin countries are the home to nearly 100 million people, of which some of the world's poorest people, many of whom depend on the forest for their livelihoods. As such, sustainable management of the Congo Basin is key to improving living conditions while minimizing the impact on the local and global environment.

Canada committed $20 million to the African Development Bank as the Administrator of the Congo Basin Forest Fund (CBFF) to help local communities in forest zones secure sustainable livelihoods and reduce greenhouse gas emissions, therefore alleviating poverty while maximizing carbon storage. As the current facilitator of the Congo Basin Forest Partnership (CBFP) (2010-2012), Canada is also providing $2 million to the CBFP over years two and three of the fast start period to support technical assistance to

working groups on climate change, forestry governance, biodiversity, and desertification in the Congo basin region.

Mitigation Actions to Address Short-Lived Climate Pollutants

Reducing emissions of short-lived climate pollutants is part of Canada's overall international climate change strategy and provides an opportunity to make near-term progress on climate change while providing air quality and health benefits. As a founding member of the Climate and Clean Air Coalition to Reduce Short-Lived Climate Pollutants (CCAC), Canada is committed to delivering support to ensure its actions can lead to real results for developing countries and for the global environment.

Under its fast-start financing, Canada recently pledged $3 million to support the new CCAC in working towards delivering global solutions to mitigate short-lived climate pollutants (SLCPs) as well as $7 million to bilateral projects that support this objective. This funding will flow this year and next and will support projects designed to tackle emissions from short-lived climate pollutants through: the development and implementation of Nationally Appropriate Mitigation Actions (NAMA) in Mexico, Chile, and Colombia, in key sectors such as waste and oil and gas production, addressing notably emissions of methane, a key SLCP; supporting the deployment of clean cook stoves in Colombia, Mexico, Peru and Ghana, through the Global Alliance for Clean Cookstoves (GACC).

THE CANADA CLIMATE CHANGE FUND AT THE INTERNATIONAL FINANCE CORPORATION (IFC)

As part of Canada's commitment to support mitigation efforts, Canada provided $292 million to IFC to support a broad portfolio of clean energy projects in developing countries. IFC uses this Fund for investments and advisory services to address private clean energy investment barriers, and serves a catalytic role to enable clean energy initiatives to move forward.

As of March 31, 2012, 62 projects were reviewed by the IFC, with 9 projects approved* (6 concessional financing and 3 grants for advisory services), representing a total of US$56 million in project funding from the Canadian fund. This is expected to lever US$275 million from IFC's core funding, US$210 million from other multilateral development banks and $117 million from private sector investors in developing countries. The 6 projects approved for Canadian concessional financing are expected to lead to a reduction or avoidance of greenhouse gas emissions equivalent to 550,000 metric tons of CO2 per year. A further 30 projects are under development for potential consideration for support from the Canadian fund." An example of the initiatives led by the Fund is a project to support the Government of Lesotho in conducting an 18-month feasibility study for the development of two potential wind power projects through public-private partnerships. The project is expected to deliver the following results:

- provide technical assistance to assess the topography, transport, logistics and grid access of two identified sites;
- present findings to the Government along with recommendations for project implementation;
- install wind-measurement equipment in both sites to assess their generation potential and their

potential to attract private sector investment; and,

- avoid GHG emissions of 29,153 metric tons/year.

* Three of these projects are awaiting approval from the IFC Board of Directors for the portion of project funding coming directly from IFC's core funding.

THE FOREST CARBON PARTNERSHIP FACILITY'S READINESS FUND

The Forest Carbon Partnership Facility (FCPF) is a World Bank-managed facility created in 2008 to assist developing countries in their efforts to reduce greenhouse gas emissions from deforestation and forest degradation plus improve conservation, sustainable management of forests and enhancement of forest carbon stocks (REDD+).

Canada is currently the largest contributor to the FCPF Readiness Fund, with a total fast-start financing commitment of $40 million. Canada's contribution to the Readiness Fund supports REDD+ country participants to build national capacity to address the problem of deforestation and forest degradation by providing technical and financial assistance to countries in the development of their Readiness Plan Idea Notes (R-PINs) and their subsequent Readiness Preparation Plans (R-PPs).

Canada's investment to the FCPF Readiness Fund is on track, as the facility is providing technical and financial assistance to 35 out of 37 REDD+ country participants. Since 2008, 35 REDD+ country participants have signed Participation Agreements with the FCPF and prepared an R-PIN. The FCPF Participants' Committee, in which Canada participates, has reviewed and approved a total of 23 R-PPs, five of which are at the grant agreement stage, the value of which is between $3.4-3.6 million.

Canada's Fast-Start Financing to Date

Reported on the basis of fiscal commitments to delivery partners. For some of the initiatives, reported figures may differ from those in Canada's Statistical Report on Financial Assistance. (Millions of Canadian Dollars)

	Project Description	Delivery partner	2010/11	2011/12	2012/13	Comments
Concessional financing						
Clean Energy	Global: concessional financing to support private sector clean energy projects	International Finance Corporation: Canada Climate Change Fund	285.72			
Multi-Sector	Latin America and the Caribbean: support private sector climate change projects	Inter-American Development Bank: Canadian Climate Fund for the Private Sector in the Americas		200	50	
	Global: support the demonstration, deployment and transfer of low carbon technologies	Climate Investment Funds: Clean Technology Fund		100	100	

Grant financing						
Clean Energy	Global: support for advisory services to address private clean energy investment barriers	International Finance Corporation: Canada Climate Change Fund	5.83			
	Brazil, Chile, Colombia, Mexico and Peru: support for the development and implementation of nationally Appropriate Mitigation Actions (NAMAs)	Housing: Energy Efficiency Exporters Alliance Oil & gas: Petroleum Technology Alliance Canada Landfill gas: Center for Clean Air Policy		2.05	7.40	
	Colombia, Ghana, Mexico, and Peru: support for the deployment of clean cook stoves	Global Alliance for Clean Cookstoves		0.60	1.20	Part of a $1.9 million contribution, including $1.8 million from fast-start financing to be delivered over years 2 and 3, and $100,000 from other grant resources delivered in year 2.
Adaptation	LDCs: support for projects in response to urgent adaptation needs	Least Developed Country Fund	20			
	Ethiopia: improve food security and resilience to climate change in local communities	World Food Program: Managing Environmental Resources to Enable Transitions	7			Combined with $8 million from other international assistance resources, for a $15 million total contribution to the World Food Program.
	Haiti: improve local response to climate change impacts, and reduce vulnerability to natural disasters	Oxfam Québec, UNDP, Centre for International Studies and Cooperation	4.50			
	Africa, Latin America and the Caribbean, and Asia: support climate change adaptation research centres	International Development Research Centre	10	20		
	Global: Increase climate resilience among small scale agricultural producers	International Fund for Agricultural Development (IFAD): Adaptation for Smallholder Agriculture Program		19.85		
	Africa: reduce population health vulnerability and increase resilience	International Development Research Centre and World Health Organization		7.50		
	Honduras: building capacity to assess infrastructure vulnerability	Engineers Canada		0.15	0.60	
Forests and Agriculture	Global: address deforestation and forest degradation in developing countries	Forest carbon Partnership Facility: Readiness Fund	40.00			
		Forest Carbon Partnership Facility: Carbon Fund		5.00		
	Congo Basin: implement sustainable forest management projects and promote conservation and sustainable management	Congo Basin Forest Fund		20.00		
		Congo Basin Forest Partnership (CBFP)		0.14	1.86	Canada has committed $2 million over 2 years to the CBFP.
	Global: build capacity and	World Bank BioCarbon Plus	4.50			

	demonstrate projects to effectively sequester/conserve carbon in forest and agro-ecosystems	Fund				
Multi-Sector	Vietnam: support the implementation of the National Target Program on climate change	Government of Vietnam	3.00			Combined with $1.45 million from other international assistance resources, for a $4.45 million total contribution to the Government of Vietnam.
	Global: support to UNFCCC Activities	UNFCCC Trust Fund for Participation	1.00			
		UNFCCC Supplementary Fund		0.65	1.00	
	Global: incremental portion of Canada's annual contribution to the GEF	Global Environment Facility	18.45	18.45	18.45	$18.5 million in each of the three years of fast-start financing will be used for the incremental portion of annual payments for Canada's contribution to the Fifth Replenishment of the GEF (2010/14), which is a total of $238 M, representing a more than 50% increase over the Fourth Replenishment.
TOTAL			400.00	394.39	180.25	Total presented for 2012/13 does not represent the total amount to be delivered in fast-start financing. It only reflects planned disbursements to the listed projects as of May 2012.

2013 Reporting[3]

Canada's Commitment Fully Delivered

Over the last three fiscal years (2010–2011 to 2012–2013), Canada has fully delivered on its commitment to provide its fair share of fast-start financing. Over the fast-start period, $1.2 billion in new and additional climate change financing has been issued, with approximately $400 million in each of the three years.

Canada's support is producing results across the globe—to date, funds have been committed at the project level to the benefit of over 50 developing countries. This support has been delivered primarily through multilateral channels, but also directly to Canada's bilateral partners and in partnership with civil society and the private sector.

This report presents an overview of Canada's fast-start financing over the three year fast-start period, including by geographic region, sector and channel, as well as an update on some key initiatives of which Canada is particularly proud.

Highlights since the Last Report

Since the May 2012 report, a number of key initiatives have been identified and funded:

- $82.4 million through the Asian Development Bank for the mobilization of private climate-change mitigation and adaptation investment in low, lower‑middle income countries and small island developing states in Asia.
- A $75 million investment in the International Finance Corporation Catalyst Fund for climate-friendly venture capital and private equity investment in developing countries.
- $23.2 million through the Canada Fund for African Climate Resilience, supporting 10 projects across the region that will strengthen food security and promote sustainable growth in 8 African countries.
- $16.5 million to support adaptation projects in six Least Developed Countries through the Canadian Climate Adaptation Facility at the United Nations Development Programme (UNDP).
- An additional $10 million to support the reduction of emissions of short-lived climate pollutants in developing countries through the Climate and Clean Air Coalition.
- $12.6 million for advanced weather systems to help build climate resilience in developing countries, through the World Meteorological Organization, including $6.5 million for Haiti.

[3] Canada (2013). Canada's Fast-Start Financing: Delivering on Our Copenhagen Commitment, May 2013, 17 pp.

- $2.5 million to the Climate Technology Centre and Network to facilitate technology actions focused on mitigation and adaptation, particularly in developing countries.
- $2.5 million for low-carbon development in Mexico, in partnership with the UNDP.

Overview of Canada's Fast-Start Financing

Geographic Distribution

The geographic distribution of Canada's fast-start financing has been estimated but could evolve over the next years as financing that we have provided to multilateral banks rolls out. It is currently estimated that 33% will flow to Latin America and the Caribbean, 24% to sub-Saharan Africa, 17% to South Asia, 12% to East Asia and the Pacific, 2% to the Middle East and North Africa, and 2% to developing countries in Central Asia and Eastern Europe. Ten percent (10%) has been allocated to global programs for which it is not possible to estimate a geographic distribution at this time.

Over 50 developing countries are benefiting directly from funding delivered through Canada's bilateral channels and Canadian facilities at multilateral institutions, and this number will grow as these facilities continue to make project commitments with available funds. A much larger number of countries will also benefit from contributions made by Canada to multilateral trust funds such as the Global Environment Facility and the Least Developed Country Fund.

Sectorial Distribution

Canada's support is primarily focused on three broad areas: adaptation by the poorest and most vulnerable countries, clean energy, and forests and agriculture. We currently estimate that 65% of our fast-start financing will support clean energy projects and initiatives, 15% is for adaptation, 11% for forests and agriculture, and 9% for cross-cutting programming. Once again, these estimates could change slightly over time as multilateral institutions roll out our contributions.

Delivery Channels

Most of Canada's support was channeled through multilateral institutions, given their reach and ability to achieve results in an efficient manner. These organizations are transparent, accountable, and have high fiduciary, social and environmental standards. A significant portion, 59%, was delivered to establish Canadian facilities at multilateral organizations, such as the International Finance Corporation, the Inter-American Development Bank, the Asian Development Bank and the United Nations Development Programme. A further 33% was used for contributions to multilateral trust funds where our support was co-mingled with that of other contributors. Finally, about 8% of our faststart financing, or over $100 million, was disbursed through Canada's traditional bilateral channels and in partnership with non-governmental organizations.

Key New Initiatives in Year 3 of Fast-Start Financing

A number of initiatives and programs were developed and funded since our last report; a few are highlighted below.

Adaptation by the Poorest and Most Vulnerable Countries

Canada is delivering on its promise to scale up support for adaptation by vulnerable countries with new projects launched this year, working through multilateral channels as well as in partnership with non-governmental organizations that make a difference at the community level.

Weather Services for Adaptation

The ability to track and predict the weather is a key factor in a country's ability to adapt to a changing climate. To this end, Canada has provided $12.6 million to the World Meteorological Organization for projects aimed at enhancing the availability of modern weather services for vulnerable countries.

First, Canada has contributed $6.5 million to support work in collaboration with other international partners to rebuild a weather and climate warning service in Haiti following the devastating earthquake of 2010 that destroyed this capability. The funding will contribute to establishing the physical and technical infrastructure needed for an effective early-warning system, such as weather and climate monitoring sites, data management systems, and the building and equipment necessary to house the service. A key aspect of the project will be to provide training so that Haitians can manage and deliver the meteorological services to their citizens on a sustainable basis.

Second, Canada contributed $6.2 million for the Global Framework for Climate Services, which aims to enhance resilience in social, economic and environmental systems to climate variability and climate change. A key element of the Framework is the development of effective regional and national services in the most vulnerable regions and countries of the world. Canada's support will help develop and deliver regionally tailored climate information products, including an improved early-warning system for severe weather for the South West Pacific and for the Caribbean, and improved coastal inundation forecasting systems in the Dominican Republic as an extension of the project in Haiti.

Canadian Climate Adaptation Facility at the United Nations Development Programme

Canada and the United Nations Development Programme worked collaboratively to establish the Canadian Climate Adaptation Facility (CCAF), which will help local populations to build more resilient agricultural practices, strengthen their infrastructure, diversify their sources of livelihood and improve their food security. The $16.5 million Canadian facility at the UNDP is focusing on the poorest and most vulnerable populations in six countries in Africa, South East Asia and the Caribbean.

Supported projects will build on and enhance ongoing Least Developed Countries Fund initiatives, to which Canada provided $20 million of fast-start grant support in the first year of fast-start financing. More concretely, the CCAF will provide support for a broad range of adaptation and capacity-building projects, including:

- In Cambodia, the CCAF will provide $2.2 million to reduce the vulnerability of the agricultural sector to climate-induced changes in water resources availability. This project will be implemented in partnership with the Cambodian Ministry of Agriculture, Fisheries and Forestry, the Ministry of Water Resource and Meteorology, and the Ministry of Women's Affairs.

- In Haiti, $3 million will support the National Committee for Large Public Infrastructure and Projects in strengthening the country's adaptive capacities to address climate change threats for coastal communities and to mainstream climate change adaptation policies into local and national development plans.

- The CCAF will provide $3.1 million to the Sudanese Ministry of Finance for the implementation of an urgent set of measures that will minimize and reverse food insecurity and enhance the adaptive capacity of small-scale farmers to the adverse impacts of climate change.

Canada Fund for African Climate Resilience

The Canadian International Development Agency (CIDA) is delivering $23.2 million to substantially improve and increase food security and economic growth in Africa by reducing the impacts of climate change through adaptation measures. The support, focusing on projects in eight countries, including Burkina Faso, Cameroon, Democratic Republic of Congo, Ghana, Ethiopia, Rwanda, Senegal and Tanzania, will prevent or reduce the impact of climate change on future economic growth and food security in these countries.

These projects are being implemented in partnership with a number of Canadian civil society organizations and educational institutions to leverage the development expertise, caring and initiative of Canadians and their international partners. For example:

- In Senegal, $3 million will be delivered in partnership with the Cégep de la Gaspésie et des Îles in Canada to help three villages to adapt to lower levels of precipitation in the Saloum Islands over the last 35 years. This initiative seeks to ensure sustainable utilization and marketing of ecosystem-dependent shellfish and fish stocks to give local populations the opportunity to improve their economy, ensure access to sufficient, safe and nutritious food, and enhance the role and position of women in local communities. The project also seeks to ensure the transfer of skills and expertise to direct beneficiaries and other stakeholders.

- In northern Ghana, $2.1 million is being delivered in partnership with CFH (formerly known as the Canadian Hunger Foundation) to target men and women in vulnerable households in 4 districts and 20 communities, where most farmers depend on rain-fed agriculture and have very limited access to reliable weather forecasts and early warning of disasters, and as such are highly vulnerable to climate change.

Protected Areas as Natural Solutions for Climate Change Adaptation in Kenya and the Americas

National parks and other protected areas play an important role in the global response to climate change. Well-managed national parks and other protected areas are part of the natural solutions to climate change challenges through their role in enhancing the resilience of ecosystems and human communities, providing vital services like clean drinking water, reducing the effects of natural disasters like droughts and floods, and generating billions of dollars in tourism revenues. National parks and other

protected areas can also help to reduce the amount of greenhouse gases in the atmosphere by protecting carbon that is stored in trees, grasslands, soils and marine systems.

Parks Canada, Canada's national parks agency, is delivering $3.3 million to build capacities in the restoration and conservation of important ecosystems in Kenya, Chile, Colombia and Mexico. This program is helping protected-areas agencies to address adaptation to climate change and implement on-the-ground projects in national parks and other protected areas that increase the resilience of ecosystems and of the human communities that depend on them.

- In Kenya, greenhouses and modernized tree nurseries have been installed and are providing plants for restoring forests in Amboseli, Tsavo (East and West) and Aberdare National Parks. Communities are engaged in developing and implementing tree nursery and planting programs in Mount Kenya National Park. Invasive-species removal is underway in several parks, and work is being completed on an alternative wildlife watering station in Tsavo West National Park to protect Mzima Springs, a major drinking-water source for downstream communities.

- In Chile, protocols for growing and planting seedlings for the ecological restoration of Torres del Paine National Park following a catastrophic 2011 fire have been initiated. Studies are being conducted to understand wetland processes and functions to be restored in order to protect water resources in wetland complexes of Nevado Tres Cruces National Park and El Yali National Reserve.

- In Mexico, work is underway to determine vulnerabilities of protected-area ecosystems to climate change, identify priority conservation targets, and undertake on-the-ground adaptation actions in protected areas in the Northeast and Eastern Sierra Madre Region, one of the driest and most vulnerable areas of the country.

- In Colombia, work has begun on updating management plans for 25 protected areas to strengthen the value of these sites in helping Colombia adapt to the impacts of climate change. Ecological restoration activities will be initiated in six parks to help reduce the vulnerability to climate change of ecosystems and associated human populations.

This program builds upon Canada's efforts to implement ecosystem-based approaches to climate change adaptation as an important component of domestic and international adaptation policies, programs and strategies.

Mobilizing Private Sector Investment and Deploying Clean Technology

In the final year of fast-start financing, Canada has worked collaboratively with a number of multilateral organizations to diversify its provision of support that aims to scale up the mobilization of private sector investment in climate-friendly sectors in developing countries. Although much of this support will likely result in clean energy investment, other mitigation-related sectors are likely to benefit, as will projects that build climate resilience.

Supporting the Start-up of the Climate Technology Centre and Network

Canada is committed to advancing the implementation of the Cancun Agreements, including the development and deployment of technology, to be encouraged through the Climate Technology Centre and Network (CTCN). The CTCN will provide tailored advice and technical assistance to developing countries to support the implementation of technology actions for mitigation or adaptation objectives.

Canada's $2.5 million contribution will support start-up costs of the Centre as well as specific capacity-building activities, and facilitate private sector engagement, given its important role in the technology transfer process. The Centre will be operational by the end of 2013.

Canada is proud to be one of the first major contributors to the CTCN and hold a seat on its Advisory Board, reflecting our continued engagement in technology-related work under the United Nations Framework Convention on Climate Change. Operationalizing the CTCN will be a concrete example of practical action being taken to help countries mitigate and adapt to climate change.

International Finance Corporation Catalyst Fund

Canada made a $75 million contribution to International Finance Corporation's Catalyst Fund, which will invest in venture capital and private equity in developing countries, with a focus on sectors where there are opportunities to promote efficient use of resources such as energy and water as a way to mitigate and adapt to climate change.

With the dynamic economic growth in emerging markets increasing the demand for resources, there is an opportunity for innovative projects and business models to address a portion of the gap between supply and demand. The Catalyst Fund is expected to fill a key niche in this regard: private-equity and venture-capital funds are uniquely positioned to finance climate-related investment because they can support innovative projects implemented by early-stage companies.

The Fund is expected to deliver sustainable development impacts through stimulating investment and growth in key sectors such as renewable energy, energy efficiency, water, agriculture and forestry.

Canada is now one of the anchor investors in the Fund, which is aiming to raise up to $500 million from both public and private investors.

Climate Fund for the Private Sector in Asia at the Asian Development Bank

Canada also made a significant contribution to the Asian Development Bank (ADB) to help catalyze private investment in climate change projects in low and lower-middle income countries and small island developing states in Asia. A total of $82.4 million was provided to the ADB, including $75 million for concessional financing for projects as well as $7.4 million of grant financing for use as technical assistance to support the objectives of the Fund.

The Fund aims to play a key role in overcoming leading-edge technology risks and cost hurdles in order to spark and scale-up projects to reduce emissions and increase climate resilience. Projects funded will focus primarily on renewable energy, energy efficiency, urban infrastructure and sustainable

transportation projects, greenhouse gas emission reduction and abatement projects, as well as projects associated with adapting to climate change vulnerabilities. Canada's contribution is expected to enhance the ADB's capacity to mobilize private finance to address climate change.

Updates on Key Initiatives

International Development Research Centre

– Partnering with More Than 20 Institutions Across the World Through the International Development Research Centre, Canada has provided $35.5 million to support research on how best to adapt to the impacts of climate change in Africa, Asia, and Latin America and the Caribbean. In Asia and Latin America and the Caribbean, research will contribute to solutions for managing the water-related impacts of climate change such as flooding, melting glaciers, rising sea-levels, and more frequent and intense storms. In Africa, researchers are investigating population health vulnerabilities to vector-borne diseases, looking at how to manage scarce water resources to safeguard agricultural production, and assessing the feasibility of different adaptation strategies to inform African governments' responses to climate change.

For example, in Burkina Faso, the Institut International d'Ingénierie de l'Eau et de l'Environnement (2iE) is exploring water conservation strategies to cope with climate change. Increasingly, Burkinabe farmers face longer and more frequent periods of drought.

To address this challenge to agricultural production and food security, low-cost reservoirs have been constructed adjacent to farmers' fields in two pilot communities to capture rainwater that can be used to irrigate crops. In addition to testing this irrigation strategy, 2iE is also training 200 farmers on how to access improved weather information to help them plan seed sowing and manage irrigation under increasingly uncertain conditions.

So far, the project has achieved the following results:

- The first two of three years of pilot tests in the region of Yatenga and Bam have demonstrated that the water reservoirs can extend the growing season by up to six weeks and boost the yield of key staple foods like maize and sorghum by as much as 20%.

- After the interest raised by the project, the government of Burkina Faso through the Ministry of Water and Agriculture has been promoting a first country-wide initiative on rain water harvesting with a cash-for-work program aiming to build 10 000 collection basins by the end of 2013. To date, nearly 4 000 basins have already been built.

Support for Nationally Appropriate Mitigation Action Development

For year 2 and 3 of the fast-start financing period, Environment Canada provided over $9 million to support sector by sector mitigation projects in Africa and Latin America and the Caribbean. While reinforcing our existing bilateral partnerships, these innovative projects provided an opportunity for

developing countries to develop and adopt climate mitigation actions appropriate to their own circumstances. For example:

••$3.5 million was disbursed to support Mexico, Costa Rica and Peru in developing an approach to implement nationally appropriate mitigation actions in the housing sector. A series of innovative country-specific mitigation actions and efforts to enhance stakeholders' participation and mobilize private-sector investments were developed. The low-carbon housing roadmaps are now under consideration and implementation in these countries.

••Canada provided $2.6 million to support Mexico, Colombia, Chile and the Dominican Republic in the development and implementation of mitigation actions in the solid waste sector, with capacity building, feasibility studies and pilot projects. Once fully implemented, greenhouse gas emissions—especially short-lived climate pollutants such as methane and black carbon—will be significantly reduced.

Mobilizing Private Sector Investment

A large portion of our fast-start financing was provided to multilateral organizations such as the International Finance Corporation (IFC), the Inter-American Development Bank (IDB) and the Asian Development Bank (ADB) for the establishment of Canadian facilities targeting the mobilization of private-sector investment in climate-friendly sectors in developing countries. The first two facilities, at the IFC and IDB, have begun programming, whereas the newest facility, at the ADB, is being operationalized.

Projects supported by these Canadian facilities are expected to generate significant environmental benefits and contributed to leveraging investment from the public and private sectors. To date, approximately $95 million of Canadian funding has been approved, which is helping to mobilize over $822 million of public and private sector investment and contributing to achieving annual greenhouse gas emission reductions of over 559 900 metric tons of CO2 equivalent.

These facilities achieve an incremental benefit by providing support to projects with measurable, positive climate impacts that require some financing on concessional terms to be viable. An example of a project supported in the past year illustrates how public funds can leverage private financing to advance climate goals.

In March 2013, the IDB approved a loan package of $41.4 million, including $20.7 million from the Canadian Climate Fund for the Private Sector in the Americas, for the construction, operation and maintenance of three photovoltaic solar power plants in the Atacama Desert in northern Chile.

The total project cost will be approximately US$84 million, with a mix of public and private sector funding making up the balance of the investment.

With a capacity of 26.5 megawatts, the three plants are the first large-scale solar plants in Chile. Currently, Chile relies heavily on imported fuels, which represent the majority percentage of its energy consumption. Through this project, Chile will enhance its energy security and demonstrate that solar

energy can, in a clean and affordable way, help meet demand from the Chilean mining industry, which currently accounts for a significant portion of total energy consumption and economic output in Chile. The project is expected to prevent the release of 56 000 tons of CO2 each year, for a total of more than a million tons for the duration of the loans.

What Is Next For Canada?

As highlighted in this report, Canada is very proud to have fully delivered on its commitment to provide its fair share of fast-start financing. Our contribution to and collaboration with bilateral, multilateral, private sector and non-governmental partners are generating significant environmental benefits and are paving the way for continued progress under the United Nations Framework Convention on Climate Change.

As funds continue to be allocated at the project level by Canadian facilities at the IFC, IDB and ADB, mobilizing additional public and private finance, we expect significant additional investments to be made with both adaptation and mitigation benefits. We will continue to monitor and report on the distribution of funds, in line with the reporting timetables agreed under the Convention, as well as on the Government of Canada's climate change Web page.

Monitoring the result of the investments made is critical for drawing lessons from our financing experiences, including fast-start, and to build on effective approaches to mobilize private finance in support of developing-country actions and targets. In doing so, we are working in collaboration with other countries, multilateral institutions and the private sector to identify best practices that can be built upon, catalogue barriers that we could address, and consider opportunities for strengthening the mobilization of financing for climate-friendly projects. For example, through the Organisation for Economic Co-operation and Development, we are already collaborating on clarifying issues relating to the tracking of private climate finance and the results of our efforts to mobilize it.

Finally, we remain committed to the goal of jointly mobilizing $100 billion per year by 2020 to address the needs of developing countries, in the context of meaningful mitigation actions and transparency on implementation, and we look forward to working with our partners in this regard.

For more information on Canada's fast-start financing, visit www.climatechange.gc.ca.