Innovations LIVE

Effective solutions to climate change in Latin America and the Caribbean.

IDB

Effective solutions to climate change in Latin America and the Caribbean.

INNOVATIONS LIVE

IDB

INNOVATION & CLIMATE

As we continue working on climate change, one concept keeps resurfacing: the need to innovate

Climate change is changing the business as usual, which means changing policy priorities or allocating resources to actions previously underfunded. But also, changing business as usual is an opportunity to do things differently, and opportunity to innovate.

Innovation can come in different forms, from processes to using different materials, to taping into new sources of financing, all of these choices made hoping to achieve a different outcome. Whether the outcome is to encourage more people to take action through community engagement or to increase a country's energy security by diversifying the energy matrix, innovation serves as a positive force for change. Innovation creates ideas, exciting exchange of lessons among teams, enabling a virtuous cycle of creation and learning that takes us to a better tomorrow. That is the underlying philosophy the IDB has adopted, and the work on climate is no exception.

We recognize that for climate action, three main building blocks have change the way we do things. New technology, changing financing schemes and generating policy frameworks that allows all these options to take root.

Innovative Technologies, Financing Schemes and Policies, can help respond to the rising challenge of climate change in the Latin American region. This region is particularly vulnerable, with an estimated annual cost of around 2 to 4 % of the region's GDP by 2050. In fact, these costs are even higher when taking into account income levels, where the most vulnerable populations in the region are the ones bearing higher costs.

The challenge of climate is an opportunity to change development patterns towards low carbon and resilient development, opening up new opportunities for every inhabitant of Latin-America. This publication is just a sample of 27 innovative experiences ranging from Mexico to Haiti. They showcase innovative business practices in remote communities, fostering green bonds in large capital markets, as well as advance policy initiatives that combine fiscal instruments with big data. These are examples of projects the IDB has designed together with the region to improve lives. Every day. Live.

Alexandre Meira da Rosa
Vice President for Countries
Inter-American Development Bank

Cataloging-in-Publication data provided by the Inter-American Development Bank Felipe Herrera Library

Inter-American Development Bank
Innovations LIVE: effective solutions to climate change in Latin America and the Caribbean / Inter-American Development Bank
p. cm. — (IDB Monograph ; 273)
1. Climatic changes—Environmental aspects—Latin America. 2. Climatic changes—Environmental aspects—Caribbean Area. 3. Climate change mitigation—Latin America. 4. Climate change mitigation—Caribbean Area. I. Inter-American Development Bank. Climate Change and Sustainability Division. II. Title. III. Series.
IDB-MG-273

Keywords: Climate Change, Adaptation, Mitigation, Latin America, Caribbean, Financing, Technology, Big data, Policy
JEL Codes: Q2 , Q54, O13

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Design and editing: Cecilia Reifschneider | Chapter introductions: Agustín Cáceres

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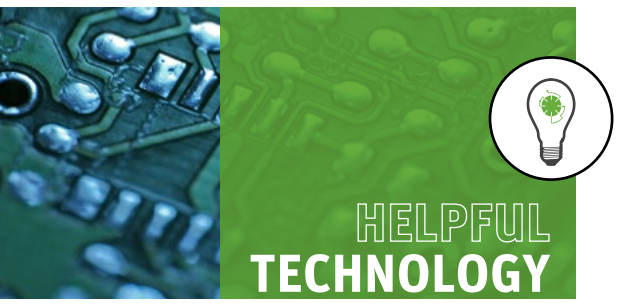
Stories of effective solutions to the climate challenge in Latin America and the Caribbean



HELPFUL TECHNOLOGY

> “There’s a way to do it better... find it.” Thomas A. Edison

If anything will characterize the twenty-first century it is the birth and spread of technologies with enormous disruptive effect. The advances of the digital world have transformed the way we consume, learn and relate. It has also created new business opportunities.

Technology in the field of climate change is no exception: new technologies are changing the way we share information and transforming climate sectors such as agriculture, transport, water resource management and energy generation.

The following pages contain some examples of technology and knowledge transfer in new markets, as well as the use of big data to improve climate adaptability in agriculture, and water management.

Housing developers innovate to avoid CO2 emissions

The first-ever Nationally Appropriate Mitigation Action specific to housing pools resources to scale up the deployment of low-carbon homes.

The ECOCASA program requires that housing projects have a minimum of 20 percent reduction of CO2 emissions compared to a baseline, however it does not prescribe particular technologies.

This spurs innovation among different developers, which can experiment with bioclimatic design, architecture that is connected to nature, different technologies and building materials. It also keeps costs low as developers can adapt their housing designs to the wide variety of climate zones in Mexico. The program intends to contribute directly to the reduction of over a million tons of greenhouse gas emissions over 40 years, the estimated life-cycle of these houses.

The program's concessional resources are being used to provide bridge loans to developers for construction of low-income houses with low-carbon standards in Mexico.

ECOCASA is expected to build 27,600 houses and finance some 1,700 "green" mortgages. By increasing the production of low-carbon housing via adequate financing and the supply of mortgages for low-carbon housing, ECOCASA helps reduce energy consumption and spending, cut greenhouse gas emissions and strengthen government policies and initiatives.

The program mainstreams sustainability criteria in the housing industry by the deployment of low-carbon housing with financing and incentives that lowers the costs for developers and home owners.

The program is also expected to provide additional, long-lasting benefits to the housing sector in Mexico, as it will be part of Mexico's NAMA plan.

Winner
UNFCCC Lighthouse Activity Award
Momentum for Change

As of early 2014, more than 700 housing units were completed, over 5.000 additional units were approved for financing and are currently under construction, and more than 9.000 additional units had submitted for evaluation.

ECOCASA has led to the creation of a strong structure of institutional coordination with the relevant agents in the housing sector. Every month, the program financiers who participate in the Sustainable Housing Committee, organized by the Comisión Nacional de Vivienda CONAVI, make joint decisions on technical and policy aspects.

IDB Project #

ME-L1121
ME-T1201
ME-T1202

Country of implementation:
Mexico

Dates of implementation:
2012-present

Institutional counterpart:
Sociedad Hipotecaria Federal (SHF)

Amount disbursed/leveraged:
US$99.5 million
50 million IDB and 49.5 million CTF; co-financing from KfW US$ 105.5 million and the LAIF US$ 9 million

IDB Divisions:
Capital Markets and Financial Institutions (CMF)
Climate Change and Sustainability (CCS)

More info?
read the blog post
all about ECOCASA
watch the video

ECOCASA

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What can our ancestors teach us about climate change adaptation?

Taking advantage of their rich cultural heritage, Guyana and Peru apply their ancestral knowledge towards a sustainable lifestyle for those with little means.

IDB Project #
GY-L1019

Guyana is implementing a groundbreaking housing scheme in the countryside to improve lives of Amerindians, a group afflicted by high rates of unemployment and poverty.

According to a 2009 IDB study, 74 percent of Amerindians live in inadequate and overcrowded housing, and affordable housing can be an issue even where subsidies exist.

The solution, being tested in two regions in Guyana, is a system where the community pays for new homes or improvements through their own time and labor. So far, 208 families have already shared and preserved traditional knowledge in construction while building houses out of affordable, local materials. They are the happy owners of homes with sanitary systems and potable water, due to rainwater harvesting.

It's just a start, but such programs can bring hope for a better life.

Country of implementation:
Guyana

Dates of implementation:
2014

IDB Divisions:
Fiscal Municipal Management (FMM)

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IDB Project #
PE-L1149

Meanwhile, Peru is tapping into their patrimony to recover the productivity of pre-Columbian agricultural terraces, or pata-pata in Quechua.

Country of implementation:
Peru

Dates of implementation:
2014

IDB Divisions:
Climate Change and Sustainability (CCS)
Gender and Diversity (GDI)

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Then and now, these terraces are a means of expanding the agricultural frontier, adapt to climate change, control erosion and prevent natural disasters, while promoting food security.

The project is an ambitious undertaking, kicked-off by the cataloging and georeferencing of 340.719 hectares of terraces throughout 11 regions in the country. We've found that 75 percent of the pata-pata is currently in use, but in some areas productivity is especially low due to disrepair.

Of farmers who participated in the pilot, 84% have seen increases in income linked to productivity (Quinoa, for example produced almost twice as much).

For now, the IDB will focus on 16000 families living in a key six percent of these terraces. We will manage natural resources to balance water cultivation and small water infrastructure elements, while strengthening technical capacities, promoting cultural knowledge, and creating a "traditional crop" seal to boost income.

Women take matters into their own hands and become plumbers

Low-income women in Mexico learn the water sanitation trade and install specially designed water fixtures, taking control of home finances and climate change.

IDB Project #
ME-M1080

Country of implementation:
Mexico

Dates of implementation:
2014-2015

Amount disbursed/leveraged:
US$785,000
MIF contribution: USD300,000

IDB Group:
Multilateral Investment Fund (MIF)

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This 100% self-sustainable pilot project addressed severe water shortage around Mexico City and included citizen activism in the governance of their city's water supply.

About 70 percent of Mexico City's water comes from an aquifer, leaving the water table incredibly stressed. About 30 percent of the water is pumped uphill from kilometers away. Currently there are ten million people in Mexico who lack access to clean water.

Thanks to the Lady Plumbers training program, developed by Cambio Azul S.A with financial support from the MIF, the new formal labor force changed the water fixtures of 15,000 low-income households in water-stressed regions. Specially designed, innovative, high-efficiency water fixtures were installed by teams of 50 local women, trained as plumbers through the project duration. Once the water fixtures were designed and the relative custom molds produced, production of additional units were quite inexpensive.

Each family that participated in the project is expected to save 40+ days of income per year (approximately US$300) by lowering their use of hot water. That is equivalent to up to 40% water and 25% energy savings per household, and approximately 15,000 CO2 tons/year worth of carbon credits.

The projects' sustainability is achieved through the sale of carbon and water credits, certified under the UN CDM scheme (registered as Gold Standard and CDM in 2012).

The set-up costs were financed through a blend of reimbursable and non-reimbursable resources provided by the MIF, the project developer, and the prospective buyer of the carbon credits.

We hope that other cities in Central and South America adapt the training, distribution and logistics arrangements, and data collection and analysis of the project to reach groups for which formal labor opportunities are in scarce supply, while relieving water stressed regions.

Before
the instalation of high-efficiency water fixtures
almost
4 gallons per minute
of running water

After
the instalation of high-efficiency water fixtures
almost
1 gallon per minute
of running water

Hybrid buses tackle air quality and fossil fuel dependency

Bogotá's integrated public transport system to finance hybrid and electric buses.

Bogotá is a leader in innovative urban mass transport solutions. It is expected that the present program will serve as a model for other cities in the region.

Some 282 clean technology buses have replaced aging and polluting public transport vehicles serving residents of Bogotá, Colombia. The new buses reduce operating costs, improve air quality, and cut GHG emissions.

The Technological Transformation Program for Bogotá's Integrated Public Transport System has been financed by a CTF loan for US$40 million.

Investment in new vehicles for the SITP will amount to approximately US$840 million over the concession period of 24 years. In order to meet these investment requirements, SITP concessionaires firms can either use their own capital or obtain financing through local financial institutions.

Designed in 2009, the SITP is being implemented gradually to ensure a smooth transition to the new operating system.

The SITP complements Bogotá's Bus Rapid Transit system known as Transmilenio, which presently consists of 116 kilometers of exclusive lanes for high-capacity buses. These corridors currently handle 31 percent of public transport trips. The remaining 69 percent are served by the traditional public transport fleet, which the SITP will gradually replace. It is expected that the number of buses will be reduced from 16,000 to 9,900 while replacing diesel buses more than 12-years-old.

The total implementation of the SITP in Bogotá over a 24 year period, will lead to a GHG emissions reduction of 2.2 million metric tons.

The emission reductions will result from reductions in the size of the city's bus fleet, optimization of the transit routes, reductions in the average age of the fleet, and technological improvements in diesel engines and hybrid and electric buses.

In the same way that the Transmilenio system has been replicated in over 30 cities around the world, the SITP model has a high potential for being adopted by other cities seeking an integrated multi modal transport system that is both well organized and environmentally sustainable.

IDB Project #
CO-L1096

Country of implementation:
Colombia

Dates of implementation:
2010-2013

Amount disbursed/leveraged:
US$40 million

IDB Divisions:
Transport (TSP)

The Hybrid and Electric Bus Test Program, an initiative designed and implemented by the C40 Cities Climate Leadership Group in partnership with the Clinton Climate Initiative, and with financial support from the Inter-American Development Bank (IDB), makes the case that hybrid and electric technologies can perform as well or better than comparable diesel-powered buses and within a reasonable payback period. In Latin America, where the transport sector is already the largest contributor of GHG emissions, several cities have been working to improve their transport systems to achieve improved air quality, better road safety, and greater social inclusion.

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Creating new methodologies to effectively ride the data wave

New realities make new methodologies crucial to handling our environment and making informed socio-economic plans and decisions.

IDB Project #
BA-T1025

Country of implementation:
Barbados

Approval date:
2013

Institutional counterpart:
Government of Barbados (GOB)
Coastal Zone Management Unit (CZMU)

IDB Divisions:
Rural Development and Disaster Risk Management (RND)

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Latin America and the Caribbean's economy is inextricably linked to water — be it in the form of marine and coastal environments or freshwater systems such as rivers and lakes.

In Barbados, the tourism industry, which is heavily dependent on the marine and coastal environment, accounts for over 40% of employment and GDP.

Yet the country faces a number of challenges in systematically managing coastal resources and risks in the face of a changing climate.

Together with the IDB, the government of Barbados has partnered the Natural Capital Project, the World Wildlife Fund, and The Nature Conservancy, as well as contracted the consortium Downstream Strategies to develop this new stakeholder-driven methodology.

This science-policy methodology is now used to identify, prioritize, map and estimate the economic value of ecosystem services in Barbados, while building analytical capacity with custom spatial tools such as InVEST (Integrated Valuation of Ecosystem Services and Tradeoffs). With it, Barbadians can improve the management of a source of sustenance, inspiration, recreation, and cultural heritage — the coast.

How vulnerable can a specific hydroelectric system be to climate change and what can be done to adapt these systems to anticipated impacts?

Throughout Latin America and the Caribbean hydroelectric plants contribute significantly to the reduction of CO2 emissions from the energy generation sector. However, countries need to know how to tackle impending impacts of climate change on hydroelectricity at the plant level.

That is why, over the last two years, the IDB and partners analyzed terabytes-worth of information to develop a step-wise methodology for hydroelectric plants.

The effort involved combining a group of state of the art software, analyzing over 500 watersheds in seven countries, and the work of over 40 professionals from Central America.

This new methodology allows hydroelectric plants across Latin America and the Caribbean to define adaptation alternatives to minimize impacts on their productivity margins and assess costs and benefits of these alternatives.

IDB Project #
RG-T1797

Dates of implementation:
2014

Institutional counterpart:
Environmental & Energy Alliance for Central America (AEA), under the coordination of the Latin American Energy Organization (OLADE)

IDB Divisions:
Climate Change and Sustainability (CCS)
Energy (ENE)

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Betting on the public domain to strengthen the coffee sector

Using the latest sequencing technology, researches decode the arabica and eugenioides coffee genomes, furthering the climate smart agriculture agenda.

Recent weather patterns are responsible for changes in coffee production, with significant impacts on production, incidence of pests and diseases, and risks to the sustainability of coffee ecosystems.

For example, the coffee leaf rust fungus has had devastating effects in Latin America. During the 2012-13 harvest, over 50 percent of the Central American coffee farm area was affected by the fungus and more than 350,000 people lost their jobs.

Quality coffee farming requires long-term solutions that enable producers to adapt to new conditions and reduce the uncertainty that climate can have on production. Among the options for adaptation is the adoption of new varieties. Currently, the complete breeding cycle to develop new varieties can take over twelve years. However, both the time and costs of the breeding process could be reduced given this new genomic information.

The complete sequence of the 22 coffee chromosomes was decoded in an effort to accelerate the process of selecting plant varieties that tackle both local climatic changes and the specific needs of coffee growers.

This advanced and highly detailed data was generated using the latest sequencing technology in an effort to strengthen the competitiveness and sustainability of the production of high quality coffee in the global market. The genetic information of the Coffea arabica and Coffea eugenioides species contains the location and characterization of more than 30,000 genes responsible for all aspects of the plant, and is valuable information for coffee breeders. These results add to the recent announcement of the genome sequencing of the robusta coffee species Coffea canephora, conducted by a consortium led by French researchers.

The future of the coffee industry, which is responsible for over 14 million jobs in Latin America and the Caribbean, depends on the ability of farmers to cope with the continuous climatic, technological and economic changes that are currently taking place. Proper use of advanced technologies in conjunction with other adaptation measures will allow farmers to continue in the coffee business, thus encouraging the communities' economic and social development.

IDB Project #

RG-T1655

Country of implementation:

Colombia

Dates of implementation:

2010-2014

Institutional counterpart:
National Coffee Research Center (CENICAFE) — the R&D arm of the Colombian Coffee Growers Federation (FNC), and
Regional Fund for Agricultural Technology (FONTAGRO).

Amount disbursed/leveraged:

US$770,000

IDB Divisions:
Climate Change and Sustainability (CCS)

More info?

share the blog post: Can Colombia lead the way to the agriculture of the future?

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Hydro-BID data management and simulation system

Forecasting water balances at the basin-level under scenarios of climate change in Latin America and the Caribbean.

IDB Project #
RG-T1862

Institutional counterpart:
Comisión Regional del Río Bermejo (COREBE, Argentina)

Amount disbursed/leveraged:
US$ 495,000
Multi-donor Aquafund

IDB Divisions:
Water and Sanitation (WSA)

More info?
read the blog post
watch the video

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As part of its commitment to help member countries adapt to climate change, the IDB has sponsored work to develop and apply an integrated suite of cutting edge watershed modeling tools.

The Hydro-BID modeling system includes hydrology and climate analysis modules to estimate the availability (volumes and fluxes) of freshwater at the regional, basin, and sub-basin scales. It also includes economic analysis and decision support tools that estimate the costs and benefits of adaptive measures, which helps make informed choices among alternative designs for infrastructure projects and water resources management policies.

The outcome of this effort produced a first version of Hydro-BID, an integrated hydrology and water resources simulation model for Latin America and the Caribbean. The Hydro-BID system includes the following:

- Analytical Hydrography Dataset (AHD) representing more than 230,000 catchments in the LAC region and their corresponding river and stream segments;
- Geographic information system-based navigation tool to browse AHD catchments and streams with the capability of navigating upstream and downstream;
- User interface for specifying the area and time period to be modeled and the location at which water availability will be modeled;
- Climate data interface to obtain rainfall and temperature inputs for the area and period of interest;
- Rainfall-runoff model based on the Generalized Watershed Loading Factor (GWLF) model; and
- Routing scheme for quantifying time of travel and accumulating flow estimates across downstream catchments.

Hydro-BID generates output in the form of a daily time series of flow estimates for the selected location and period.

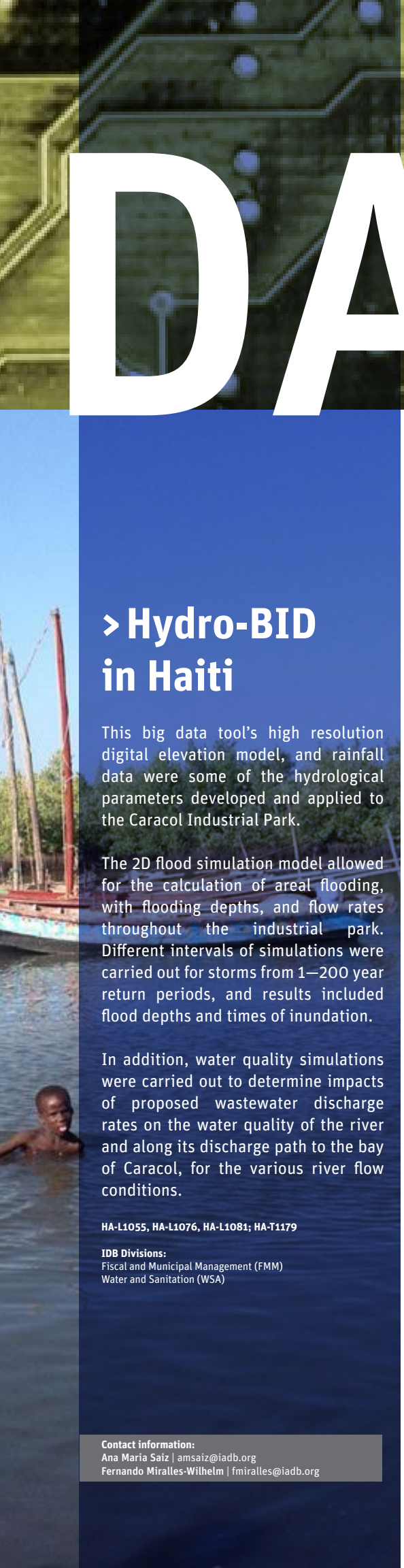
This data management tool has been developed to serve as a key planning tool for:

- Water resources planning and management agencies;
- Drainage/flood control authorities;
- Irrigation authorities;
- Hydroelectric power generators;
- Water supply and sanitation utilities; and
- Industrial water users.

Hydro-BID was designed from the ground-up to be a scalable data management and simulation system, capable of simulating single watersheds (as small as 50-60 km2) to larger watersheds (typically on the order of thousands of km2).

The IDB is currently scaling up pilot applications to the national level.

DATA



> Hydro-BID in Haiti

This big data tool's high resolution digital elevation model, and rainfall data were some of the hydrological parameters developed and applied to the Caracol Industrial Park.

The 2D flood simulation model allowed for the calculation of areal flooding, with flooding depths, and flow rates throughout the industrial park. Different intervals of simulations were carried out for storms from 1—200 year return periods, and results included flood depths and times of inundation.

In addition, water quality simulations were carried out to determine impacts of proposed wastewater discharge rates on the water quality of the river and along its discharge path to the bay of Caracol, for the various river flow conditions.

HA-L1055, HA-L1076, HA-L1081; HA-T1179

IDB Divisions:
Fiscal and Municipal Management (FMM)
Water and Sanitation (WSA)

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Agrimonitor

A new knowledge platform for agricultural policy monitoring and analysis

IDB Project #
RG-T1872

Did you know Jamaicans pay higher prices for farm produce than any other Caribbean countries? Or what percentage of its national budget Colombia spends on agricultural research?

Researchers and policymakers now have these facts at their fingertips through the first agricultural policy-oriented tool for the Latin American and Caribbean region — Agrimonitor.

This offers an invaluable opportunity for a detailed quantitative evaluation of the agricultural policies of the region. The database collates information on the transfers to producers of farm products arising from the mix of policies in use in each country. Calculations are performed for a basket of products representing at least 70% of the gross value of agricultural production on average during the three years prior to the study.

Most taxpayers want to know how their hard-earned money is being spent, and consumers want to know why food prices are so high - now it's that much easier to get answers about topics such as payments of subsidies and commodity transfers to support prices.

Today, with issues such as climate change, food security, competitiveness and regional integration on the public policy agenda, the Producer Support Estimate (PSE) concept has never been so important.

Dates of implementation:
2013 - 2014

Institutional counterpart:
National Coffee Research Center (CENICAFE) — the R&D arm of the Colombian Coffee Growers Federation (FNC), and
Regional Fund for Agricultural Technology (FONTAGRO).

Amount disbursed/leveraged:
US$ 1.17 million

IDB Divisions:
Rural Development and Disaster Risk Management (RND)
Climate Change and Sustainability (CCS)

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Agrimonitor PSE Database

SMART FINANCING

> "Everything that can be counted does not necessarily count; everything that counts cannot necessarily be counted." Albert Einstein

You don't just need ideas to innovate, you also need access to resources. The IDB mobilizes public, private, and international climate finance to bring Latin America and the Caribbean new solutions and innovative models for tackling climate change with proven effectiveness.

In 2013 alone, the region received a total of 2.806 million dollars in international climate finance. Forty-three percent of this total was channeled through the IDB — 1.220 million.

In addition to mobilizing international financing, we also support new forms of private funding to leverage additional resources and promote new business opportunities that strive for a sustainable development model, low in carbon and resilient to climate change. An example is the green bonds, which brings together funds and institutional investors. The IDB plays an important role in facilitating these transactions, by aligning the interests of depositors and investors and reducing the initial risk associated with the financing of such innovative projects.

Photo: Vicepresidente Álvaro García Linera indemniza el Seguro Agrario en el municipio de Gutiérrez ©http://www.insa.gob.bo

Pachamama insures farmers against extreme weather events

Highly vulnerable rural population gets groundbreaking access to risk management instruments in an effort to adapt.

IDB Project #

BO-T1221
BO-T1224

Country of implementation:
Bolivia

Approval date:
2014

Institutional counterpart:
Instituto Nacional del Seguro Agrario
(National Institute of Agriculture Insurance)

Amount disbursed/leveraged:
US$670,000
Non-reimbursable resources provided by the IDB (approved)
US$10 million
Concessional financing by the CIF-PPCR Private Sector Set-aside was identified (endorsed).

IDB Divisions:
Capital Markets and Financial Institutions (CMF)
Rural Development and Disaster Risk Management (RND)
Climate Change and Sustainability (CCS)

More info?
photos, interviews & publications:

www.insa.gob.bo

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The "Pachamama" Agricultural Insurance Program was developed by the Government of Bolivia to help farmers to cope with losses caused by extreme weather events.

Thanks to the involvement of municipal and community authorities, the project introduces a financial instrument to those living in remote areas, a previously untapped local insurance market.

The first phase of the program, which is currently in pilot stage, involves the implementation of multi-peril protection insurance for small farmers in only the poorest of municipalities.

The project protects food security by providing insurance coverage to strategic crops in the country, and contributes to poverty reduction by alleviating the economic impacts of extreme weather events to the more vulnerable population.

Although "Pachamama" was conceived as a public-private scheme in which the government is responsible for risk-sharing, financing and distribution and administration activities, while the local insurers provide the underwriting of the risks; the government is currently absorbing all the risks of the insurance policies issued by the project.

Continuing with the current level of risk retention by the public sector could compromise the expansion and sustainability of the insurance program in the long term, as the potential financial impact of agricultural risks could substantially increase and Bolivia's fiscal position could vary adversely in the future.

Crowding in private insurance companies into this new segment requires:

- technical capabilities and information to properly analyze risks, and
- risk sharing mechanisms.

Therefore, new financial instruments are being developed in order to expand the scope of the agricultural insurance (both geographic expansion and crops coverage) in an efficient way, for instance, through the design of parametric insurance policies.

Furthermore, in order to strengthen the long term sustainability of the insurance program, improve its financial efficiency and facilitate the participation of the local insurance market and international re-insurers, the project will support the establishment of a stop loss fund that will cover a portion of the eventual losses (second loss) of the insurance program, leaving the first loss to participating local insurers who will transfer the tail risk and losses to the international reinsurance market.

Commercial buildings turn the switch on energy efficiency

The first guarantee fund that covers both project performance and borrower credit risk is transforming Brazil's energy market.

In terms of energy, efficiency might be the best means to meet Latin America and the Caribbean's needs, and jump starting this market could start a revolution throughout our region.

However, even in a giant such as Brazil, investments are typically too small and costly for commercial banks, and the technology risks are not well understood by the market.

As the first guarantee fund that covers both project performance and borrower credit risk, the Energy Efficiency Guarantee Mechanism (EEGM) is transforming Brazil's energy efficiency market. The fast tracked loan approval processes of the mechanism can be made directly to end users or energy efficiency service companies, and allows for flexibility in the structuring of projects, with guarantees of up to 80% of the project cost.

The lack of access to specific project financing is one of the main barriers for the development of both energy efficiency projects and a sustainable market of energy service companies in Brazil. Obstacles to financing include that fact that these service companies don't have significant assets against which to borrow, and that their assets are mainly energy savings contracts with payment streams that vary depending upon performance.

Winner of the 2014 "QUALIESCO" Award for innovation for energy efficiency project, with guaranteed savings in energy achieved.

Other important barriers for the development of the energy efficiency market in Brazil include the lack of:

- Specific financing mechanisms for companies and their clients
- Trust in the expected financial benefits of proposed projects
- Efficiency-related expertise within organizations, causing difficulty in "selling" these projects either internally or to different market players; and,
- Capacity among market players to develop a strong energy efficiency market.

The project therefore contemplates a capacity-building program together with the financing mechanism in an amount of US$25 million, administered by the UNDP.

The IDB is expected to act as Guarantor of Record for up to US$25 million under the EEGM, taking up to US$15 million of exposure for its own account, while Global Environment Facility (GEF) funds will support the other US$10 million of risk.

IDB Project #
BR-X1018

Country of implementation:
Brazil

Dates of implementation:
2012-2023

Institutional counterpart:
Global Environment Facility (GEF) and United Nations Development Program (UNDP)

Amount disbursed/leveraged:
$25million
10m from GEF support for risk and $15m IDB exposure

IDB Divisions:
Structured and Corporate Finance (SCF)

More info?
read the case study
share the blog post
download the publication
www.eegm.org

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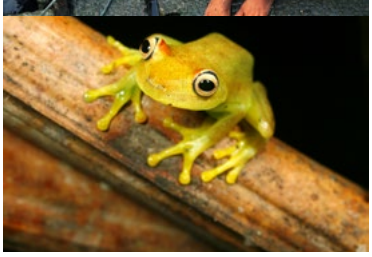
Matthew McClymont



Natural capital- financing the sustainability of this development asset

Latin America gets an extra boost towards a paradigm shift in the conservation and sustainable use of ecosystems and biodiversity.

Latin American countries are betting on a new development model of which emphasizes the conservation of their forests.

Our planet is currently facing major challenges due to climate change. The population of Latin America and the Caribbean is particularly vulnerable, as it is the most urbanized region in the world. By 2050 it is expected that 87% of the population of the region will live in cities, and yet, a large percentage will continue to depend on economic activities that are very sensitive to climate change, such as agriculture.

It is currently estimated that a rise in temperature of 2.5 degrees Celsius by 2050 could cost the region's economies between 2 and 4% of their annual GDP.

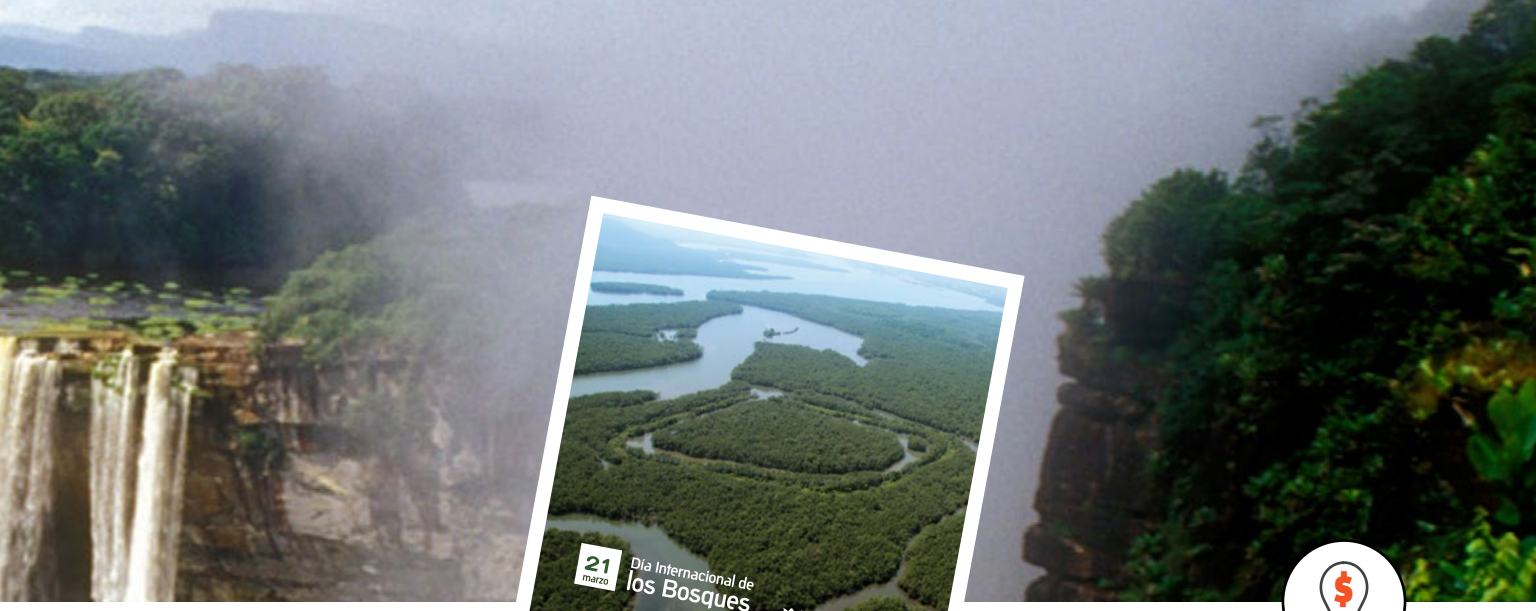
It is in this context that the IDB supports countries in Latin America and the Caribbean to reduce their greenhouse gas emissions and to adapt to the impacts of climate change. The IDB addresses climate change through projects in sectors such as energy, housing, urban transport, agriculture, water management, and sustainable forest and land use.

Currently, 47% of CO2 emissions in the region are a result of deforestation, compared to the 18% worldwide average. Latin America and the Caribbean have lost four million hectares of forest per year between 2005 and 2010, due to either indiscriminate logging or arable land extension in order to fulfill local and global demand. This is the highest deforestation rate in the world.

High rates of tropical deforestation have severe consequences for global and local climate change, loss of biodiversity, flooding, siltation and soil degradation. Deforestation also represents a threat to the livelihoods and cultural integrity of forest-dependent communities and the supply of forest products, as well as ecosystem services that sustain a growing population.

Unfortunately, following the traditional growth model, countries tend to lose their forests. The IDB helps countries in Latin America ensure economic development, food production and security, while protecting their rich forest resources and building a sustainable future.

In the particular case of the Amazon Basin, countries are coming together and betting on this new model of development with support from the IDB. For example, Guyana is implementing its Low Carbon Development Strategy through which policies are established to guide economic growth reducing pressure on its forests. Brazil launched a global partnership between governments, financial and business leaders, conservationists, and public and private donors to fund ARPA for life. This program will support the



protection of 60% of the Brazilian Amazon forest over the next 25 years. That's 518,000 square kilometers (roughly the size of Spain) of tropical rain forest preserved. Colombia and Peru also aim to have zero net deforestation in the Amazon region by 2020 and 2021 respectively, using a holistic approach at the landscape level integrating policy reforms and climate finance.

In addition to mobilizing public, private and international climate financing and developing innovative solutions for financing through capital markets, the IDB also supports new forms of private funding to leverage additional resources and to promote new business opportunities.

In 2013 alone, Latin America and the Caribbean received 2,806 million in international climate finance. Of this total, 1,220 million were channeled through the IDB, accounting for a 43% of the total.

However, we know that funding is not enough. That is why we work closely with countries to build local capacity through knowledge, and provide innovative solutions focusing in policy and the creation of new technologies, all this to enhance the quality of life of over 600 million Latin Americans.

US$167 million

Disbursed/leveraged for climate change projects on forests and land use in the last five years alone

Countries involved:

Brazil, Colombia, Guyana, Guatemala, Mexico, Peru

Dates of implementation:

2012-2023

Institutional counterparts:
Global Environment Facility (GEF)
FIP
FCPF

IDB Group:
Multilateral Investment Fund (MIF)
IDB Divisions:
Rural Development and Disaster Risk Management (RND)
Climate Change and Sustainability (CCS)
Structured and Corporate Finance (SCF)

>Peru's forests gets US$300 million

Working with the IDB to revert deforestation, today Peru has the support of international donors such as Norway and Germany to reduce deforestation and tackle the underlying social problems through a comprehensive approach that includes the recognition of indigenous lands and stronger participatory process, policy reforms, equitable benefit sharing mechanism and a solid forest monitoring system, among others.

The IDB is proud to accompany Peru in its quest for sustainable, low-carbon development, and offers continuous technical support to ensure a resilient future.

More info?

Peru forests celebrate Six reasons to celebrate on World Environment Day

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Green Bonds: the rise of a new asset class in Latin America

Capital markets provide a solution to the finance gap for small clean energy and energy efficiency projects.

IDB Project #
ME-L1150

Country of implementation:
Mexico

Approval date:
2014

Institutional counterpart:
Clean Technology Fund

Amount disbursed/leveraged:
US$ 50 million
Senior revolving loan (max)
US$ 75 million
Partial Credit Guarantees (PCGs)

The PCGs will be provided by the IDB (approx. US$ 56 Million), and the CTF (US$ 19 Million).

Additionally, the International Finance Corporation (IFC) is envisioned for possible co-financing and co-guarantee of the first and second phases, respectively.

IDB Divisions:
Financial Markets (FMK)

More info?
read the Green Bond Principles report by CERES

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As the first green securitized bond in the region that is fully compliant with the Green Bond Principles, this project facilitates access to this novel type of security for local and international institutional investors.

One of the major obstacles encountered by clean energy and energy efficiency projects is the lack of long-term financing, particularly for small sized projects (≤ 5 MW), since investors and lenders focus primarily on large projects. The funding sources accessed by the few existing small sized clean energy projects are usually expensive, limited, require high collateral, and have very short terms maturities.

The project seeks to securitize a pool of clean energy and energy efficiency projects originated by Energy Service Companies in order to obtain financing in the capital markets with better financial conditions and maturities that respond to the specific needs of these projects. The project will also support technical innovation of these companies, while tackling key sectors that can contribute to the reduction of greenhouse gas emissions.

This project will help energy service companies access capital markets through the issuance of Green Bonds. This project is thus contributing to the development of Mexico's capital market, creating an important precedent for this new asset class.

All Energy Service Companies wishing to access Green Bond must:

- Use proceeds for eligible green project categories;
- Have a process for project evaluation and selection;
- Separate management of proceeds to be tracked by the issuer; and
- Comply with periodic reporting requirements.

The IDB offers the Energy Service Companies a financing package of up to US$106 million in two stages, with another US$19 million mobilized from the CTF.

The structure includes financing in the form of a revolving credit line (up to US$50 million, with a term of up to 8 years) to finance clean energy and energy efficiency projects. It also includes guarantees from the IDB and the CTF to back the issuance of the green securitized bonds.

The resources obtained from each issuance of green bonds will be used to replenish the revolving loan to warehouse new projects and subsequently securitize them. This turnover is expected to make it possible to make at least three placements of green bonds every 18-24 months.

This structure could be replicated in capital markets throughout Latin America and the Caribbean, or with other underlying assets.

How can financing provide a solution to natural disasters?

Increasing the availability, stability, and efficiency of contingent financing helps mitigate the impact of severe natural disaster on Nicaragua's public finances.

Establishing state of the art financial risk management practices is an essential part of an integrated climate change and disaster risk management strategy.

Given Nicaragua's high level of financial vulnerability to disasters and climate change, the country's government is structuring an ex ante financial coverage through a contingent loan of US$186 million.

Led by the Ministry of Finance, in coordination with the Executive Secretariat of the National System for Prevention, Mitigation and Disaster Management (SINAPRED), efforts to develop a financial risk management strategy are still at an early stage.

The design of this instrument has incorporated "parametric triggers" to calculate the disasters severity and determine amounts of the loan disbursements, based on a combination of raw magnitude of the event (precipitation, wind speed, etc) and the total affected population that seeks to establish a correlation among the intensity of an event and the amount of losses it generates. The main advantage of these parametric triggers is that the quick estimation of losses caused by a disaster allows for an (almost) immediate availability of resources after the occurrence of an eligible event.

Prestigious scientific organizations, the academia and the reinsurance industry are working to develop and implement these "parametric triggers" under IDB's strategic public-private partnerships:

- The National Oceanic and Atmospheric Administration (NOAA) to model hurricanes and tropical storms
- The United States Geological Survey (USGS) to model earthquakes, and
- The National Aeronautics and Space Administration (NASA) to model precipitation and rainfall.

This collaborative work with scientific, academic and professional communities helps to bring the state-of-art innovation for designing and increasing the reliability of the triggers.

The Inter-American Development Bank has also approved US$1 billion in contingent credit loans for natural disaster emergencies such as hurricanes, earthquakes and floods for the following countries: Dominican Republic, Honduras, Ecuador, Panama, Costa Rica, and Peru.

IDB Project #

NI-X1007
NI-T1188

Country of implementation:
Nicaragua

Dates of implementation:
2014-2015

Institutional counterpart:
Ministry of Finance of Nicaragua and the Executive Secretariat of the National System for Prevention, Mitigation and Disaster Management.

Amount disbursed/leveraged:
US$186 million
Contingent financing and US$220.000 in non-reimbursable resources provided by the Disaster Prevention Fund of the Bank

The coverage of the contingent loan is available for a period of 5 years (renewable for another 5 years), while the technical assistance is expected to be fully implemented by 2015.

IDB Divisions:
Capital Markets and Financial Institutions (CMF)
Rural Development and Disaster Risk Management (RND)

More info?
press release Financial Risk Management Approach
www.iadb.org

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Making green finance available to all

Harnessing the networks and capital of microfinance institutions to bring green finance to those most vulnerable.

IDB Project #
RG-M1205

Countries of implementation:
Mexico, El Salvador, Nicaragua, Dominican Republic, Colombia, Peru, Bolivia, Paraguay and Jamaica

Approval date:
2012

Institutional counterpart:
Nordic Development Fund

Amount disbursed/leveraged:
US$7 million
US$400,000 per project

IDB Group:
Multilateral Investment Fund (MIF)

More info?
learn what is financed by ecomicro and how

www.ecomicro.org

Contact information:
Gregory Watson | gregoryw@iadb.org

Low-income communities in Latin America and the Caribbean do not have broad access to clean energy and energy efficient technologies; they are also disproportionately affected by the effects of climate change.

Small farmers in areas experiencing more frequent droughts, business owners looking to increase their competitiveness with energy-efficient products, and low-income households that seek access to small-scale energy sources all need solutions— and these solutions cost money. However, the microfinance institutions that supply the banking services on which most of these entrepreneurs depend have little to no experience financing these types of investments.

Winner
UNFCCC Lighthouse Activity Awards
Momentum for Change

EcoMicro seeks to bridge this gap with a program designed for Latin American and Caribbean microfinance institutions (MFIs). EcoMicro's purpose is to help MFIs develop green finance products so that micro, small, and medium enterprises and low-income households can access clean energy, increase their energy efficiency, or adapt to climate change. This innovative program also provides benefits for MFIs themselves, as it helps them green operations and provides them the capacity to analyze their loan portfolios' vulnerability to climate change.

EcoMicro will provide a total of $7 million in grants to 12 MFIs across the region. Funds are used to develop, market, and launch green finance products in each MFI, and they leverage the MFIs' balance sheets – unlocking private funds that would not otherwise be available for climate activities. Demand for EcoMicro has been high: 100 institutions in the region have competed for the 12 grants, demonstrating that the industry sees green finance as a growth area. Interest in adaptation lending has grown in each successive selection round from 31% to 66% of applicants seeking to develop adaptation products.

Six EcoMicro projects, co-financed by the IDB's Multilateral Investment Fund (MIF) and the Nordic Development Fund (NDF), are already underway. With the support of EcoMicro, Te Creemos from Mexico and Caja Arequipa from Peru are commercializing green finance products for clean and efficient energy solutions such as solar water heaters and efficient refrigerators that can reduce operational costs through energy savings for microentrepreneurs and low-income households. FDL in Nicaragua, Diaconia in Bolivia, and Sur Futuro in the Domincan Republic are developing loan and microinsurance products to support small farmers in adapting their crops, irrigation systems, and product mixes to climatic effects, and hedging against future losses.

Six other projects are being developed in El Salvador, Colombia, Paraguay, Bolivia, and Jamaica.

› US$102.5 trillion

This is the figure we need to invest by 2030 to ensure sustainable economic growth

Climate finance was at the core of the discussion among leaders who gathered for the UN Climate Summit in New York, and the New Climate Economy report, presented by the Global Commission, has set the numbers we have to confront with when it comes to talking about financing.

According to this report "maintaining or strengthening economic growth until 2030 will require a significant increase in investment, including an estimated cumulative US$89 trillion of investment in infrastructure". In order to make this economic growth sustainable, increased investments are needed in energy efficiency and low carbon technologies for an estimated total of additional US$ 13.5 trillion, the report highlights.

The question is: did the Summit provide an answer to this huge financial challenge?

Governments, Investors and Financial Institutions announced the mobilization of about US$200 billion by the end of 2015 to support climate action. In addition to the initial pledges of about US$2.3 Billion from contributing countries for the capitalization of the Green Climate Fund, there has been a very positive response from the financial and private sector side.

• A coalition of institutional investors, named AP4, committed US$100 billion of institutional investments to reduce the carbon footprint and to measure and disclose the carbon footprint of at least US$500 billion in assets under management. In addition, three major pension funds from North America and Europe announced $31 billion acceleration in low-carbon investments by 2020.

• Commercial banks also committed to US$30 billion in new climate finance by the end of 2015 by issuing green bonds and other innovative financing initiatives.

• The insurance industry has committed to double its green investments to US$82 billion by the end of 2015 and announced it would increase the amount placed in climate smart investments to ten times the current amount, by 2020.

IDB President Luis Alberto Moreno, who participated as a speaker in the Summit, confirmed the strong commitment of the IDB and reaffirmed the target of achieving a 25% lending target for climate and sustainability related operations to be achieved by 2015.

There is still a way to go to cover the trillion figures, but it looks like that the Summit helped us to get on the right track to achieve sustainable economic growth.

Gloria Visconti
More at: blogs.iadb.org/climatechange

Also check out:

Could you reduce your environmental impact for a whole week?

Changing behavior is one of the most challenging things about working in Corporate Environmental and Social Responsibility (CSR). There are many simple actions that employees can adopt on a daily basis that can reduce the environmental footprint of their organization. The question is how can a CSR program motivate employees to adopt more sustainable practices, and do so in a way that is fun, yet educational?

That is exactly what the No Impact experiment is all about. The week-long challenge aims to raise environmental awareness about the impact from our daily activities in a way that fosters long-term behavioral change.

The purpose of carrying out the No Impact challenge in the workplace is to try and foster lifestyle changes that will reduce the environmental footprint of the organization and improve the health and well-being of the employees. Rather than being viewed as a "challenge", the No Impact Week should be viewed as an opportunity; an opportunity to learn about yourself, your community and your environment.

The IDB carried out the No Impact Week in Washington D.C. from September 28th-October 5th and in Buenos Aires, Argentina from November 9th to the 16th.

Maybe it's time for you to promote a No Impact Week in your organization?

More info?

read all BIDcambioclima blog posts: blogs.iadb.org/climatechange

Photos: © Photos. ©Fabio Santori - Enel Green Power

Five steps to turn on the heat and avoid CO2 emissions

Comprehensive scheme addresses the lack of risk capital to cover resource risk of geothermal projects, and reduces fossil fuel dependency.

IDB Project #

ME-L1148
ME-G1005

Country of implementation:
Mexico

Approval date:
2014

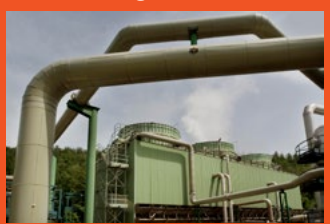
Institutional counterpart:
Nacional Financiera (NAFIN)

Amount disbursed/leveraged:
US$ 120 million
54.3 IDB, 54.3 CTF and 11.5 local counterpart

IDB Divisions:
Capital Markets and Financial Institutions (CMF)
Climate Change and Sustainability (CCS)

More info?
press release
MoU
read the blog post

www.iadb.org



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Latin America and Caribbean have great and still vastly under-exploited geothermal potential, estimated up to 70GW. This could replace more than 21% of the current installed capacity in the region.

Over a dozen countries in the region are actively pursuing the development of new geothermal power plants in order to further reduce their dependency on fossil fuels and to shield their economies from fuel price volatility.

In Mexico, these five innovative financial mechanisms overcome the barriers imposed by high resource risk during test and production drilling of geothermal projects:

- Access to credit from earlier stages of development of projects, thus reducing high-risk capital needs for developers
- Back credit by a guarantee or insurance policy to reduce losses when no or insufficient geothermal resource is found
- Continued financial support for projects, making it possible to refinance as projects evolve, matching financing terms to lower-risk profiles at later stages of project development
- Optimized leverage of available high-risk capital within a portfolio of projects
- Align incentives among parties for developing successful projects

The program is expected to support the development of 300MW of geothermal energy capacity and the avoidance of 33 MTons CO2 in Mexico.

The new energy legislation, approved in August 2014, includes a set of regulations specific to geothermal. The IDB collaborated actively in the production of this new legislation, mainly related to the establishment of a concessional regime and specific considerations on the use of the resource, by which developers should be granted better guarantees for their investments.

A combination of various sources of concessional long term loans and grant funding, including contributions from international donors (Clean Technology Fund, CTF) and a local contribution from the Mexican government, has made possible a structure that will allow risk sharing mechanisms to unlock credit for these projects.

IDB with its partners designed the instrument to optimize the use of available funding, investing grant resources only where they are most efficient and where they leverage the most financing. As minimum capital requirements per project are a precondition for eligibility for financing under the program, the instrument will necessarily leverage a significant amount of private resources.

Shedding renewable light on the mining sector

Reducing the dependency of the mining companies on thermal-based energy while improving competitiveness and sustainability through solar energy.

The Chilean mining industry currently accounts for 18 percent of energy consumption and 19 percent of the country's GDP.

Replacing conventional energy with solar energy in a mining application, in a country whose solar resources are among the best in the world, will decrease the level of GHG emissions in Chile's northern transmission grid while promoting sustainable economic growth.

Currently, roughly 75 percent of Chile's energy sources are imported, representing more than 50 percent of the total value of the country's imports. However, the Chile committed to deriving 20 percent of total installed capacity from renewable sources by 2020.

Soaring power costs and uncertainty over supply have pushed Chileans to look toward securing their own energy supply, largely through the construction of diesel or coal-based generation.

The project will benefit from a concessional loan from the Canadian Climate Fund for the Private Sector in the Americas (C2F) to reduce the overall cost of debt for the Borrowers, help the project overcome an investment barrier related to the cost of solar versus conventional energy technologies and improve the returns to the sponsor to a level that is more consistent with sustainable private investments.

The project primarily consists of the construction, operation and maintenance of a 25.5 megawatt (MW) solar photo-voltaic (PV) power project and its associated facilities located in the Tarapacá region of Chile, as well as the operation and maintenance of a 1MW solar PV plant, for a total of 26.5MW. The project will be connected to the national grid but will sell the bulk of its power under a 20 year power purchase agreement to Compañía Minera Doña Inés de Collahuasi, one of the largest copper mines in Chile.

The first commercial scale solar photo-voltaic project in Chile to negotiate a long term power purchase agreement of any kind.

With many other solar projects currently being contemplated by a conservative mining industry, the success of the project will serve as an incentive to greater investment to bring more solar energy to Chile, a country whose solar resources are among the best in the world.

The Atacama Desert presents exceptional conditions for the development of solar projects. It could boost the entire country's competitiveness and sustainability.

IDB Project #
CH-L1069

Country of implementation:
Chile

Dates of implementation:
2014-2032

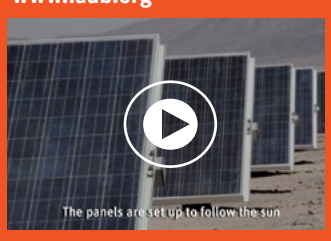
Institutional counterpart:
Canadian Climate Fund:
Elee Muslin, Fund Advisor, eleem@iadb.org

Amount disbursed/leveraged:
US$81.5 million
IDB: $41,400,000.00
Ordinary Capital: $20,700,000.00
Canadian Climate Fund: $ 20,700,000.00
Local counterpart: $41,300,000.00
Total Cost: $82,700,000.00

IDB Divisions:
Structured and Corporate Finance (SCF)
Climate Change and Sustainability (CCS)

More info?
watch the video
read the DEO story
download the APP

www.iadb.org



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Tailor-made financing helps the private sector to go green

Demonstrating, company by company, the feasibility and appeal of renewable energy, through a private sector initiative gaining steam in Central America.

IDB Project #
RG-X1136

Region of implementation:
Central America

Approval date:
2011-present

Institutional counterpart:
Nordic Development Fund

Amount disbursed/leveraged:
over US$100 million
$12.3M Nordic Development Fund, $50M IDB, $50M private sector capital or local bank cofinancing.

IDB Divisions:
Structured and Corporate Finance (SCF)

www.iadb.org

"If you want to really tackle climate change, you have to do it at a company-by-company level. As individual firms start to get their energy costs under control, their competitors will sit up and take notice"
Patrick Doyle

For a peanut processor in Nicaragua, the answer to lower energy costs is right there in plain sight—in peanut shells. For a Costa Rican fruit company, it may lie in the pineapple plants that currently get plowed into the ground. A large recycling operation in Honduras, meanwhile, is looking to lower its energy bills with help from the sun.

Costly, unpredictable energy prices are prompting a range of companies in Central America to look at greener alternatives. The Inter-American Development Bank (IDB) is providing extensive technical assistance and financing to show the viability of such investments, one boiler or biodigester or solar panel array at a time.

A US$50 million Energy Efficiency Finance Facility—established by the IDB, with support from the Nordic Development Fund (NDF)—is offering loans so companies can reduce their energy use or generate some or all of their own energy from renewable sources. A technical assistance fund established under the program provides grants for energy efficiency audits, engineering studies, and cost-benefit analyses to determine what might be the most attractive green solutions for a particular company.

While the initiative is geared toward the private sector, ultimately it will help countries throughout Latin America and the Caribbean by helping cut overall carbon emissions and by lowering consumption, thus reducing pressure on the power grid. That complements efforts the public sector is taking to meet the challenges posed by climate change.

The IDB facility can finance up to half the cost of a company's energy efficiency investment or renewable energy conversion with loans ranging from $500,000 to $5 million. While that is a small amount compared to most IDB loans, it can mean a sizable investment for a small or medium-sized firm. But many such projects save enough money to pay for themselves in just a few years, making them attractive investments for companies looking to cut costs over the long term.

So far, the IDB team has conducted more than 30 energy efficiency audits and feasibility studies across a range of sectors, from shrimp farming to clothing manufacturing to dairy operations. This effort began in Central America, but the Energy Efficiency Finance Facility is open to companies in the rest of the region as well.

In many cases, the studies have demonstrated the viability of renewable energy—especially solar or biofuel—to cut costs and bring environmental benefits. Of course, each project must be evaluated on its own merits, based on a wide range of variables such as a company's size, energy usage, current costs, borrowing capacity, operating priorities, physical plant, and environmental and global climate benefits.

The country's energy mix has a lot to do with price stability. Many countries use imported oil for a significant amount of their electricity needs, and spikes in oil prices can significantly drive up costs. Many industrial plants also

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SECTOR

have oil-fueled boilers that generate industrial heat, which can be an expensive and dirty source of energy.

One promising source of cleaner, renewable energy, especially in the agribusiness sector, is biomass—organic material that can be burned or fermented or treated in other ways to release stored carbon and produce energy. Biofuels produced from biomass are a carbon-free alternative to fossil fuels. The costs of generating electricity or heat this way can also be far lower and more predictable, especially when crop waste or agricultural byproducts are available in sufficient quantities to make the project sustainable.

You need a certain scale to be able to produce your own electricity from biomass. Whether or not such projects make financial sense depends to a large extent on a company's current energy costs: The more expensive these are, the more attractive the investment in renewable energy.

>A Lot to Digest

Another company determined to reduce its energy costs is a meat processor called Matadero Central, S.A.—Macesa for short.

Located on the outskirts of Juigalpa, in the heart of Nicaragua's ranching country, it is the largest local employer, with a workforce of more than 520.

After the cattle it buys from local ranchers, energy is the company's second-biggest expense, costing around $320,000 per month, said Silvia Sequeira, who runs the plant. Chill rooms and freezers can never be turned off. The company, which processes 10,500 head of cattle every month, sells fresh and frozen cuts of beef for export around the world, as well as other edible and non-edible byproducts.

While the plant's chilling systems run on electricity from Nicaragua's power grid, more than a third of Macesa's energy costs come from bunker fuel. The oil is used to operate a boiler, which generates high-pressure steam.

The wastewater that comes out of this process currently goes into a series of open-air, gravity-fed oxidation ponds in which any residual organic matter gradually breaks down and releases gases such as methane—not unlike a cow's own digestive system. A better alternative for the environment is an anaerobic biodigester system, in which the wastewater basin is covered with a flexible membrane and bacteria is added to speed up the breakdown of organic matter. Any methane released can be captured and used to produce thermal energy.

In the case of Macesa, the IDB team's feasibility analysis showed that this type of system, which could be put in place for about $2 million, could replace most of the bunker fuel the plant now uses to run its boiler. In theory, such a system could potentially generate electricity as well, but for now the goal is to capture enough methane to meet the company's needs for steam.

Sequeira hopes to get the project underway before the end of 2014, with construction expected to take about eight months. If all goes as expected, by 2015 Macesa will have the largest biodigester system in the country. Sequeira said the system is expected to pay for itself in five to six years and last for more than twenty.

"We're going to have significant savings," she said. "Those savings will pay for the investment."

SOLID POLICY

> "Never doubt that a small group of thoughtful, committed citizens can change the world; indeed, it's the only thing that ever has." Margaret Mead

Public policy can change the way in which states invest available resources, the regulatory framework in which businesses operate and influence the decision-making process of citizens.

In this chapter you will find some examples of how an innovative approach to public policy can have a measurable impact in climate change, from the transformation of the regulatory framework to achieve more sustainable water management water, to changes in the regulation of energy market that promote a cleaner energy matrix.

Aside from financial and technical support to projects in member countries, the IDB promotes the exchange of information between governments at the regional level, ensuring that the most innovative practices can be replicated in different countries.

At present, three countries in the region have binding laws on climate change (Brazil, Guatemala and Mexico), while others have joined national strategies for low-carbon development.

Learn about how governments in Latin America and the Caribbean are innovating in public policy— live.

Guatemala improves policy to help communities and forests

A pioneering pilot effort to mitigate emissions while creating a new source of revenue triggers big changes in Guatemala's policies.

IDB Project #
GU-M1018

With two million tones less emissions from unplanned deforestation in the bag, GuateCarbon's 56 million tones goal is well underway.

The Maya biosphere reserve covers 2.1 million hectares of which 717,000 are targeted by GuateCarbon, a Public Private Partnership project involving the government's National Council of Protected Areas and concessionary communities via a Payment for Environmental Services scheme with a 30-year goal.

The project has mobilized all the social, political and economic actors in Guatemala, and has achieved significant agreements on methodology and legal solutions through actively involving all sectors. It also created synergy with private entrepreneurs, who provided not only financial leverage, but also the knowledge and management required to commercialize forest products and integrated to value chains.

As the first program of its kind in the country, there was uncertainty on the legal form required to articulate government, concessionaires and the environmental services payments. Cooperation between the National Council for Protected Areas (CONAP) and the association of forest communities of Petén (ACOFOP) was key.

Thanks to GuateCarbon, the country presented Readiness Preparation Proposals, which were approved by the Forest Carbon Partnership Facility for a grant of US$3.8 million to develop its national REDD+ strategy. Additionally, Guatemala has had its Emissions Reductions Project Idea Note approved— making the country part of a select group of 10 countries in the world to gain access to the Carbon Fund.

GuateCarbon has attracted alternative financing sources, as other national and international organizations have joined the initiative and designated resources to sustainability projects in these communities.

The project, executed by Rainforest Alliance, counts with the leverage provided by private, public, national and international organizations, such as USAID, forestry companies, Gibor and Baren (private concessionaires) and AGEXPORT (Guatemalan Association of Exporters), which allowed the project continuity. AGEXPORT support was given jointly with the international agency DANIDA. International cooperation to this project has been increasing constantly, and the annual budget for the project has increased from an initial budget of US$ 400.000 to approximately US$ 1.000.000.

This experience sets a positive precedent for the expansion of REDD+ projects in Guatemalan forests at a national level; there are plans for replication in Honduras and other Central American countries.

Country of implementation:
Guatemala

Approval date:
2007-2013

Institutional counterpart:
Rainforest Alliance
ACOFOP
National Competitiveness Program (PRONACOM)
GIBOR.S.A
Baren Comercial

Amount disbursed/leveraged:
US$ 1 million
From which the MIF contributed with a US$ 400.000 non-reimbursable grant, while the reminder was provided from local counterpart, including local private concessions, communities and other entities.

IDB Group:
Multilateral Investment Fund (MIF)

More info?
REDD+ desk info
read the publication

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A little steam goes a long way in energy policy

Policy as a tool for achieving economic development, reducing greenhouse gas emissions and ensuring domestic energy security.

In Colombia, integrating renewable energy sources to the power market resulted in the strengthening of the country's policy framework.

There is a high potential of geothermal energy in Colombia due to the presence of volcanic activity along the Colombian mountainous system.

The implementation of a demonstrative geothermal project in the Macizo Volcanico del Ruiz, fostered the deployment of this renewable energy in the country, and transferred knowledge and technology to develop capacity building.

The project has contributed to the strengthening of the renewable energy and energy efficiency policy framework in Colombia, through the analysis of the institutional and legal barriers and the formulation of policy recommendations for low carbon policies. Those recommendations and analysis have been a very important input for the Renewable Energy Promotion Law 1715, issued in May of 2014.

Law 1715/2014 (the "Law") also aims to promote efficient energy management, prescribing actions in both energy efficiency and demand response (DR). Nexant reviews below the general areas the Law covers, and provides some context on Colombia's energy sector.

Many organizations have joined this initiative providing funding and technical support. ISAGEN, a power generation company and the executor of the project, GEF (Global Environmental Facility), IDB, Japanese Trust Fund (JCF) and the Government of Colombia through the Mines and Energy Planning Unit (UPME)

The experience from the project allows the different actors to acquire the technical capacity and expertise to be applied in other potential projects which have already been identified. Projects such as the Azufral in Narino department, Paipa in Boyaca department and Chiles – Cerro Negro– Tufiño in the Colombian-Ecuadorian border.

IDB Project #
CO-X1009

Country of implementation:
Colombia

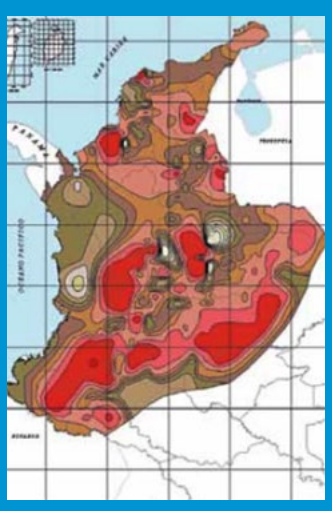
Dates of implementation:
2011-2015

Institutional counterpart:
ISAGEN S.A. ESP and UPME

Amount disbursed/leveraged:
US$26 million

IDB Division:
Energy (ENE)

More info?
read the publication: Geothermal energy in Colombia



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IDB Project

Emerging Sustainable Cities

Mayors work on concrete plans to ensure a sustainable future

Currently operating in 40 cities, this initiative helps cities reduce their local carbon footprint and plan risk reduction measures based on hard facts.

With in-depths studies on mitigation, disaster risk management, climate change adaptation, and urban growth, we help close the climate change information gap with a basis for policy formulation and adjustment.

If we want to better understand how our partner cities can reduce greenhouse gas emissions and vulnerability, we first need a clear picture of the challenges they face. Climate change cannot be dealt with in isolation - it is a crosscutting issue that affects and is affected by a wide range of activities.

This is why the IDB provides cities with both a comprehensive assessment tool with approximately 120 different indicators, and three baseline studies, which utilize advanced georeferencing technologies and deliver a more comprehensive picture of the city´s challenges.

The studies propose measures to reduce the local carbon footprint based on the latest version of the Global Protocol for Community-scale Greenhouse Gas Emissions; determine the vulnerability of the city to a range of natural and man-made disasters; and develop urban growth scenarios that help avoid carbon-intensive urban sprawl and flag areas where urban growth should be restricted due to disaster risk. The inclusive approach pursued through this process facilitates swift implementation of the measures.

Once the indicators and the studies have provided a clear picture of a city's needs, mayors have to decide where to begin. The cities develop Action Plans that lay out strategies and concrete projects based on a public opinion survey and an economic cost analysis. The Climate Change and Disaster Risk Filter determines in which sectors taking action is most important to spur sustainable local development, backed by a cost benefit analysis.

For example, we found that the current growth pattern will expose almost ninety times more citizens to extreme flood events than in a smart-growth scenario by 2030 in Jamaica's tourism capital, Montego Bay.

Many cities have integrate emission-reducing activities into their Action Plans, especially in the areas of transport, energy, and solid waste. Climate change mitigation is thus being incorporated into each sector as a result of a holistic assessment.

For example, Argentina's Mar del Plata Action Plan includes the installation of a 10 megawatt wind park.

Our initial priority is to focus on 140 emerging local economies in the region, where the impact has the potential to be greater and more immediate.

Country of implementation:

Argentina, Bolivia, Brazil, Colombia, Trinidad y Tobago, Uruguay, Peru, El Salvador, Mexico, Nicaragua, Guatemala, Jamaica, Paraguay, Chile, Ecuador, Haiti, Barbados, Costa Rica, Dominican Republic, Honduras, Venezuela, Panama

Key strategic alliances:
Yacimientos Petroliferos Fiscales (YPF) in Argentina, Caixa Economica Federal in Brazil, Financiera del Desarrollo-FINDETER in Colombia, the National Bank of Public Infrastructure and Services BANOBRAS and Femsa and Banamex Foundations in Mexico

Amount disbursed/leveraged:

US$1 million per city
Approximately

IDB:
Emerging Sustainable Cities Initiative

www.iadb.org

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> 24-Hour Cities?

5 Reasons to Promote the Nighttime Economy

The interest to regulate nighttime behavior is not new. In the 1990s, some cities in the UK stopped seeing the night as a negative and problematic space, and begun to estimate the value of the so-called "nighttime economy:" the contributions made to city coffers by restaurants, nightclubs, taxis and other nighttime services and forms of entertainment.

Some cities have made good progress in promoting their nighttime economies. For instance, in 2007 the City of London published a document titled Managing the Night Time Economy, a guide to nocturnal best practices. From London's experience, as well as that of other cities around the world, we can identify at least 5 reasons why our cities should promote their nighttime economies:

The nighttime economy is a source of employment and additional revenue for local governments. According to TBR's Night-Mix Index, the nighttime economy in the UK employs 1.3 million people and is worth £66bn a year.

It allows local governments to diversify its leisure and commercial activities. For instance, by organizing food festivals along with restaurants and bars in the city center, cities like London are able to retain more people in these commercial areas, reducing the number of commuters that return home right after work.

It promotes greater citizen security. By prolonging stores' and restaurants' hours of operation, cities can keep their streets lively and safe.

It boosts local tourism. The most attractive tourist destinations are those that offer an array of entertainment options for different ages, cultures and lifestyles, including families. This requires private as well as public attractions, and nighttime leisure activities not associated to the consumption of alcohol.

Creates a greater sense of belonging. A city that offers a wide variety of activities, good lighting, security and public transportation, invites its citizens to explore it during the day as well as during the night.

In Latin America, cities like Asuncion (Paraguay) are working in this direction. This year, the municipality, the National Culture Office and the National Tourism Office, organized meetings to discuss nighttime activities in the historical center to commemorate the city's 447th anniversary. These entities created a multi-sectoral team—government, neighbors and businesses—in charge of monitoring the festivities and ensuring their positive economic impact on the city.

Andreina Seijas | Twitter: @AndreinaSeijas
More at: blogs.iadb.org/ciudadessostenibles

Also check out:

BICIUDADES

In 2013 the IDB partnered with a group of students from the American University in Washington, DC, to study the growth of cycling as a transportation alternative in cities in Latin America and the Caribbean.

Together, we published the report "biciudades 2013", a baseline survey on the measures being taken to promote this option in some cities in the region. The best sources of information proved to be community-level organizations, passionate about transforming their cities into healthier and living spaces.

These groups use sophisticated communications and carry out campaigns to spread their message and attract the attention of the municipal authorities and private sponsors. Gradually, cycling is becoming a catalyst for a broader agenda for urban sustainability and people-centered development.

In 2014 we set out to increase the visibility of these organizations, turning "biciudades" into a crowd-sourced atlas. We asked cycling association to tell us about themselves and answer six basic questions about the state of cycling in their cities. In just one month, we received information from more than 80 organizations in 50 cities in 14 countries.

We will publish an updated "biciudades" atlas for the World Bicycle Forum to be held in Medellin in February 2015.

More info?

join the online bike community at:
biciudades.tumblr.com

A new institutional structure helps climate resilience take root

Integrating climate change considerations into the planning and development of all sectors in Trinidad and Tobago

IDB Project #

TT-T1016
TT-L1022

Country of implementation:
Trinidad y Tobago

Approval date:
2013

Institutional counterpart:
Ministry of Planning and Sustainable Development and Ministry of the Environment and Water Resources.

Amount disbursed/leveraged:
US$80,307,500
IDB 80,000,000; SECCI 307,500

IDB Divisions:
Climate Change and Sustainability (CCS)

More info?
understanding the economics of climate change adaptation

www.iadb.org

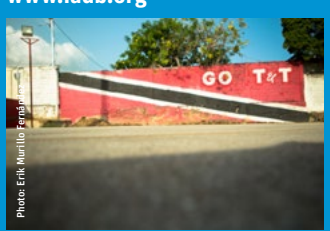

Photo: Erik Murillo Fernández

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Climate change was mainstreamed into the development of Trinidad and Tobago. The specific objective is to facilitate the mainstreaming process by enhancing the draft national climate change policy, strengthening the institutional capacity of the government to participate in carbon markets and exploring the feasibility of a climate change mitigation solution.

The mainstreaming of climate change will commit the government to a low carbon and climate resilient developmental pathway, which will result in the integration of climate change considerations into the planning and development of all sectors and will provide the basis for this integration as the country moves towards sustainability. It is also expected that the institutional strengthening associated with the Program will facilitate greater involvement in carbon markets and financing and will result in a stronger institutional structure.

Trinidad and Tobago has embarked on addressing the issue of climate change through the adoption and implementation of a National Climate Change Policy (NCCP). The development of the policy, supported in part by two financial instruments of the Bank, TT-T1016 and TT-L1022, focused on both adaptation and mitigation strategies.

Although small island states within the Caribbean have been emphasizing the implementation of adaptation policies and measures because of their high vulnerability to the impacts of climate change, there is an element of co-benefits associate with mitigation measures. These would include energy security, reducing a country's carbon footprint and achieving a low carbon development.

It is these objectives that the national climate change policy is trying to accomplish and will do so by mainstreaming climate change in the development process of Trinidad and Tobago. The mainstreaming of climate change will commit the government to a low carbon and climate resilient developmental pathway, which will result in the integration of climate change considerations into the planning and development of all sectors and will provide the basis for this integration as the country moves towards sustainability. This is also true for the economic sector of the country as climate change considerations or perspectives have to be woven into the fabric of the country's economic decision-making.

This is already occurring as is seen in the development of the National Spatial Development Strategy, which will be the framework for spatial planning in the country and has embedded into it, the climate change considerations set out within the National Climate Change Policy. It is anticipated that other national policies will utilize the recommendations and considerations of the NCCP as the mainstreaming process progresses.

Ten years to an integrated water resource management

The great civilizations of the Americas developed on the basis of agricultural surpluses only made possible by the efficient handling of water resources.

Today, the growing demands for food by populations that are increasingly energy-intensive jeopardize the availability of reliable water resources and the sustainability of ecosystems.

This prognosis becomes even more complicated in a context of global warming, rapid urban growth and globalization.

Several countries and institutions adopted a holistic approach to water management issues after the formulation of the Dublin principles in 1992. The results of studies done in preparation for the Rio+20 conference by the OECD and the United Nations Commission on Sustainable Development highlighted governance as one of the key limitations to implement the integrated water resources management concepts and guidelines, such as problematic coordination among institutions, weak institutional capability and insufficient funding.

Adequate water resources are essential to the survival of any civilization.

In Peru, a country with abundant but poorly distributed water resources and where the impact of climate change in glaciers is significant, the situation is aggravated in selected watersheds due to the competing uses of water, including agriculture, mining and domestic supply.

Since 2001 the IDB has supported Peru in the implementation and consolidation of an integrated water resources management approach that culminated with the approval of the Water Resources Law in March 2009. That same year, institutional support to the newly created National Water Authority and the watershed management instruments was strengthened. The establishment of councils with a shared vision methodology in three pilot basins (Chira-Piura, Tumbes and Tacna) became a critical path for the implementation of the reforms that were planned.

The analysis of the experience with the implementation of the integrated water resources management approach in Peru shows that a successful process of institutional strengthening and modernization should adopt an integral approach so as to incorporate the different cultural perspectives that are present in a specific region or country. An easy-to-access information system is fundamental to strengthen the trust among the various actors, to facilitate coordination efforts among institutions and users, and to establishing clear rules of behavior in order to implement the necessary changes while respecting the existing capability for assimilation and execution.

IDB Project #

PE-L1024
PE-L1040
PE-L1050

Country of implementation:
Peru

Dates of implementation:
2011-2015

Institutional counterpart:
Ministry of Agriculture, ANA (National Water Agency), Ministry of Economy and Finances- MEF, Ministry of Energy and Mines s and Ministry of Health.

Amount disbursed/leveraged:
US$240 million
total for all three operations

IDB Divisions:
Water and Sanitation (WSA)

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Photo: ©Jan Harenburg

A multi-state approach to addressing climate risks

Adaptation, systemization and holistic management: mobilizing southern Mexico to address cross-sectoral climate change risks in critical watersheds

IDB Project #
ME-T1169

Country of implementation:
Mexico

Dates of implementation:
2013

Institutional counterpart:
SEMARNAT
CONAGUA
CONAFOR
SENER/CFE
Government of Chiapas and Tabasco states

Amount disbursed/leveraged:
US$600.000

IDB Divisions:
Water and Sanitation (WSA)
Climate Change and Sustainability (CCS)

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Mexico's Tabasco and Chiapas states, bordering Guatemala, constitute a highly vulnerable region with high climatic risks.

However, this area of southern Mexico could become an example of adaptation to climate change through an innovative plan for the Grijalva and Usumacinta rivers basin.

Aside from a very high concentration of biodiversity and ecosystem services, important water resources and a huge cultural diversity, this region has significant energy resources. Over 40% of Mexico's hydro-power is generated in the Grijalva river in Chiapas. Tabasco, in the lower Grijalva-Usumacinta area, generates 17% of oil production and 22% of Mexico's natural gas.

During the 2000-2010 period, extreme hydro -meteorological phenomena caused huge losses in the agricultural and civil infrastructure sectors. For example, the 2007 floods in Tabasco affected 75% of the population and had a cost roughly equivalent to 29.31% of the Mexican state's GDP.

The impacts are clear: the decrease in rainfall and increase in temperature caused by climate change would result in up to 11.41% loss of productivity for corn and 28.55% in the case of coffee. These conditions could jeopardize the food security of more than 45,000 marginalized or subsistence farming families.

A break from the ordinary.
This pioneering initiative brought together actors from several levels government, bridging the political differences between different Mexican states.

The IDB has identified seven priority areas of intervention based on several studies on the effects of climate change and their economic impacts in this basin:

- Agriculture, forestry and livestock adaptation and resilience
- Conservation and productive development of natural resources and biodiversity
- Flood- and – sea level rise resilient infrastructure
- Water resource management
- Comprehensive land use planning
- Energy: water use as an energy resource
- Knowledge and research

The Grijalva and Usumacinta Rivers Basin Plan now serves as a reference for current and future infrastructure and adaptation actions, bringing climate change issues to the forefront of political discussions in Mexico.

It also provides early estimates of the cost of adaptation measures required to build resilience in Mexico's economy and its people.

What happens when ministers of finances think about the climate?

Ministers of finances and planning are recognizing future challenges other than financial crises, and they are taking them into account.

Low carbon and resilient policies require a new way of doing business and the success of these new policy choices and their implementation rely heavily on budgetary allocations.

However, understanding fiscal policy, the budget process and its relationship to climate policy implementation has been largely overlooked.

Since 2009 the IDB realized this missing link might help change the direction climate policy took root in the region. Using the Regional Policy Dialogue as a starting point for future work in the region, the IDB designed a series of technical assistances that foster increasing capacity in climate modeling and public finances, calculating costs and future fiscal contingencies, as well as quantifying current expenditure to respond to fiscal impacts of future climate crisis. At the same time, the IDB has been involved in different network of ministries of finance to share experiences and lessons learn on how to react to future impacts of climate in terms of loss revenue as well as increase expenditures.

As a result of this work, the Ministries of Finance in Guatemala, El Salvador, Nicaragua and Peru, to name a few, have created a designated unit within the ministry of finance to overview climate impacts on their budgets, analyze the mechanisms to include climate considerations into national public investment systems as well as identify possible international climate financing that could be channeled to their countries.

In Colombia, the Ministry of finance and the National Planning Department are working jointly as part of their national climate system "SISCLIMA" to adopt different fiscal and financial instruments, such as a designated National Climate Find, to better adapt to climate impacts while reducing GEI emissions from deforestation and land degradation, among other things.

Taking this work to the next level, in Brazil, 600 finance ministries workers from federal and state levels were trained on the possible impacts of climate change in a first of its kind course that is going to become regional for other countries to adopt it for sub-national level governments.

This line of work has been recognized recently by the Green Growth Best Practice publication (www.ggbp.org) as an important part of the enabling conditions that can help countries move towards green economies.

IDB Project #

RG-T1869
BR-T1183
RG-T2119

Dates of implementation:

2011-2014

Other IDB projects involved:
BR-T1183
RG-T2119
GU-T1163

Amount disbursed/leveraged:

US$3 million

IDB Divisions:
Climate Change and Sustainability (CCS)

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Building resilience into fiscal and physical infrastructures

El Salvador's comprehensive reforms have shown that building resilience to climate change starts with thinking big.

IDB Project #
ES-L1071

Country of implementation:
El Salvador

Approval date:
2012

Amount disbursed/leveraged:
US$200 million
Cespedes Total amount:

IDB Group:
Fiscal and Municipal Management (FMM)
Climate Change and Sustainability (CCS)

More info?
read the sustainability report project snapshop
view the full DEO story

http://deo.iadb.org/2013/en/

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Seven tropical storms have hit El Salvador over the past 10 years alone, compared to an average of one per decade in the 1960s and 1970s.

To strengthen the country's resilience to these natural disasters, the government realized that it needed to strengthen public finances to be better positioned to plan and respond to emergencies. So in 2011, El Salvador partnered with the IDB to implement a series of comprehensive reforms that, for the first time ever in Latin America and the Caribbean, combine fiscal measures with specific actions to adapt infrastructure to the consequences of climate change.

On the fiscal side, the goal is to increase tax revenue to 17 percent of GDP by 2014, which would constitute an increase of more than a 5 percent over the 2009 level. To that end, the country created a tax on dividends and a minimum tax on corporate income, and also set up special units in charge of large taxpayers and taxation of foreign investment and international trade in order to improve collection and reduce evasion. In addition, the Finance Ministry established a unit dedicated to identifying and mitigating financial and fiscal risks related to natural disasters so the country will have the necessary resources to deal with future unavoidable costs of climate change.

Another aspect of the reforms aims to reduce the vulnerability of the country's infrastructure to natural disasters. El Salvador has updated its environmental policy to generate information about the vulnerability of different territories in order to improve planning, promote soil conservation, and create mechanisms to tap into international resources supporting climate change adaption and mitigation projects. It also passed a law regulating land use to prevent construction in high-risk areas and put in place nationwide construction standards with technical procedures for building more resilient infrastructure.

Since natural disasters affect sectors across the economy and society, El Salvador has created mechanisms to improve coordination among different agencies for planning and mitigation. This includes the creation of a unit in the Environment and Natural Resources Ministry to enforce the application of international agreements, provide technical information, and coordinate activities in response to climate change among different government agencies. A challenge still on the agenda for El Salvador is to replicate the experience of the central government at the municipal level.

As a result of El Salvador's experience, other countries in Central America have started to pursue more comprehensive approaches to deal with the impact of natural disasters. In addition, a regional network of finance ministers has been established to share experiences and discuss new ideas.

In Uruguay, the winds of change point to an energy revolution

Non-conventional renewable energy infrastructure projects are just the tip of the iceberg when considering Uruguay's energy matrix revolution

Many countries historically dependent on hydropower have to rely heavily on other energy sources each dry season.

That was also the case with Uruguay. Until recently, that is. It started to change when, in 2008, the Government launched a new energy policy which received the support of major political parties.

Since then, Uruguay has moved in leaps and bounds towards the goal of being a country where 50% percent of global primary energy is renewable.

A series of actions are being implemented to modify the energy matrix and to promote the efficient use of energy in the country. Some of them include the promotion of non-conventional renewable energy generation, energy from biomass, energy efficiency and solar energy.

With the current rate of 43 percent hydropower energy and 36 percent from thermoelectric, the remaining 21 percent of energy that comes from various renewable sources is growing. With current 340MW, wind power installed capacity is increasing in very rapid pace. Whereas just a few years ago it was just 40MW, it is expected to be 1000MW in two years.

This trend carries on to the knowledge and energy infrastructure works the country is currently developing with financing from the IDB. Several studies are been supported, including those related to mini-hydro potential, energy efficiency, co-generation, and others such as the modernization of the existing Salto Grande binational hydro plant.

Following our integral approach in support of the country's energy sector revolution, the IDB is also financing several wind power plants with the combined capacity of almost 200MW, and considering financial support for solar photovoltaic projects and a regasification plant.

It is expected that, by 2017, two third of Uruguay's electricity generation installed capacity will be renewable and one third will come from non-conventional renewable sources. This should not only benefit the end users with lower price points, but also have a positive impact on the environment.

All of these efforts go towards effectively diversifying Uruguay's energy matrix. The CO2 emissions are reduced, while mitigating the vulnerability of the country's electricity sector to variations in hydrological conditions and international oil prices. This also translates to energy security for the country, as well as with a surplus of energy that could be potentially sold to neighboring countries.

IDB Project #

UR-L1070

Country of implementation:

Uruguay

Other IDB projects involved:
UR-L1077
UR-L1086
UR-L1091
UR-L1080
UR-T1102

IDB Divisions:
Energy (ENE)
Climate Change and Sustainability (CCS)

More info?

explore the enery matrix at the IDB's Energy Innovation Center:
www.iadb.org/eic/basededatos

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SUSTAINABLE

Creating opportunities for sustainable urban mobility

In one of the most urbanized regions in the planet, transport no longer affects only affects your commute, but everyone's quality of life.

IDB Project #

RG-T1901
RG-T1852

Dates of implementation:
2010-2014

Amount disbursed/leveraged:
US$1.265 million
US$1 million

IDB Divisions:
Transport (TSP)

www.iadb.org

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In order to development of sustainable urban mobility strategies, freight and logistics plans and identify potential adaptation measures, governments and civil society first need access to high-quality information.

That is why the IDB has a Regional Environmentally Sustainable Transport Action Plan (REST), which gives great importance to transportation's detrimental impacts on the environment, including its GHG and local pollutant emissions and its corresponding impacts on climate and health.

In order to change the transportation realities in the region, we need to:

- Raise awareness of policymakers (ministers, mayors, and experts) about the positive impacts of sustainable low-carbon transport infrastructure projects.
- Foster collaborative and participatory regional efforts towards addressing emerging and common issues of concern related to sustainable passenger and freight transportation.
- Implement sustainable low-carbon transport best practices.
- Improve methodologies that analyze the impact of transport interventions on (GHG) and local pollutants.
- Build local capacity to plan, design, finance, implement and evaluate effective sustainable infrastructure and strategies that reduce greenhouse gas emissions.
- Increase awareness of impacts climate change stressors on transportation infrastructure and services.
- Increase awareness of anticipated impacts of climate change on transportation infrastructure and services including roads and port access.
- Increase capacity to conduct climate change vulnerability assessments in the transportation sector and to develop financial and cost-effectiveness analysis for adaptation and mitigation measures.

That is why we have development country profiles comprising the diagnostic and analysis of the road and port sectors, as well as created tools and guidelines to reduce GHG emissions through Transport Demand Management, Transit Oriented Development, and Green Logistics and Freight Transportation, among others.

We have also launched a pilot of the Rapid Climate Change Impact Assessment Tool for the Transport Sector which centered on a stretch of highway and ancillary infrastructure in the "Corredor Pacifico of Central America".

It consisted of the identification and characterization of expected climate change impacts including definition of data needs, selection of climate change scenarios, methods for incorporating climate change scenarios into planning, design and management of transportation systems and comments and specific analysis on the risk of future problems.

TRANSPORT

>What can the sixteenth century teach us about reducing traffic?

Do you remember the lessons from economics theory 101?

If your teacher did his job well, you should remember this classic diagram on how prices are set: while the price of a good or service rises, the consumption of that good will fall. When the price is neither too high nor too low demand will reach a balance.

But what does the sixteenth century theory of supply and demand considered by John Locke, James Denham-Steuart and Adam Smith translate to the problems of parking and congestion today? The answer is simple: having a fixed price or even a price that is not optimal can lead to serious problems.

For transport, these problems are:

- The excessive car use is encouraged
- Road infrastructure is overloaded
- The economy encourages expanding the supply of cars, which in turn increases use (back to the first bullet-point)

The IDB has published a practical guide-book on parking policy based on the analysis of 12 Latin American cities. According to this research, offering free parking because the road system is saturated contributes to high congestion instead of alleviating traffic.

Sounds familiar?

The most relevant recommendations on parking pricing are:

- Always charge for parking on public roads
- Set a price such that only 85% of parking spaces are occupied (based on the work of Donald Shoup)
- Determine appropriate units of time depending on the area usage. For example, high demand areas, such as commercial areas, should charge by the minute
- Monitor and enforce the parking policy in order to make it effective

And if you think these ideas are new, check out London's Grosvenor Park images. Taken several decades ago, they are proof that when the price falls parking demand climbs.

Ramiro Alberto Ríos | Twitter: @
More at: blogs.iadb.org/moviliblog

More info?

read the publications:
Parking and Travel Demand Management Policies in Latin America

Mitigation Strategies and Accounting Methods for Greenhouse Gas Emissions from Transportation

> Meet the new generation of youth innovators

In Latin America and the Caribbean, youth represents 26% of a 600 million population (15-29 years old), and, thankfully, these kids care about the environment.

Boyan is a 19 year old Dutch, who just invented a viable solution to clean up the ocean from millions of tons of plastic. Thankfully, he is not the only one of the committed young minds at work.

As we look for solutions to tackle climate change, we tend to blame two major groups: governments for their inaction; and the private sector for its lack of initiative. But what if we were to focus on youth's potential and innovative creativity? There are some interesting stories in effect today, which lead me to think we could start being positive about finding concrete and feasible solutions to the climate problem.

Below are some of the innovative youth stories from Latin America and the Caribbean that caught my attention:

Enrique Lomnitz is installing rainwater harvesting systems to provide marginalized communities in Mexico City's slums with water. In a water stressed metropolis were water cuts have become common standard this measure represents a new alternative to address social and climate challenges of the country.

Green entrepreneurship is also booming. Some young designers promote a second artistic life for garbage. In Argentina, Nazarena Pereyra creates handbags with tires and Malikca Cummings, a Guyanese entrepreneur, has set up the first e-waste recycling business in Barbados, "Caribbean e-Waste Management Inc", and is partnering with other firms to cover all the Caribbean.

Innovation for development also concerns climate change, and these youth examples are just a few of the many projects we know are out there. That is why today we are launching the Greenovators contest. The IDB looks forward to identify, award and give a voice to those youth leaders who may just have the answers to the challenges of our region.

The IDB recently held the Greenovators contest for youth in the region. There were proposals ranging from vegan shoe-making, to cacao planting, all the way to massive construction waste management in one of the largest cities in the world.

Jennifer Doherty-Bigara | Twitter: @jdohertybigara

Also check out:

DEMAND SOLUTIONS

On December 2, 2014, The Inter-American Development Bank and the Blum Centers at UC Berkeley and UCLA will host the second iteration of Demand Solutions: Ideas for Improving Quality of Life. This year's one-day event will showcase some of the most creative minds in the world as they discuss and share innovative solutions that address development issues in Latin America and the Caribbean. Attendees will have the opportunity to hear from and meet the innovators as well as interact with some of the solutions being presented.

The day's journey will end with an exciting Venture Night where some of the most innovative and disruptive startups established by young entrepreneurs from Latin America and the Caribbean will pitch their ideas to receive feedback and support.

The event is also an opportunity to network with entrepreneurs, development professionals, and other like-minded individuals.

More info?

watch all demand solutions talks at:
http://vimeo.com/80423198

RESOURCES

With over 2000 development specialists working for you, the IDB is constantly providing access to knowledge through our publications, databases, websites, blogs and courses.

In the next pages we've listed some of the key knowledge products available to you.

Publications

Climatescope 2014
English | Spanish
www.global-climatescope.org

Agriculture and Future Climate in Latin America and the Caribbean
English | Español

Mega-Cities & Infrastructure in Latin America: What its people think
English | Español | Portugues

Understanding the Economics of Climate Adaptation in Trinidad and Tobago
• Summary: English
• Full report: English

La economía del cambio climático en Bolivia: Estudios sectoriales
Español

Increasing Access to Renewable Energy Using Remittances as a Source of End-User Finance
English

Societal Benefits from Renewable Energy in Latin America and the Caribbean
English | Español

Plan de Adaptación, Ordenamiento y Manejo integral de las cuencas de los ríos Grijalva y Usumacinta
• Estudio de prefactibilidad para las opciones de intervención - Versión Síntesis: Español
• Diagnóstico integrado con identificación de áreas prioritarias - Versión Síntesist: Español

Climate-Smart Agriculture in Latin America: Drawing on Research to Incorporate Technologies to Adapt to Climate Change
English

Mitigación de la contaminación local y cambio climático en América Latina y el Caribe: Costos y sinergias
Español

Climate Change Data and Risk Assessment Methodologies for the Caribbean
English

Status of Incorporation of Disaster Risk Management in National Public Investment Systems: Barbados and Trinidad and Tobago
English

Ideas for Development in the Americas (IDEA): Climate and Development
English | Español

Sustainable Energy for All
SE4ALL Publications
English | Español

Development Effectiveness Overview (DEO) 2013
English | Español | Portugues

Inter-American Development Bank Sustainability Report 2013
• Summary: English | Español | Portugues
• Full report: English | Español | Portugues

Climate Change and Water Resources in the Tropical Andes
English

Climate Change and Agriculture in Jamaica
English

Optimal Adaptation and Mitigation to Climate Change in Small Environmental Economies
English

The Role of National Development Banks in Catalyzing International Climate Finance
English | Español

The IDB and the Climate Investment Funds
English

Mitigation Strategies and Accounting Methods for Greenhouse Gas Emissions from Transportation
English | Español

Low Carbon Technologies Can Transform Latin America's Bus Fleets
English | Español

Rethinking Our Energy Future
English | Español

Climate Change Mitigation & Adaptation through Publically-Assisted Housing
English | Español

Financial Instruments and Mechanisms for Climate Change Programs in Latin America and the Caribbean: A Guide for Ministries of Finance
English | Español

How Can Latin America Help the World to Cope with Climate Change?: The Issue of Deforestation
English

Climate Change and Extreme Weather Events in Latin America: An Exposure Index
English

El cambio climático y los recursos hídricos en los Andes tropicales
English | Español

Desarrollo hidroeléctrico y servicios ecosistémicos en Centroamérica
Español

IDB-9: IDB Integrated Strategy for Climate Change Adaptation and Mitigation, and Sustainable and Renewable Energy
English | Español

Ecuador: Mitigación y adaptación al cambio climático
Español

Integración de la gestión de riesgo de desastres y la adaptación al cambio climático en la inversión pública: Centroamérica
Español

Gender and Recycling: Tools for Project Design and Implementation
English | Español

Desarrollo de una metodología para la construcción de curvas de abatimiento de emisiones de GEI incorporando la incertidumbre asociada a las principales variables de mitigación
Español

Greenhouse Gas Emissions from New Petrochemical Plants Background Information Paper for the Elaboration of Technical Notes and Guidelines for IDB Projects
English

Incentivizing Clean Technology in the Mining Sector in Latin America and the Caribbean
English

Preparing Informal Recycler Inclusion Plans
English | Español | Portugues

Chemical Plants GHG Emissions: A Guidance Note to Reconciling the Financing of Chemical Plants with Climate Change Objectives
English

Implementation Guidelines for the Operational Policy on Gender Equality in Development
English

MIF: 15 Years of Action on Climate Change
English

Impact of Climate Change Mitigation Policies in OECD Countries on Carbon Emissions Intensive Export Industries in Latin America
English

Retos de desarrollo del Perú
Español

Carbon Markets in Dynamic Perspective: The Optimal Duration Problem
English

The Role of National Development Banks in Intermediating International Climate Finance to Scale Up Private Sector Investments
English

The Climate and Development Challenge for Latin America and the Caribbean
English

> Three trustworthy open access publications on climate change related subjects

In recent years, open access information resources has grown to unprecedented levels.

The ease to publish in electronic media facilitates scientific dissemination and reduces production costs. We can find open access electronic journals on almost any subject — from the economy to health issues. However, although it is important to recognize the fact that these publications provide information that would not be accessible otherwise, it is also important to establish certain criteria for identifying publications that are of scientific value.

Climate change is one of the issues of the day; its effect is undeniable in the lives of the citizens of Latin America, as evidenced by a recent survey by the IDB. Therefore, to understand the subject accurately and appropriately react to this phenomenon, it is important to have access to information resources whose content is validated by experts on the subject. There is no doubt that we will feel the effects of this phenomenon sooner or later— just ask the survivors of floods, or farmers who deal with the effects of drought on their agricultural production— so we might as well cultivate an educated opinion on this reality. Thanks to a group of academics reacting to climate change by disseminating the results of their research publications for free, we now have access to scientific publications that would be otherwise de inaccessible in printed form, for economic reasons.

In this post we present three of these publications:

1 Climate Risk Management
Aims to disseminate scientific knowledge on practical experiences related to climate risk, and the use thereof in the processes of decision-making. In other words, recognizes climate risk as a multidisciplinary process of integrating knowledge related events, trends and climate projections to increase profits and / or reduce environmental and social damage. This publication comes as a response to the recommendations of integrating risk analysis in planning public policy by international bodies such as the IPCC. To access the first issues of this publication see Climate Risk Management.

2 Weather and Climate Extremes
With an international editorial board composed of renowned scholars from different continents, this publication is aimed at both policy makers as members of civil society. The articles cover topics ranging from agriculture and risk management practices to community adaptation to natural disasters. The publication was established during the second half of 2013. Some of the items of the latest issue presented cases from countries in Latin America, as in the cases of Mexico and Brazil and their national policy on drought management. To read the latest issue of the magazine visit Weather and Climate Extremes.

3 Urban, Planning and Transport Research
Edited by academics from universities in the UK, this publication provides both purely theoretical studies and empirical research related to development planning and urban areas. It has a global perspective, presenting studies from South Africa to Canada or the United States. The issue of urban planning is essential when it comes to climate change, given that the vast majority of the population lives in cities. To access the articles in this publication see: Urban, Planning and Transport Research

Dealing with the impacts of a changing climate requires making informed decisions, or at least knowing what are the scientific bases used by decision makers. Receiving expert information at no cost is an advantage that can not go to waste. Open access to scientific publications is an asset that we should value.

Ivette Fis de Melo | Twitter: @IvetteFisdeMelo
More at: blogs.iadb.org/climatechange

Gobernanza de la eficiencia energética: Manual regional América Latina y el Caribe
Portugues | Español

Liquid and Gaseous Fossil Fuel Power Plant Guidelines
English | Español

The Climate and Development Challenge for Latin America and the Caribbean
English

IDB Integrated Strategy for Climate Change Adaptation and Mitigation, and Sustainable and Renewable Energy 2011
English

Agricultural Greenhouse Gas Emissions in Latin America and the Caribbean
English

Evaluation of Water Pumping Systems: Energy Efficiency Assessment Manual
English

Biodiversity and Small Business. Lessons Learned from Two Decades of Biodiversity Projects at the MIF
English

Climate Change in Latin America and the Caribbean
English | Español

Sustainability in the Coffee Growing Business. Coopedota and the Path towards Carbon Neutral Coffee
English | Español

Energy Efficiency in Milk Producers in Uruguay
Español

Regional Evaluation on Urban Solid Waste Management in Latin America and the Caribbean: 2010 Report
English | Español | Portugues

Challenges and Opportunities for Water-Based Adaptation to Climate Change
English | Español

Climate Change: A Regional Perspective
English | Español

Modeling Public Policies in Latin America and the Caribbean
English

Challenges and Opportunities for Water-Based Adaptation to Climate Change
English | Spanish

Brazil: Mitigation and Adaptation to Climate Change
English

Guía para la integración de la perspectiva de género en los Sistemas de Transporte urbano que optimizan la movilidad
Español

Databases

Agrimonitor
Agrimonitor is the IDB Producer and Consumer Support Estimates country-level database for Latin American and Caribbean countries. It enables policy makers and policy analysts to track agricultural policies and to assess and measure the level and composition of the support to agriculture. The indicators related to magnitudes and composition help to better describe and address the key challenges facing agriculture in the coming decade.

IDB LAC Energy Database
The IDB Latin American and Caribbean (LAC) Energy Visualization Database, produced by the Energy Innovation Center, is an interactive quantitative and qualitative information system on how countries produce and use energy by fuel source and sector. The database also offers a description of the region's energy sector industrial organizations and institutional frameworks. This tool contains data on the IDB's 26 borrowing countries (plus Cuba), and for comparison purposes, on other major producing or consuming countries and regions. The information is sourced from, among others, the International Energy Agency as well as gathered by IDB staff.

DataGov
Governance indicators from key public databases consolidated for all countries in the world.

DataIntal
Trade statistics of countries in the Americas developed by the Institute for the Integration of Latin America (INTAL).

Geppal
An analysis tool with indicators of women's political participation in Latin America.

Indigenous Legislation DataBank
This databank contains information on indigenous legislation classified by country and by theme for all countries of Latin America.

INTradeBID
Market Access, Legal Framework, Toolkits and Trade Facilitation, Statistics and Indicators.

Latin American and Caribbean Macro Watch Data Tool
Over 500 indicators consolidating data on macroeconomics, social issues, trade, capital flows, markets and governance. Updated with information based on national sources available as of September 2014. See also the **Country Indicators Tool** for a Summary of Main Macroeconomic indicators by Country.

REVELA
A free Web-based monthly service on inflation and growth expectations in Latin America. REVELA's Web site offers an up-to-date report and a database with historical information. This service compiles data from the expectations surveys of eight Latin American countries with inflation-targeting regimes. Updated with information based on national sources available as of March 2014.

Sociómetro-BID
A complete dataset of social indicators providing insight into socioeconomic conditions in Latin America.

Working Parents and Childcare Database
Part of a larger IDB project on childcare alternatives for working families, and how they affect their economic participation, this database includes legislation for Latin-American and Caribbean Countries on: childcare, early childhood, early education, financing, children's rights, family education and support, and maternity legislation.

read the Inter-American Development blog at
blogs.iadb.org/climatechange

WHAT IS YOUR **CLIMATE I.Q.?**

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promoting climate change awareness
with a new trivia topic

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QuizUp and the Inter-American Development Bank