

A photograph of a woman and a young child in a shop. The woman is on the left, wearing a patterned top and a necklace, looking towards the camera. The child is on the right, wearing a red shirt and a necklace, looking up at a large, glowing light bulb hanging from the ceiling. The background is filled with shelves of various products, including boxes of Eveready batteries and other household items.

CLIMATE CHANGE

Private Sector Solutions

TELLING OUR STORY

2012
Vol. 6 / Issue 5



**RENEWABLE
ENERGY**



**ENERGY
EFFICIENCY**



**CLIMATE-FRIENDLY
FINANCE**



ADAPTATION

TELLING OUR STORY

2012
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CLIMATE CHANGE

Message from the
Executive Vice President
and CEO



COVER Affordable, high-efficiency lighting products and electricity from renewable energy mini-grids bring clean electrical power to low-income households that would otherwise lack it. IFC's new Lighting India program will help meet the off-grid population's needs with renewable energy-based solutions. It draws on lessons of our Lighting Africa initiative with the World Bank and others that has enabled more than 500,000 solar lamps and lanterns to be sold.

Climate change is not simply about the environment. It touches every aspect of development, affecting the poor disproportionately.

Rapid population growth and urbanization are putting significant pressure on valuable and increasingly scarce resources such as water, energy, food, and land. By 2030, almost three-quarters of the world's population will be living in urban areas. Climate change exacerbates this pressure, making it critical to rethink the way resources are used and allocated. Left unaddressed, it is a development crisis in the making.

Consider that it takes an average of one liter of water to produce one calorie of food. Since it is expected that agricultural productivity must rise 70 percent by 2050 to meet the needs of a growing world population, the pressure on water is tremendous. Yet climate change effects are expected to further diminish the world's water supply. For those who depend on farms, forests, and fisheries to sustain a daily living, this becomes a question of survival.

It's also a business issue. If you're investing in a port, operators of that port need to factor in the impact of climate change on their investment so they know what the changing water patterns are going to be, what happens when the sea level rises, and what effect that will have on commerce and profitability.

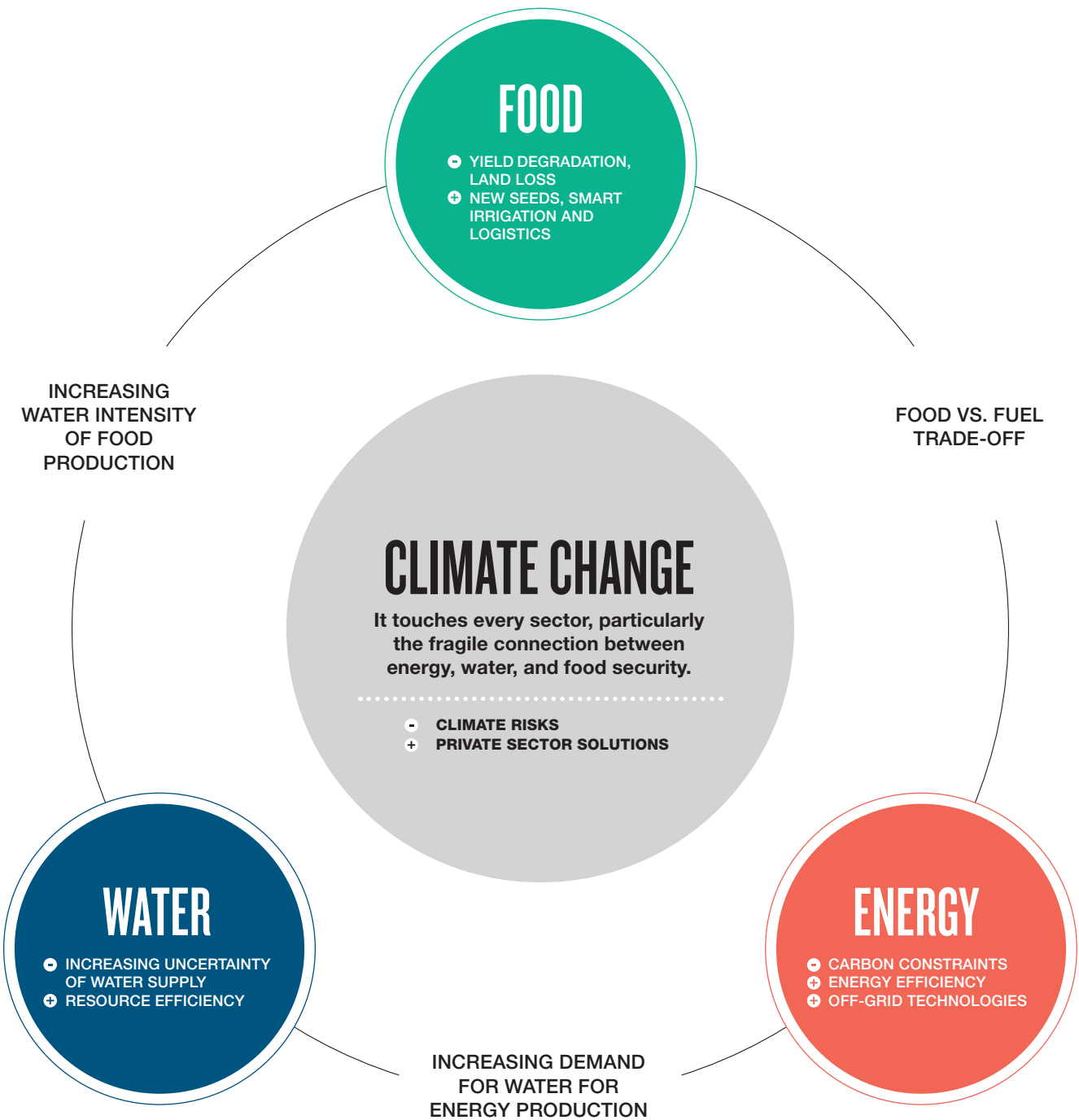
That's why climate change is one of the biggest issues in development today. While public policy is key, the private sector must also play a leading role. IFC can help business not just meet the challenge but build opportunity by widening and deepening access

to technologies and helping support good governance, policy reform, and innovation. This includes:

- **Clean energy investments** that open markets with first-of-a-kind projects demonstrating technical feasibility, attracting private financing, and encouraging supportive government policy reforms
- **Support to local financial institutions**, leveraging domestic resources that would otherwise be unavailable for clean energy investments
- **Working with governments** to promote frameworks that encourage climate-friendly investments
- **Developing and promoting innovative financial products** that attract greater investment in clean energy
- **Helping private sector clients to identify and respond to financial risks** of climate change
- **Finding opportunities to address both climate change and poverty reduction**, such as encouraging low-cost energy efficient homes and solar lighting.

The private sector is a key component in tackling the issue of climate change. The challenge requires both government leadership and large-scale private sector action. It is time to meet the call, putting climate-friendly policies and practices into high gear, and going well beyond business as usual.

LARS H. THUNELL
Executive Vice President and CEO



IFC & CLIMATE CHANGE

Private Sector Solutions to a Traditionally Public Sector Issue

IFC’s goal: 20 percent of our investments to be climate-friendly by 2015

IFC has been supporting business solutions to climate change since 1989, just a decade after the term was coined in a report published by the US National Academy of Sciences. Our first project was a solar energy investment in China, a precursor to dozens of investments subsequently made across the globe, from Argentina to Uganda.

Since that time, we have continued to be an early mover in clean energy investments around the world, providing seed capital to innovative clean technologies, introducing utility-scale renewable energy projects to new markets, supporting the growth of energy-efficient buildings and industrial processes, and pioneering the analysis of climate risks and adaptation strategies.

Over the past five years, IFC has doubled its investments in climate-friendly projects to \$1.7 billion per year, and we see more opportunities ahead, even in the absence of an international agreement to curb greenhouse gases. Where the investment climate is supportive and access to finance exists, the private sector is moving forward and investing in clean energy and energy efficiency.

This is where IFC plays a role by providing financing and advice to our clients in key areas of climate business including:

- **Renewable Energy**—supporting “greening the grid” and providing access to clean energy for the 1.3 billion people who are still not grid-connected

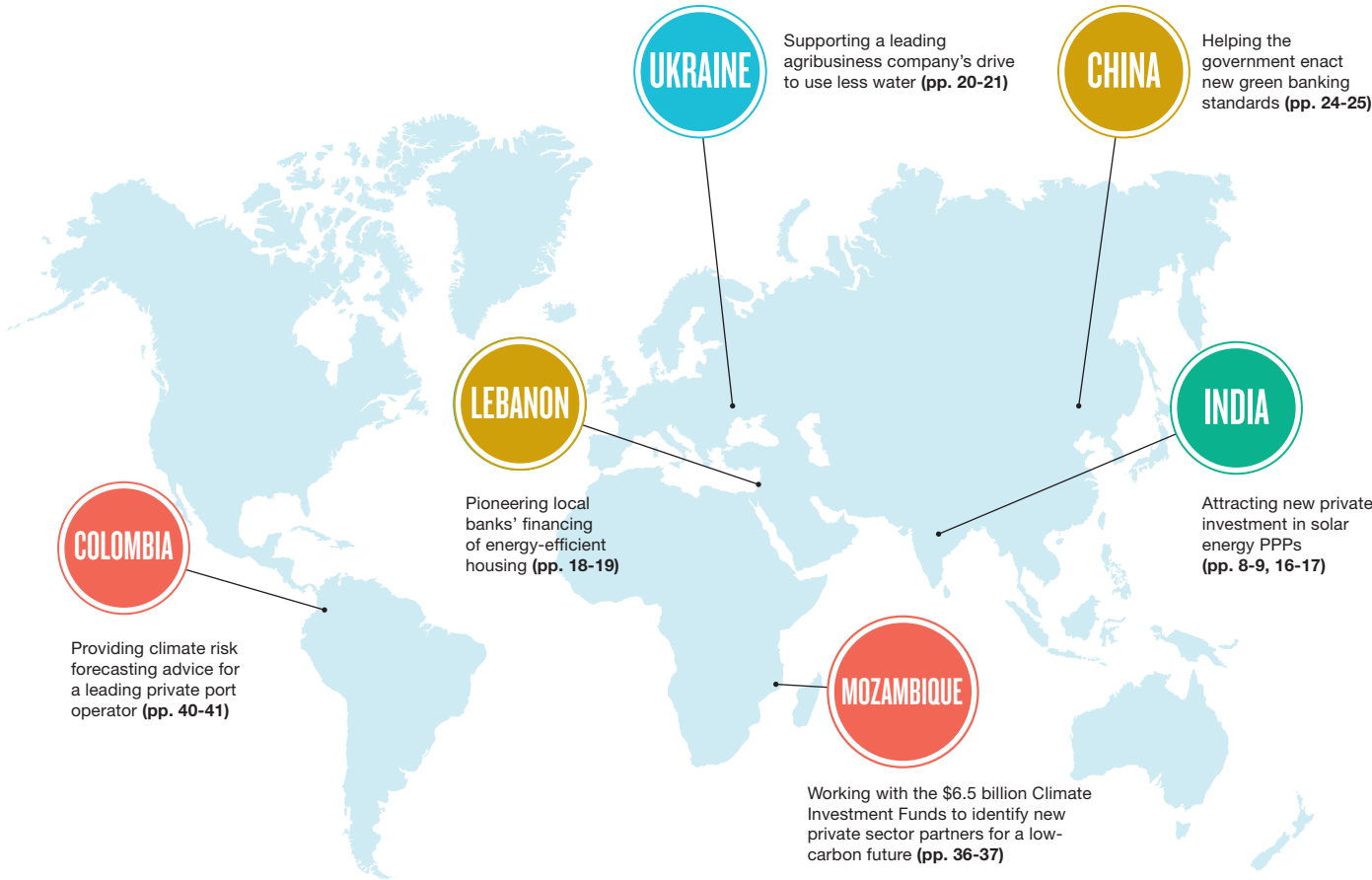
- **Energy Efficiency**—from buildings to industrial processes, agribusiness, and other key needs, IFC is investing in reducing energy use
- **Climate-Friendly Finance**—leveraging our dollars through domestic financial institutions and promoting cutting-edge financial mechanisms such as green bonds
- **Adaptation**—by analyzing climate risks we are helping our clients prepare for climate change

Portfolio management is also important to us. From footprint to imprint, IFC tracks results for increased project impact.

Looking forward, we see untapped opportunities for investors seeking to address resource constraints in emerging markets. Based on this potential, IFC is looking to grow its own climate business to 20 percent of its long-term financing by 2015, up from 14 percent last year.

Working together with our clients, governments, and partners, we are creating new models for tackling climate change. But there is still much more to be done. Given the scale of investment required, it is clear that the private sector will be needed to leverage the work of the government and civil society, and that better coordination and unified action will be required. IFC is working to provide the leadership to strengthen the bridge between the private and public sectors and help forge the low-carbon economy of tomorrow.

We focus on four broad areas:
RENEWABLE ENERGY, **ENERGY EFFICIENCY**,
CLIMATE-FRIENDLY FINANCE, and **ADAPTATION**





GREEN BUILDINGS

Introducing EDGE



PHOTO Built with IFC financing, the One Airport Square office building in Ghana's capital city, Accra, is one of Africa's newest green buildings, lowering operating costs with its high environmental standards.

Building-related greenhouse gas emissions may well double by 2030, with most of this increase taking place in emerging market countries. Never has there been such a pressing need for a green building certification system available to all. It is time to rethink the sustainability of the construction industry and ensure that green buildings deliver a demonstrably different carbon footprint from conventional buildings. Until now, going green in the developing world's building business seemed a luxury only for the wealthy, or a few select multinational companies looking to make a branding statement. Today, however, buildings for the middle- and lower-income markets can also adopt environmentally sound designs. Imagine a simple, inexpensive, and reliable way to generate real and dramatic savings on utility bills, no matter what the client's income or the kind of building they live or work in—whether a house, hospital, apartment building, hotel, or office. With this in mind, IFC is introducing a new international green building standard for the building industry called EDGE (Excellence in Design for Greater Efficiencies). It is supported by an investment-planning tool for building owners and developers that helps improve efficiency and calculates cost savings and investment paybacks in one easy-to-use Excel-based system focusing on energy, water, and material resource use.

Market research shows the building industry needs a way to easily assess and rate a green building project at the early design stage that can be applied in a developing country context. Although several assessment tools are available, the mass market needs a simple, quick, and affordable rating system for large-scale adoption and market transformation. As most developing countries do not have effective regulations to control resource use in buildings, the need for a 'voluntary' system becomes even greater. EDGE is a win-win for all stakeholders, helping:

- **Investors** test the financial viability of a green building project
- **Banks** offer green mortgages and green construction credit facilities
- **Developers** brand their projects 'green' and attract new investors and buyers.
- **Building Owners** save on operational costs.

Meanwhile, most existing green building assessment systems now on the market are complex, expensive, and require extensive amounts of training and data entry. EDGE, on the other hand, is simple and affordable, making it easier to use in the developing world, where the need is already great and is expected to surge in coming years. EDGE is part of IFC's broader strategy to encourage a large-scale adoption of Green Building Standards in developing countries, while addressing the needs of industry stakeholders, and will be rolled out in pilot countries in coming months.

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June 2012

See videos on many of these stories in the online version of Telling Our Story—available at ifc.org.

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PHOTO Germany is currently the world leader in utility-scale solar, with 28,000 MW connected to its grid. But India is coming on fast, planning to add 20,000 MW in 10 years.



ON-GRID POWER

Solar at Utility Scale

India has major goals in solar power. IFC helps the private sector meet them.

Within 10 years, India expects to build more than 20,000 MW of grid-connected solar projects—one of the world’s highest totals, reducing its reliance on coal. Meeting this ambitious pledge will require an estimated investment of \$60 billion, and cannot be done without the private sector. It comes amid a growing global move toward utility-scale solar projects that IFC is helping bring to emerging markets. Rapid cost decreases are making solar competitive with other sources of power, opening major opportunities for green entrepreneurs. We support high-impact clients who help the industry mature, using IFC investment and advice to transfer the knowledge and technology needed to develop viable new business models. They represent a new wave of solar pioneers in India—currently the world’s second most attractive market for solar after the US, according to Ernst and Young’s renewable index. In 2010, when the firm was still at the pre-revenue stage, we took a \$10 million stake in Azure Power Private Ltd., developer of the country’s first utility-scale solar plant—a 2 MW plant generating power for 32 villages in Punjab. Now one of India’s largest players in grid-connected

solar, Azure recently opened a 5 MW plant in the low-income desert state of Rajasthan, part of the 100 MW of solar capacity it plans to install nationwide by 2014. Our involvement in the utility-scale solar industry began in 2004, when an IFC-managed \$4 million Global Environment Facility grant helped private Philippine utility CEPALCO open what was then the developing world’s largest grid-connected plant. Another breakthrough came with the 5 MW Sivaganga plant in Tamil Nadu that local client Moser Baer Clean Energy Limited developed with our financing in 2010. A \$5 million-equivalent IFC local currency loan is also helping Mahindra Solar One build an initial 5 MW solar project, generating enough electricity to serve about 60,000 rural homes in Rajasthan. Launched in 2010, Mahindra Solar One is committed to being on the frontier of the local solar revolution, meeting rural electrification and other needs to help achieve inclusive, sustainable economic growth. Recently awarded another 30 MW project in the same state, the firm’s Rajasthan ventures are an early sign of large-scale solar’s commercial potential in addressing the enormous energy needs of India.



PHOTO Azure Power founder Inderpreet Wadhwa, one of India’s young solar pioneers.

PHOTOS The San Jacinto geothermal plant—a new, privately sponsored project that will meet more than 15 percent of Nicaragua’s power demand from renewable sources.

ON-GRID POWER

*Geothermal:
The Power of the Earth*

Steam-heated,
underground energy

As developing countries grow, demanding more and more electrical power, it is vital to move away from fossil fuels and make increasing use of commercially viable renewable energy sources.

Most of the global focus is on wind and solar—sectors where IFC is investing heavily worldwide. But geothermal energy is another high-potential natural power source that developing countries have barely tapped until now. IFC is helping expand its use as well, beginning in Nicaragua.

Driving electrical turbines with heat from deep within the earth, geothermal plants’ proven technology could be a key generator of clean power in many developing countries. But so far only three—the Philippines, Indonesia, and Mexico—have made it a major part of their installed capacity. Many others, including Nicaragua, are now also starting to give it serious focus.

The second poorest country in Latin America and the Caribbean after Haiti, Nicaragua today relies mainly on foreign oil for its power plants, many of which are major emitters of greenhouse gases. But analysis shows it has enough geothermal resources to meet all its domestic power

needs. It just needs to attract the necessary private investment—something it has not been able to do until now.

The test case is set on a natural hotbed surrounding the volcano Telica: the 72 MW San Jacinto project being developed by affiliates of US-based Ram Power Corp. It lies outside the city of León. Ram, a geothermal specialist listed in Toronto, finalized construction of the first 36 megawatt unit in late 2011 and has now teamed with IFC to finance the project’s second 36 MW unit.

After extensive appraisal, IFC found many strong points that made the project bankable: exceptional geothermal resources able to produce power below the cost of other existing sources, experienced operators, and a solid long-term power purchase agreement with privatized local utilities.

We are providing a \$50 million package to move the project forward and are working alongside eight other development finance institutions that have together provided another \$140 million in commitments. San Jacinto, which will provide over 15 percent of Nicaragua’s energy from a renewable source, is expected to operate at full capacity by January 2013—the first geothermal start-up financed by IFC, but surely not the last.



Meanwhile, IFC advisory services teams are working in many other ways to overcome the industry’s barriers and thus increase the installed capacity of geothermal power worldwide. In-depth market assessments have been done for Turkey, the Eastern Caribbean, and several East African countries, raising awareness of geothermal’s potential benefits.

PHOTOS The new Lighting India initiative will help bring lighting to those who need it most, building a market for low-cost, long-lasting solar lighting products.

It draws on the lessons of the IFC/World Bank Lighting Africa program, whose privately sold solar lamps help off-grid students in Kenya (right) and other countries study at night.



OFF-GRID POWER

For Lighting and Cooking

One village at a time

When the night falls in India, millions of people must resort to kerosene lamps or firewood or paraffin candles to light their homes.

But these old-style products give poor lighting, produce greenhouse gases, generate indoor air pollution, and are bad for health and the environment. Anyone with an affordable, effective, and climate-friendly alternative has many potential customers.

Nearly 400 million Indians have no access to energy at all. Another 420 million survive on just a few hours of electricity per day.

Many off-grid lighting product manufacturers in India and other countries are looking for viable ways to enter this market. The challenge is to bring their products to end-users in a sustainable way. Doing this, and much more, is the goal of IFC’s new Lighting India program, operated in partnership with the US and Italy. It will spark private sector involvement, building markets that provide affordable, modern off-grid lighting to low-income communities across India.

Learning from the successful Lighting Africa program that has helped sell 500,000 solar lamps and lanterns,

Lighting India will address market barriers by creating an enabling environment and supporting companies committed to developing quality products. It will offer market assessments, feasibility studies, training, and advice on distribution/supply chain management, manufacturing, and scalable business models. It will also address access-to-finance-related challenges for both producers and users.

Recognizing the risk of low-quality products flooding the market, Lighting Africa institutionalized a quality assurance testing framework, testing more than 100 products to date. Lighting India plans to replicate this approach, building local testing capacity with internationally recognized standards.

Lighting India will add further innovations to the Africa model, working with renewable energy mini-grids as well as lighting appliance companies, helping bring both of them to scale. Improving users’ productivity and education by allowing them to work or study in the evening without the health hazards of fire and indoor air pollution, Lighting India will bring clean and affordable lighting to the homes of 2 million people in India by 2015.



Its forefather the Lighting Africa program, which IFC and the World Bank together launched in 2007, has not only helped private firms sell 500,000 solar lighting products, but reached a much larger audience of 19 million people through consumer education campaigns.

For additional impact, in another project IFC is also helping one of India’s largest organizations of low-income

women, SEWA, provide 200,000 affordable new solar lanterns and high-efficiency cooking stoves to its members. An upcoming IFC risk-sharing facility will stimulate new commercial financing for these new purchases, significantly reducing emissions and improving living standards at the household level.

PHOTOS A woman in Bihar (left) holds on to her only beacon of light: a \$17 solar LED appliance that passed Lighting Africa’s quality tests when applied in India. In Gujarat (below), IFC client SEWA is helping low-income women buy high-efficiency, \$70 cook stoves, requiring little fuel and producing few emissions.



MANUFACTURING

Solar Components

Making the solar supply chain more cost-competitive

Many factors must combine for solar power to become a large-scale, mainstream global industry. While utility-scale solar plants that offset significant amounts of carbon emissions have a free power source, their up-front capital expenditures can still be high. As those costs drop, projects have and will continue to become more competitive. That will attract more private capital over time, allowing the industry to play a bigger role in the battle against climate change while transforming developing countries with new access to electricity, water purification, and food processing. If costs continue to fall, many see potential for 250 GW of solar power installed by 2020 globally, or roughly four times today’s level, with costs to the consumer at or below those of other sources such as diesel, propane, or carbon-based electricity generation.

With our strong capital base, global market and industry knowledge, and wide range of investment and advisory products, IFC can do much to mitigate certain risks and bring additional investors on board. That’s why we finance not just renewable energy power

generation projects, but manufacturing ones as well—having invested more than \$200 million since 2007 at all levels of the manufacturing supply chain. We focus on companies with established technologies and expertise in raw material production as well as solar photovoltaic (PV) components with widespread applications.

Today there is also growing interest in applying concentrated solar power (CSP) technology. It uses mirrors or lenses with tracking systems to focus a large amount of concentrated sunlight onto a small area, which then becomes a heat source that is typically used for conventional power plants. Recently developed smaller CSP systems also provide clean water and other important needs.

One IFC client, Spain’s Abengoa S.A., is a global leader in solar CSP technology, both as equipment manufacturer and project sponsor. After building several state-of-the-art plants at home in Spain, it is now partnering with IFC as it shifts more operations to emerging markets.

In 2010, our \$24 million loan helped finance the expansion of Abengoa’s production arm in Mexico, COMEMSA,



where components for several CSP plants are made. Our support put a World Bank Group stamp of approval on the feasibility of establishing solar CSP manufacturing operations of this scale in Mexico.



PHOTOS Components manufactured in emerging markets by IFC client Abengoa of Spain play a critical role in the fast-growing, high-potential concentrated solar power (CSP) industry.

IFC and its World Bank Group partners look forward to continued partnership with Abengoa and other companies with a similar mandate to help develop this industry in emerging markets.

PHOTOS Private investment mobilized for a new waste-to-energy plant in the Maldives (right) improves conditions in one of the world's most climate-threatened nations.

Privately owned solar power plants are becoming a mainstream source for state utilities in several emerging markets. In Thailand (opposite page left, and top right), Solar Power Corp is installing 34 solar farms. Bulgaria's new 60.4 MW Karadzhhalovo solar plant (opposite page, bottom right) is one of Europe's largest.



PPPs
*Financing
Sustainability*

Critical for
climate-friendly
infrastructure

The transition to climate-friendly power generation in the developing world will require vast amounts of investment—far more than governments can provide. But sufficient private capital is not always available, given the risks, sizes, and time lines of path-breaking projects. Innovative public-private partnerships (PPPs) are essential in moving forward. Creating them is one of IFC's specialties.

The Maldives, a small island nation off Sri Lanka, is one of the most climate-threatened on earth. Many of its islands are only about five feet above sea level, highly vulnerable to the impending sea level rises that UN scientists forecast. Without further action, its people could be among the world's first big wave of climate refugees.

Dependent on imported fossil fuel-based power, the Maldives' emissions were long worsened by its practice of burning garbage on a small island near capital city Malé. Changing course, it set a new national solid waste management policy in 2008 and brought in IFC advisors to attract the sector's first private investment. Supported by DevCo, the Public-Private Advisory Infrastructure Facility, and the South Asia Infrastructure Facility, we helped set a fair and transparent bidding process for a 20-year waste management concession. The winner,

Indo-German consortium Tatva Global Renewable Energy (Maldives), is now planning to invest \$50 million in an integrated project that includes a 2.7 MW waste-to-energy plant and best practice waste management systems, reducing annual greenhouse gas emissions by 16,000 tons.

Pioneering PPPs are also needed to mainstream solar renewables. Here our recent work includes:

- **India:** Fast-growing Gujarat state aims to develop 500 MW of solar power in the next two years and make its capital, Gandhinagar, a model solar city. To pave the way for large-scale solar, its government asked IFC to find firms to finance and build two 2.5 MW pilot solar projects generating a total of 5 MW from rooftop solar panels. Supported by the Netherlands and Finland, we advised in a competitive bidding process won in April 2012 by Azure Power of India and SunEdison of the US. They are now investing a combined \$15 million to bring the projects on-line. IFC Public Private Partnership and Sustainable Business Advisory teams structured the project and advised the Gujarat Energy Research and Management Institute and Gujarat Power Corporation Ltd, the two state supported agencies for implementing solar power, on the bidding process.



- **Thailand:** IFC's early backing supported the rise of the country's renewable energy pioneer, Solar Power Co. It has \$15 million in IFC financing to install 34 privately owned solar farms selling power to government utilities by 2013.
- **Bulgaria:** The new 60.4 MW Karadzhhalovo solar plant outside Plovdiv is one of Europe's largest, made possible by a €155 million (\$206.5 million)

project financing that closed in March 2012 despite the difficult conditions in Europe. IFC provided €46.1 million (\$61.4 million) and mobilized €41.1 million (\$54.8 million) more from Italy's UniCredit through a syndication loan, while the US Overseas Private Investment Corp. (OPIC) provided a \$50 million parallel loan.



GREEN BUILDINGS

Transforming an Industry

A push for more efficient offices and homes

A new global business is fast emerging—meeting the growing demand for commercial and residential buildings with lower environmental impact across the developing world. Setting new industry standards that work for everyone is critical to moving forward.

Almost 40 percent of all energy generated across the world is used to cool, light, and ventilate buildings. Businesses that can transform the building sector will transform the world, reducing today’s excessive energy consumption, offsetting emissions, and increasing the supply of affordable, climate-friendly living spaces for a growing world population.

There is no time to wait. IFC is acting now, working globally to help reposition the building industry with a new focus on sustainability and energy efficiency.

In Indonesia, one of the world’s largest emitters of greenhouse gases, an IFC–World Bank investment climate advisory team is bringing Jakarta authorities and building industry leaders together to draft the city’s first green building code. Market research shows that modest, affordable design changes can cut buildings’ power and water use by 20 percent—one of the findings of the IFC–World Bank advisory project provided in partnership with

Australia, Finland, Netherlands, New Zealand, and Switzerland. “There are very simple methods of applying these green standards,” says Firma Herwanto of the Indonesian Institute of Architects. “I do believe these upcoming regulations will be good for the people of Jakarta.”

Lebanon’s Green Building Council also worked with IFC to develop a rating system that will evaluate the energy efficiency of commercial buildings. It shows that with investments of up to \$5 million, local building owners and developers could save up to \$900,000 annually, rapidly recouping their costs of investment.

IFC is also scaling up its investments in green building projects aimed at expanding affordable housing choices in emerging markets.

Artha Capital is a Mexican real estate investment fund focused on buying and developing land for new affordable housing and commercial building projects. IFC’s \$25 million investment in one of its funds will expand a wide range of local developments, helping address Mexico’s lack of affordable housing and increase home ownership. Artha investees will build about 66,000 new homes to help meet this



growing need, following guidelines laid out in a new publication that Artha produced with IFC’s support, complying with Mexican government policies.

“Our Green Design Guide establishes criteria and guidelines along the value chain from site preparation and basic infrastructure to plot development projects,” said Germán Ahumada Alduncin, Founding Partner and CEO of Artha.

Homes being developed will feature low-energy lighting and solar water heaters, and are expected to reduce energy consumption by more than 30 percent and greenhouse gas emissions by 10,000 CO₂ tons per year. Other climate-friendly measures include the use of solar LED lights for half of all street lighting and provision of bicycle paths and pedestrian walkways.

PHOTOS Architect Firma Herwanto’s climate-friendly design work (top) fed into Jakarta authorities’ recent creation of the first green building standards in Indonesia, one of the world’s largest emitters of greenhouse gases. Throughout the developing world (bottom) demand is increasing for green standards in the building industry.

RIGHT Sugar beets are among Ukrainian agribusiness leader Mriya Agroholding's many products, now being produced with less energy and water.



CLEANER PRODUCTION

Doing More with Less

A role model of sustainable agribusiness

Finding the necessary balance between agricultural productivity and resource efficiency is challenging, but it can be achieved by incorporating climate-friendly cleaner production techniques.

Ukraine may have a comparative advantage for primary agricultural production, thanks to its vast arable land and fertile black-earth soils. But its agricultural production and related agribusinesses are often energy- and water-intensive, raising costs and putting stress on the local environment.

Thanks to a loan from IFC's Clean Production Lending Facility (CPLF), Mriya Agroholding, a successful Ukrainian agro producer, is boosting its operational processes and realizing significant reductions in its energy consumption, water use, and CO₂ emissions.

IFC created the \$125 million facility to help its client identify and carry out cleaner production investments. Through this initiative, Mriya received a \$5 million cleaner production loan in 2011, following a 2010 IFC-financed audit. The loan covers 40 percent of Mriya's project cost of \$12.5 million, and comes with advisory support from IFC's in-house cleaner production specialists.

Mriya produces about 1.5 million tons of sugar beets per year that are eventually processed into sugar at its affiliated plants. Because sugar production is energy-intensive—with energy and water accounting for up to 25 percent of the processing cost—more than 90 percent of the IFC loan is dedicated to water-saving measures aimed at repairing a water treatment station, installing a new press for beet pulp, and adding new press filters at four of the firm's six sugar refineries. Through these steps, significant savings are being realized at Mriya's Khorostkiv sugar plant, where efficiency improvements have cut water use by 20 percent.

Improved production efficiency at Mriya's affiliated refineries is increasing capacity utilization by about 8.5 percent, while production costs are being reduced by up to 6.8 percent at the various refineries, generating the equivalent of about \$3 million in annual savings. Avoidance of penalties by the local regulator and utilities for high water use and wastewater treatment add to the company's savings.



ABOVE Looming issues of water scarcity require a new, more integrated approach than has been used until now. Ukraine's Mriya Agroholding shows the private sector has an essential role to play.

TRANSPORTATION

Chennai's Green Metro

A \$3 billion solution

Traffic snarls daily life in Chennai, the capital city of the Indian state of Tamil Nadu—increasing emissions and disrupting the routines of more than 7 million residents. And it is only getting worse, as 25 percent more vehicles join the already-clogged roads each year.

Existing bus and elevated rail systems carry just 29 percent of local commuters, compared to 60 percent in Delhi. But they are not always happy. The system's timetables are widely considered unreliable.

It is time for a new approach.

To move forward, state and national government agencies are building a \$3 billion, 45-km metro rail system in Chennai's two busiest corridors. When completed in 2015, the Chennai Metro is expected to reduce travel times and vehicular pollution significantly, while also increasing productivity and improving living standards. IFC advisors are increasing the private sector's role in this high-impact, sustainability-driven project.

Chennai's new, climate-smart rail lines will provide more comfortable, efficient, and reliable transportation for 700,000 daily users, moving riders out of cars and buses and onto trains. Key green features include platform screen doors to minimize



air conditioning in all underground stations, and regenerative brakes that convert kinetic energy and feed it back into the system. These brakes are similar to those in the Delhi Metro, the world's first urban mass transit system to win Kyoto Protocol carbon credits—earning credits worth \$9.5 million a year for seven years in September 2011, after receiving UN certification for its proven ability to take 91,000 people off the Indian capital's roads every year. Using that same model, the Chennai Metro has also applied for Clean Development Mechanism credits and expects to be certified after it opens.

IFC is advising on the design and implementation of a performance-based operations and maintenance (O&M) contract for Phase 1 of the Chennai Metro. The first project of its kind in India, it will attract a respected private operator to enter about 18 months before the commencement of operations, establish the O&M company, and train staff.

The private partner's contract will cover the first seven to nine years of operations, during which it will likely invest millions of dollars each year in the systems, equipment, and spare parts its staff needs to provide essential services. Under IFC's design,



PHOTOS Aging existing public transit systems cannot keep up with demand in sprawling Chennai, frustrating commuters with unexpected delays. Improvements are coming in a new \$3 billion, environmentally friendly Metro system. IFC is helping build the private sector's role in the high-profile project.



the contract also includes key performance indicators with associated bonuses and penalties to incentivize the operator to provide the citizens of Chennai with reliable, clean, safe, and efficient metro services.

Additional support from IFC's Japanese and Spanish trust funds covered the costs of the specialized legal, technical, and traffic forecasting consultants that assisted IFC with the project.



GREEN BANKING

Standards for Climate-Friendly Finance

One step closer to financial sector transformation

The Chinese government has long collaborated with IFC on its Green Credit Policy initiative, helping Chinese banks implement the policy through training events, sector guidance, and other technical resources since its launch in 2007.

IFC’s environmental and social risk management policies and sector-specific guidelines are valued by local banks such as:

- **Industrial and Commerce Bank of China**, the largest bank in the world by market value
- **China Industrial Bank**, which in 2008 became the first Chinese bank to adopt the Equator Principles, the project finance industry’s framework for environmental and social risk management based on IFC’s performance standards.

The Chinese government’s transformation of the financial sector toward environmental and social sustainability continues to build on its past collaborations with IFC, including the benchmarking of the Green Credit Policy against IFC’s performance standards and the introduction of the environmental, health, and safety guidelines of the World Bank Group to Chinese audiences.

But most recently, it is the China Banking Regulatory Commission’s launch of the Green Credit Guidelines developed in consultation with IFC that is marking a new phase in China’s commitment to sustainable banking practices. The new guidelines are a practical step forward in putting the Green Credit Policy requirement into practice. By providing bank directors and senior management with direct responsibility and know-how for managing environmental and social impacts and promoting green credit practices, the guidelines are now expected to make China’s lending more resource efficient and environmentally sustainable, both in China and beyond, through credit risk management, financial innovation, and banks’ own footprint management.

IFC considers the new guidelines welcome, especially given the increased involvement of Chinese enterprises in the global market and calls urging the overseas projects to take more care of the local environment and reduce energy use. China’s successful experience was recently shared with other emerging market regulators at the first International Green Credit Forum, hosted by IFC and the China Banking Regulatory Commission in Beijing in May, 2012.



Over 300 participants from 12 emerging markets took part. They included high-level representatives from the national banking regulators of Bangladesh, Brazil, China, Indonesia, Korea, Laos, Mongolia, Nigeria, Thailand, and Vietnam. It was the first gathering of its kind to discuss the future of sustainable finance. From here, IFC expects to support the

China Banking Regulatory Commission in developing key performance indicators for the guidelines and strengthening evaluation mechanisms. We will also continue to partner with both banking and environmental regulators in developing sector-specific guidelines and other technical resources to support implementation by banks.



PHOTOS Working simultaneously with China’s government and banks, IFC is helping make green banking a reality in the world’s largest emerging market. Wang Zhaoxing (top right), vice-chairman of the China Banking Regulatory Commission, spoke at the International Green Credit Forum in Beijing cosponsored by IFC, May 2012.

WATER

An Integrated Response

Acting now—
to avoid crisis later

Experts agree: climate change will make water security even harder and more expensive to achieve in the coming years. It could reintroduce water security challenges in countries that have long avoided them. Many may face increased droughts and floods. Extreme variability of precipitation will likely place 2.8 billion people at risk of water shortages, the World Bank forecasts.

Managing water resources using an integrated approach will be critical to offset all the social, economic, and environmental impacts. And while informed action by governments will be essential, the private sector also has a major role to play—one IFC is helping build globally.

Bhatiari is a rural community of 20,000 in climate-threatened coastal Bangladesh with no piped water supply. Its drinking water has traditionally come from wells, then boiled or filtered. But now it is one of several countries served by Water Health International (WHI), a for-profit “micro-utility” whose technology purifies local water up to WHO standards. Its sustainable business model funds long-term service from an initial one-time investment, using water revenues to pay

for ongoing operations and maintenance. A commitment of \$25,000 from the community, other government sources, or private sponsors typically allows service for 10 years, making clean water affordable to those earning \$2 a day. IFC was an early equity investor in WHI, and along with one of Bangladesh’s largest firms, AK Khan Group, also financing the local joint venture there.

In India, where water supply will likely be in severe deficit by 2030 without concerted action, a \$5 million IFC loan is helping finance some of the country’s first water and wastewater PPPs. Our client, Hyderabad-based water specialist Vishwa Infrastructures and Services Pvt Ltd., is developing two projects. They will improve sanitation and provide better water services to about 450,000 people in two mid-sized towns, Khandwa, Madhya Pradesh and Kolhapur, Maharashtra.

Another IFC client from India, Jain Irrigation Systems, provides affordable, productivity-enhancing technology that helps small-scale farmers reduce their water use. Having grown with our earlier support, it is now expanding in sub-Saharan Africa, where it recently pledged to increase its investments as part of the G8’s global food security initiatives.



In the world’s most water-scarce region, the Middle East and North Africa, IFC advisory support helped launch Egypt’s first-ever wastewater treatment PPP, a roughly \$150 million plant bringing water and sanitation to up to 2 million people in the fast-growing city of New Cairo. Nearly complete despite the recent upheaval in

Egypt, this viable new concept can now be applied elsewhere. These and other projects show the case for private sector involvement in sustainable use of water resources—good for business, and good for development.

PHOTOS IFC helps the private sector promote more sustainable management of water resources by all three key user groups: industrial, agricultural, and residential.

GREEN BONDS

Part of IFC's Approach

\$1 billion raised

Carrying IFC's name and prized AAA credit rating, our medium-term green bond issues have to date raised just over \$1 billion from institutional investors. It is being set aside in a separate account for investing exclusively in renewable energy, energy efficiency, and other climate-friendly projects in developing countries.

The most recent transaction came in April 2012, when IFC issued its first green bond in the US market, raising \$500 million for climate-friendly investments in emerging markets.

It built on the momentum that began when IFC issued its first green bond in April of 2010, a four-year, \$200 million issue in Europe. The overall program has now seen 10 such transactions, with more to come in the near future.

Climate change projects financed under the green bonds are subject to a number of inclusion criteria and an official appraisal process. First, IFC staff identify potential transactions, which are reviewed early on by climate specialists to ascertain potential green bond eligibility. During this appraisal, the amount of an investment that is green bond eligible is

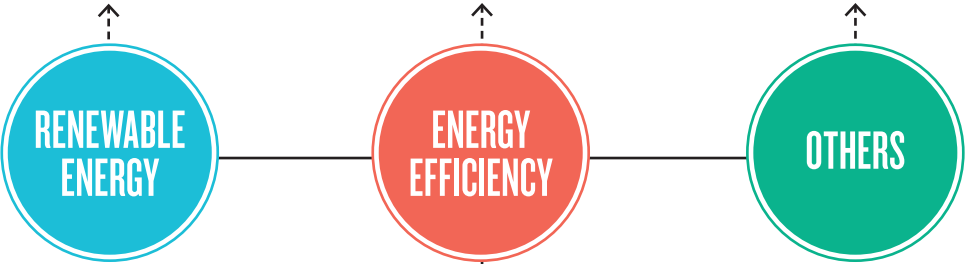
confirmed. Staff will then negotiate the investment structure, which may include co-investors and IFC loan syndication, as well as supplemental concessional funding from donors, if needed.

After a summary of the project information is made public, IFC board approval is obtained.

Inclusion criteria used to determine eligibility are:

- **Renewable Energy:** investments in equipment and systems that enable the use of energy from renewable resources
- **Energy Efficiency:** investments in equipment, systems, products, and services that help reduce energy consumption per unit of output
- **Others:** investments that reduce emissions in other ways, such as sustainable forestry and agribusiness, capturing and flaring or use of methane, or carbon capture and storage.

Together, IFC, a member of the World Bank Group, and the IBRD, which also issues green bonds for sustainable development projects, have raised more than \$4 billion under this approach since 2008.



PHOTOS By issuing green bonds on the global capital markets, IFC has raised more than \$1 billion from private investors for reuse in a wide range of climate-friendly projects.

PHOTOS In China, IFC has helped local financial institutions make more than \$728 million in new energy efficiency loans.

Russia's Prime Finance Bank (opposite page, lower right) is building a growing business, backing local companies that reduce waste and lower emissions. It is part of IFC's global effort to bring more local financial institutions into the growing SME energy efficiency market.



LOCAL BANKS

Financing Efficiency Upgrades

Reducing energy demand in high-growth countries

A profitable new business awaits local financial institutions in emerging markets: financing smaller companies' energy efficiency needs.

Outside Saint Petersburg, a Russian SME called EnergoStroy is busy building and refurbishing steam- and water-heating boiler houses, helping clients cut costs. This makes a difference in a country whose energy consumption is twice that of all its Nordic neighbors combined, largely due to reliance on outdated, inefficient industrial equipment.

By replacing an outdated boiler house in the town of Nevskaya Dubrovka, EnergoStroy provided heat and hot water to 6,000 local residents before the onset of winter—saving the municipal administration up to \$185,000 in annual energy costs. The project was supported by \$513,000 in financing from Bank Prime Finance, a partner of IFC's Russia Sustainable Energy Finance Program that stimulates private investment in energy efficiency for SMEs.

Building on the success of its loan to EnergoStroy, Prime Finance Bank is now promoting sustainable energy finance

across northwest Russia. With IFC advisory support, the bank has trained its credit officers and adjusted its underwriting process to improve its ability to finance more SME energy efficiency projects.

Operated in partnership with the Global Environment Facility, Denmark, and Finland, the IFC's Russia Sustainable Energy Finance Program has helped 12 local banks finance 250 projects worth \$185 million, resulting in annual energy savings of \$35 million and lowering greenhouse gas emissions by 450,000 tons of CO₂ per year.

A joint IFC/World Bank report had found that Russia's current energy inefficiency was equal to the annual primary energy consumption of France. Achieving Russia's full energy efficiency potential would cost the economy a total of \$320 billion but save investors and end-users about \$80 billion a year, thus paying back in just four years. Benefits to the total economy are much higher: up to \$150 billion a year in energy cost savings and additional earnings from gas exports.



Helping local financial institutions tap into the lucrative SME energy efficiency market is one way IFC helps generate new private capital for the fight against climate change. In some cases, we work broadly across a country's financial sector—as in Russia, or in the China Utility-Based Energy Efficiency Program operated in partnership with the GEF, Finland, and Norway. Its participating banks have provided loans totaling more than \$728 million, financing more than 170 energy efficiency and renewable energy projects. These have mobilized more than \$1.6 billion in overall energy efficient investment, help avoid the equivalent of 18.4 million tons of CO₂ emissions per year.



RIGHT In Turkey, local leasing company YKL is a rising player in SME energy efficiency finance.



YAPI KREDİ LEASING

*Building an Energy
Efficiency Portfolio*

Numbers that speak for
themselves

Cutting energy costs brings bottom-line benefits. It also fights climate change—tackling the demand for energy, not just the supply.

For as essential as increased use of renewable energy is, it is not the only route to a low-carbon future. A recent World Economic Forum report also called for “wholesale changes in the way energy is distributed, stored, and consumed.” Identifying a \$170 billion global market for energy efficiency upgrade projects, the report stressed that “the cheapest source of energy is the energy never used.”

Turkish equipment manufacturer Toskar would agree. It now has new systems that have brought energy costs down by 20 percent. As a result, this fast-growing SME’s output is now 50 percent higher than before.

“In order to be a good firm—a global firm—you have to have machinery like this in your inventory,” says Toskar’s general manager, Onur Tosun. He financed his upgrades through our client Yapi Kredi Leasing (YKL), Turkey’s leading leasing company.

In countries such as Russia and China (see pp. 30-31) IFC helps bring multiple local financial institutions into the profitable, high-impact energy efficiency market. The approach is the same in Turkey—whose industrial energy consumption is more than three times above the OECD average due to a reliance on outdated equipment.

In 2008 YKL became the first local Turkish financial institution to partner with us in this regard. Looking for a specialized market niche, it too wanted to develop its energy efficiency equipment business. An important resource for local SMEs, YKL is a subsidiary of parent Yapi Kredi Bank, winner of Turkey’s Bank of the Year award in 2011 from *The Banker*, a *Financial Times* publication.

Supported by the Clean Technology Fund, we provided YKL with a \$50 million line of credit in 2010, when its SME energy efficiency finance portfolio was just \$18.8 million. Today that same portfolio stands at \$200 million.



ABOVE Cleaner production is good business, Turkish SMEs now realize.

RIGHT Chinese electric buses now run on high-efficiency batteries built by IFC client Microvast.



CLEANTECH VENTURE CAPITAL

Early-Stage Investment for Climate Action

Electric vehicles, e-waste recycling, and more

Great green companies need early-stage equity to grow.

Venture capitalists spot them early—playing a critical role, and earning both financial and development-impact returns when success eventually comes.

This is how IFC’s Cleantech investment team operates. Our capital and expertise help build high-potential emerging market technology companies, furthering IFC’s strong commitments to innovation and fighting climate change.

In Chongqing—one of the world’s largest metropolitan areas, with nearly 29 million people—there are now 200 electric buses running on our Chinese client Microvast’s batteries. These long-lasting, fast-charging lithium titanium oxide systems charge in just 10 minutes, not the six to eight hours required by those in electric cars such as the Nissan Leaf and Chevy Volt. Their range is perfect for the new generation buses China is developing as part of its pledge to reduce greenhouse gas emissions by up to 45 percent by 2020.

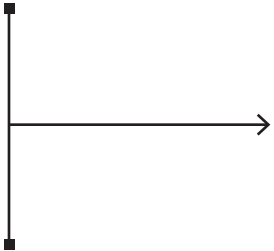
In 2011, when Microvast was in its fifth year and still had limited revenues, IFC made a \$25 million equity commitment to help it grow. We invested alongside Ashmore Investment Management Ltd. of the UK,

one of the world’s largest emerging market investment houses.

We played a similar role with Attero Recycling Private Ltd., the pioneer of India’s nascent industry of recycling computers, cell phones, consumer electronics, and other technology-related products—or what is collectively called e-waste.

Founded in 2008, Attero takes potentially toxic, improperly discarded technology products and refashions them into a source of secondary raw materials. Its integrated approach avoids dumping hazardous substances and fights climate change—recycling metals from state-of-the-art e-waste technology requires far less energy and generates only a fraction of the carbon released in mining them.

Seeing the potential for a powerful demonstration effect, IFC invested \$5 million in Attero in 2010, joining a shareholder structure that included co-founders Nitin Gupta and Rohan Gupta, venture capital funds such as Silicon Valley powerhouse Draper Fisher Jurvetson, and others. IFC is also providing advisory services to help Attero establish new supply chains to collect e-waste sustainably. This will help it show that India’s e-waste recycling business can be economically, environmentally, and socially sound.



A year after our investment, Attero earned Technology Pioneer status from the World Economic Forum (WEF), which cited it as one of the world’s 25 most innovative technology start-ups. The WEF’s

PHOTOS India’s booming demand for laptops and other modern technology creates a large e-waste problem with considerable environmental impact. IFC-financed Attero Recycling (left) makes the most out of the used parts.



Olivier Schwab said Attero was among those “revolutionizing the business paradigms in their industries,” showing that “innovative technology can be deployed to benefit business and society.”

VULNERABLE COUNTRIES

Facing Major Challenges

Donor partnerships to build the private sector's role

Helping the private sector combat climate change in Africa is a top priority for IFC. But it takes a special approach. Proven business models that generate results for climate action elsewhere are still developing there. In time we will help Africa build its first utility-scale renewable energy projects, while also investing in milestone projects in sustainable forestry and other climate-friendly industries. But there is no time to wait.

So in the meantime we are helping businesses not just anticipate, but adapt to climate change, putting an early focus on agriculture, resource management, and reducing the greenhouse gas emissions of lighting and cooking.

Donor funds help IFC offset some big risks that have limited the role of private investors. One key partner: the Climate Investment Funds (CIF), a \$6.5 billion multidonor initiative designed to attract \$40 billion in new investment. Operating since 2008, its work proves “solutions are possible at scale, and can be affordable,” says the World Bank’s Andrew Steer.

One of the CIF’s funds, the \$1.2 billion Pilot Program for Climate Resilience (PPCR), helps countries assess climate risk and react accordingly. In Africa, we

work with it in Mozambique, Niger, and Zambia.

Without the right response to rising temperatures, coastal flooding, uncertain rainfall, and other expected impacts of climate change, the World Bank estimates, Mozambique’s GDP could fall by up to 14 percent. This could devastate a country that already has one of the world’s highest rural poverty rates.

PPCR-funded IFC market assessment teams are identifying a universe of cutting-edge companies to support in Mozambique. Some could be in sustainable agriculture—for example, creating affordable new cooking fuels to replace charcoal, a key driver of deforestation. Or they could be in finance, channeling new loans for sounder use of water in agriculture and industry. As these projects emerge in the coming year, \$10 million in PPCR concessional financing will help IFC clients reach these and other markets. Additional support is available for Niger and Zambia.

In Asia, similar work with the PPCR is also underway in Bangladesh, the world's most climate-vulnerable country, and Nepal, the fourth-most threatened. In Bangladesh, where a PPCR program



is shoring up coastal embankments to withstand cyclones and storm surges, we are piloting adaptive agricultural products, practices, and technologies for climate-resilient agriculture in vulnerable coastal regions and creating sustainable

livelihood opportunities for at-risk communities. In Nepal, where climate-related risks of floods, droughts, and landslides are deadly and endemic, we are developing climate-resilient communities, helping train farmers

PHOTOS Helping Africa adapt to increasing water scarcity and other coming challenges of climate change is priority business for IFC, its donor partners, and private sector clients.



and SMEs in drought-resistant crop varieties, increasing farmers’ access to finance and insurance, and increasing climate adaptive capacity through improved production and marketing systems.

SUSTAINABLE AGRIBUSINESS

Climate-Resilient Seeds

Important for food security

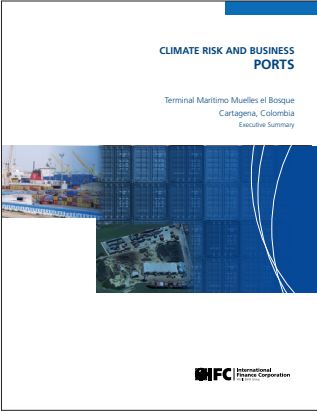
Bangladesh is losing 1.75 percent of its arable land each year—faster than its population growth of 1.5 percent. This means that by 2025, its poorly performing agricultural sector must feed 19 million more people with considerably less land. It is just one of many countries that must manage its agricultural resources more sustainably. Already roughly a billion people worldwide do not have enough to eat. Without further action, the adverse impact of climate change on agricultural output will only worsen the situation. In Bangladesh, climate change poses an especially serious challenge to agricultural output. As a low-lying country situated on a delta, it can expect increased flooding, saltwater intrusion, drought, and other natural disasters. Rising salinity levels in coastal regions are cutting the productivity of many seed varieties long used by its farmers. To address the issue, IFC is actively promoting climate-resilient agricultural practices, working with both the private and public sectors to build greater efficiencies in the use of resources. We work with four of the country’s largest private seed companies (Energypac Agro-G Ltd., Supreme Seed, ACI Ltd., and Lal Teer Ltd.), the Bangladesh Rice Research

Institute, and the International Rice Research Institute. With advisory and financial support from IFC, this partnership is producing and marketing stress-tolerant rice seeds able to withstand extreme weather conditions, while also developing contract farming and building farmers’ overall capacity. To date more than 40,000 farmers have gained a better understanding of stress-tolerant seeds. The initiative has also expanded the market for high-yield seed varieties, increasing the supply of seeds that the private sector sells and creating demand by increasing farmers’ awareness. More than 600 dealers and retailers have also gained a better understanding of how stress-tolerant seeds work and their production practices, and the government has introduced eight new stress-tolerant seed varieties. IFC’s advisory services in Bangladesh are provided through the SouthAsia Enterprise Development Facility, managed by IFC in partnership with the Norway and the UK. It is an innovative, sustainable, and scalable implementation model that moves effectively from market entry to pilot programming and stimulates sustainable market uptake.



ABOVE Bangladesh’s coastal farmers are already feeling the effects of climate change, with increasing salinity lowering the impact of their usual seeds. IFC is helping the local private sector develop new climate-resilient seeds that work well under the new conditions.

RIGHT IFC's report on climate risk in Colombian ports broke new ground, using state-of-the-art forecasting models.



CLIMATE RISK FORECASTING

Anticipating Change

A new factor in infrastructure finance

Climate change is real. It is underway and will intensify in the coming decades, posing far-reaching risks and impacts for virtually all private companies.

Forward-looking firms that obtain early information on coming changes in resource stocks and weather patterns can anticipate change rather than react to it, making the right investments for adaptation. Those who don't may suffer severe consequences.

This is why, in 2008, IFC initiated its Climate Risk Program to produce a series of pilot studies analyzing climate risks and adaptation options for private sector projects in several different sectors and regions. One of the first studies was done in 2011 with support from Finland and Norway for Colombia's Muelles el Bosque (MEB), a private firm that has developed and managed a major port in Cartagena under a long-term government concession.

Ports are among the installations most exposed to climate change, and thus must learn to adapt—not just knowing the risks, but knowing how to manage them. Their ability to adapt to climate-related change will not only impact their investors, but—given the export and import volumes they handle—profoundly impact worldwide

economic performance, growth, and development. In this case, MEB used the information to make a \$30 million investment in new facilities to protect its port against future flood risks.

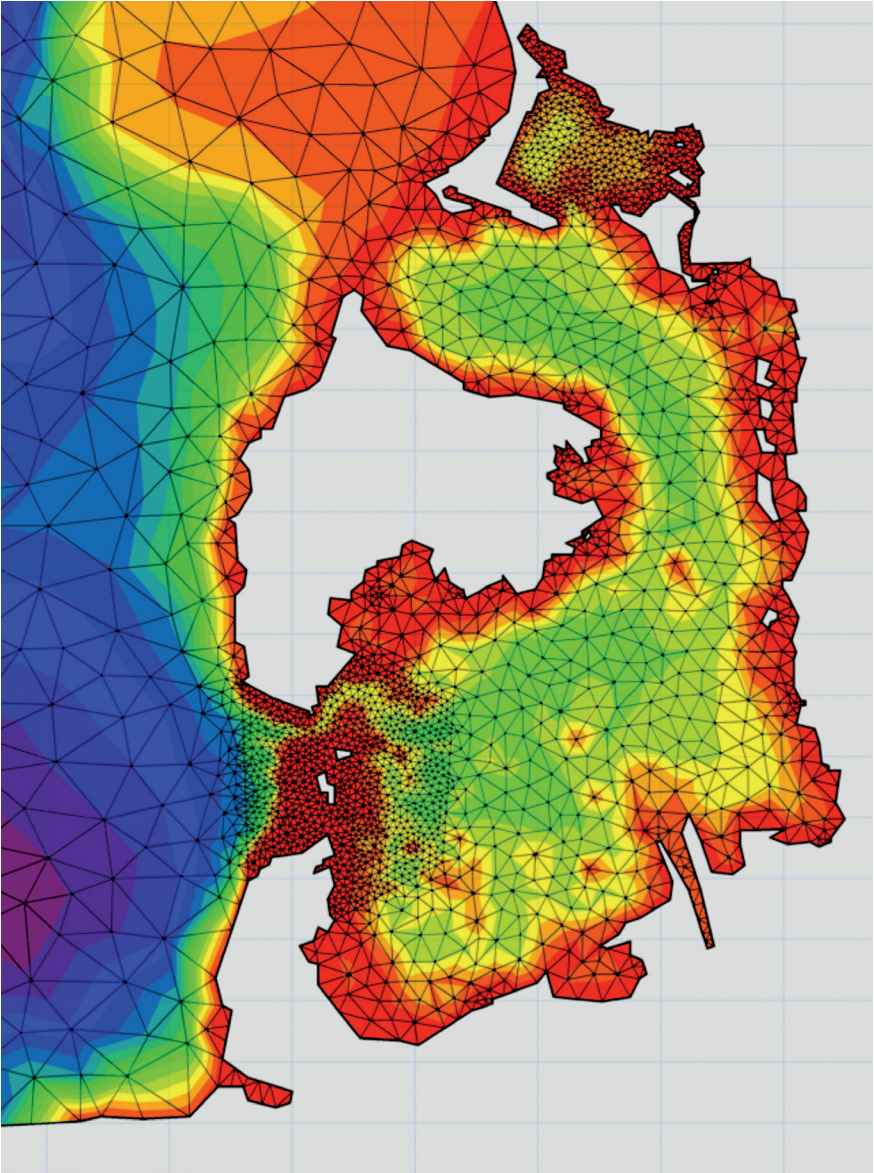
The study identified a number of specific climate change risks expected to impact specific port activities in the medium to long term, such as:

- **Rising sea levels**
- **Increasing levels of precipitation**
- **More severe tropical storms and surges**
- **Rising temperatures**
- **Changing trade patterns.**

“The IFC study is one of the first to analyze how businesses and commerce will be affected by the changing environment in Colombia, and it will have a large impact on how we address climate change in the future,” said MEB President Gabriel Echavarria.

A number of adaptation options to prevent or reduce climate change impacts from these risks were also made, weighed against their financial implications for the company. Its management then integrated the information into its own investment decision-making.

While the report focused on climate change risks to MEB, it also explored how



other ports in Colombia can be affected by climate change. There and in other coastal countries, port operators and other industry leaders who manage their climate change risks effectively and are seen as climate-resilient by its clients, insurers, and other stakeholders could gain a competitive advantage.

PHOTOS Using heat maps and other analytical techniques, IFC climate risk forecasters helped Colombian private port operator MEB determine how to prepare for coming changes.



PHOTO IFC's portfolio measurement helps track the climate impact of all projects financed.



IFC PORTFOLIO MEASUREMENT

From Footprint to Imprint

Tracking results for increased impact

In each of the last two years, IFC has invested \$1.7 billion in clean energy and climate friendly projects, representing 14 percent of total commitments. We're proud of this record but want to do more—our goal is to grow this climate business to at least 20 percent of our long-term financing by 2015. IFC mobilizes private capital for climate action from many sources, in many ways—including issuing its own green bonds. We are also developing metrics to quantify not just dollar volume of our commitment but also actual greenhouse gas emission reduction volume. How do we get there?

IFC measures greenhouse gas emissions associated with our own direct investment activities. Our analysis identifies potential mitigation opportunities and detailed information enabling the assessment of business risks associated with a carbon-constrained future. This analysis also is assessing the positive impact on emissions connected with our climate-related investments and advisory services.

IFC has been measuring its own investment portfolio's greenhouse gas footprint since February 2009. To do so, IFC developed the Carbon Emissions Estimator Tool for estimating greenhouse gas emissions from investments with immediate applicability to all its

departments other than Global Financial Markets. This methodology is consistent with the widely used carbon accounting methodology for private business established by the World Resources Institute and World Business Council for Sustainable Development and builds on the Carbon Tool developed by France's Agence Française de Développement. The tool provides investment departments with a simple way to estimate gross operational emissions and actual project emissions.

For example, we can use the tool to estimate greenhouse gas emissions that come from a cement production facility—both direct (on-site fuel combustion, carbon dioxide produced during clinker production, etc.) and indirect (electricity purchases). This kind of information is now used throughout the institution to give IFC teams important insight on where we stand and where we should go to build our climate business and meet the development milestones our clients expect us to reach.

Today's IFC projects must include information on their actual amount of greenhouse gas emissions reduced and their greenhouse gas intensity. These metrics also form a building block for various types of analyses such as greenhouse gas impacts from energy efficiency and renewable energy, upstream and downstream emissions impacts, and greenhouse gas shadow-cost analysis.

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IFC has offices in more than 80 countries around the world.

The opinions expressed in the article on pages 12-13 are those of the author and do not necessarily reflect the views of the United States Department of State.

OUR VISION

That people should have the opportunity to escape poverty and improve their lives.

OUR VALUES

- Excellence
- Commitment
- Integrity
- Teamwork
- Diversity

OUR PURPOSE

To create opportunity for people to escape poverty and improve their lives by catalyzing the means for inclusive and sustainable growth, through:

- Mobilizing other sources of finance for private enterprise development
- Promoting open and competitive markets in developing countries
- Supporting companies and other private sector partners where there is a gap
- Helping generate productive jobs and deliver essential services to the poor and vulnerable

To achieve its purpose, IFC offers development-impact solutions through firm-level interventions (direct investments, Advisory Services, and the IFC Asset Management Company); promoting global collective action, strengthening governance and standard-setting; and business enabling environment work.

Creating Opportunity Where It's Needed Most



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