

# Sustain

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Special double issue

Climate

Energy

Development

Energy

Climate

Energy

Development

Climate

Development

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Energy, climate and  
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World Business Council for  
Sustainable Development

## About the WBCSD

The World Business Council for Sustainable Development (WBCSD) brings together some 200 international companies in a shared commitment to sustainable development through economic growth, ecological balance and social progress. Our members are drawn from more than 36 countries and 22 major industrial sectors. We also benefit from a global network of about 60 national and regional business councils and partner organizations.

Our mission is to provide business leadership as a catalyst for change toward sustainable development, and to support the business license to operate, innovate and grow in a world increasingly shaped by sustainable development issues.

### Our objectives include:

**Business Leadership** – to be a leading business advocate on sustainable development;

**Policy Development** – to help develop policies that create framework conditions for the business contribution to sustainable development;

**The Business Case** – to develop and promote the business case for sustainable development;

**Best Practice** – to demonstrate the business contribution to sustainable development and share best practices among members;

**Global Outreach** – to contribute to a sustainable future for developing nations and nations in transition.

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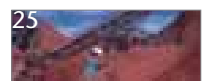
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# Planetary shifts: Energy, climate and development

Shanghai, China

Emerging and developing countries will be the source of the majority of greenhouse gas (GHG) emissions in the future. While some people in many of these countries have experienced triple digit increases in income over the last ten years, many still live on less than US\$ 2 a day and rely on traditional means of lighting, heating and transport and have less capacity to adapt to the negative aspects of climate change. Energy, climate change and development are inextricably linked: if we don't tackle them together we won't win the battle against any of them.

The WBCSD recognizes the urgent need for companies to support development while spurring a move toward a global low-carbon economy, the economy of the future. As people – rich and poor, in emerging and developed nations try to develop along low-carbon lines, the Council's Development Focus Area and Energy and Climate Focus Area are cooperating more closely and engaging in a number of complementary activities.

## Energy & Climate

For the last 2 years, the Energy & Climate Focus Area has focused its work around ensuring that the business voice is heard in the United Nations international climate negotiations. As the main source of innovation and capital, business will have an integral role in any transformation to a low-carbon world. A new climate agreement will require international cooperation, partnerships, and clear roles for government, business, the consumer and civil society.

The 2009 publication, *Towards a Low-carbon Economy: A business contribution to the international energy and climate debate*, provides a business perspective on the key issues under negotiation – mitigation, technology, finance and adaptation.

These elements are at the core of business activity and operations. Business innovates, develops and deploys technology on a daily basis. Finance flows through business transactions and projects globally. Businesses are already adapting infrastructure and operations to the impacts of

## Development

The world is experiencing a dizzying and historic shift of economic and political power from the traditional base of industrialized countries in Europe, North America and Japan to emerging economies.

Managing the rapid population growth, urbanization and growing aspirations of the middle class in these countries will demand major investments in infrastructure and innovation to support better living standards while reducing the pressure on the world's ecosystems.

The WBCSD believes that the leading companies of the future will be those that align their business goals to address key sustainability challenges. With the appropriate incentives, business can be a provider of solutions to these challenges and support the transition to a sustainable pathway to development.

The Development Focus Area seeks to create awareness among business on risks and opportunities in managing key development challenges and advocates business perspectives

climate change. An effective international framework that leverages business engagement and enables business to contribute to solutions is essential.

The climate negotiations in Copenhagen in December will mark a watershed in the international negotiations. There is a need for governments to reach an agreement on targets and a framework to guide efforts to meet these targets.

Beyond Copenhagen, the WBCSD will focus on the continued need for business to help design the institutions, mechanisms, innovative technologies, solutions and tools needed to deliver emissions reductions.

One of the key tools will be the Greenhouse Gas Protocol Corporate Accounting and Reporting Standard, developed by the WBCSD and World Resources Institute. The framework gives business and organizations an internationally accepted methodology to help quantify and report the direct and indirect greenhouse gas emissions associated with their operations.

Two new Greenhouse Gas Protocol standards – focused on product-level and corporate-level supply chain emissions – currently under development will provide a standardized methodology to inventory the emissions of products both internally and along a company's value chains.

[www.wbcsd.org/web/energy.htm](http://www.wbcsd.org/web/energy.htm)

to policy-makers and other stakeholders on the role of business in development.

The Focus Area provides various platforms for companies to learn, lead, act and advocate. Through member-led initiatives and a regional engagement program, companies promote business solutions and develop policy messages on topics such as mobility and energy for development. In close collaboration with its Regional Network partners, the WBCSD also identifies and brokers business opportunities such as those being implemented through the Council's Alliance with the SNV Netherlands Development Organization in Latin America.

To enhance these efforts, the WBCSD has consolidated lessons learned and best practice in the form of tools. One example is the recently released Measuring Impact Framework, which helps companies understand their contribution to society to make better operational and long-term investment decisions and have better-informed conversations with stakeholders.

As an advocate for business, the Focus Area provides business input into key platforms at the United Nations and multilateral development banks.

Going forward, the Development Focus Area will continue to be a source of thought leadership on key business and development issues, with the ultimate aim of defining the role of business in transitioning to a more inclusive, low-carbon and resource-efficient economy.

[www.wbcsd.org/web/development.htm](http://www.wbcsd.org/web/development.htm)

“Development and climate change are the central problems of the 21<sup>st</sup> Century. If the world fails on either, it will fail on both. Climate change undermines development. No deal on climate change which stalls development will succeed.”

**Sir Nicholas Stern**, economist and author of the *Stern Review Report on the Economics of Climate Change*

“In our increasingly globalized world, companies are major economic actors who can play a significant role in areas like poverty alleviation, climate change, trade liberalization, supporting good governance, technology transfer and capacity-building.”

**Cynthia Carroll**, CEO, Anglo American







# Copenhagen and the “AFT” of the solution

Copenhagen has become synonymous with an agreement on climate change that could result in far reaching changes in the way global society functions. Solid scientific evidence shows that human activities, notably the way we produce and use energy, have resulted in an increase in global atmospheric concentrations of greenhouse gases (GHGs) that are linked to global warming. The inexorable demand for energy continues and unless we decouple the link between economic growth and GHG emissions we will create a situation that is irreversible.

There is ample evidence that we need to do something now to avoid a warming of more than 2°C, which is the accepted limit to prevent dangerous climate change. Glaciers are melting, heat waves are more frequent in temperate lands, disease patterns are changing, crop seasons are being affected – are these not strong enough signals?

The global response has been slow – slow to flag the problem, slow in acknowledging, slow in negotiating and painfully slow in acting on it. Copenhagen provides a window of opportunity to do something before it is too late. Global emissions are growing, economies are growing and expanding, consumers are becoming more numerous and more demanding – yet the scientific consensus is that our global emissions must be reduced at least by 50% from 1990 levels by mid century. This is an ambitious and challenging target, which will require each of us to play our part. The challenge is that despite action, global warming will get worse before it gets better – but we must persevere.

Climate change was recognized as an international issue in the late 1980s. The concerns, fueled by environmental groups, resulted in the United Nations Framework Convention on Climate Change (UNFCCC) being adopted at the Earth Summit in Rio in 1992. The Convention, which has almost universal membership, requires developed countries to report their GHG emissions and carry out national strategies to reduce them, support developing countries in their efforts and to carry out adaptive measures. Although the aim is to reduce the GHG emissions of developed countries to their 1990 levels, there are no binding commitments and GHG emissions continue to rise. The principles of common and differentiated responsibilities with developed countries taking the lead and the actions of developing countries being dependent on developed country financial support and technology transfer are embedded in the Convention and remain critical negotiating issues today.

Shortly after the Convention kicked in, it became obvious that more drastic measures were necessary as the global warming phenomenon continued unabated. Hence in 1997 the Kyoto Protocol was adopted. The Kyoto Protocol committed 37 developed countries and the European Community to reduce their GHG emissions collectively to an average of 5% below their 1990 levels between 2008 and 2012. It was an uphill task to get countries to sign on to the Kyoto Protocol, despite the fact that it contained various financial mechanisms to assist countries in reducing their emissions at the lowest possible cost. This was mainly because it took time for the financial mechanism rules to be decided and because the United States, one of the chief architects of the Protocol, refused to sign on.

In 2007 in Bali, at the annual meeting of the members of the UNFCCC, the Bali Road Map was launched beginning a two year process geared at providing an international agreement allowing for a seamless transition to a global agreement building on the Kyoto Protocol, which is due to expire in 2012. This process, which culminates at Copenhagen, needs to provide the signals to allow a global response that will initiate actions to slow down the rise of global GHG emissions, allowing them to peak in 2020 and then to further reduce them to 50% of 1990 levels by mid-century.

This will require enormous effort, particularly by developed countries, that must simultaneously allow for economic growth in developing countries and provide assistance to the most vulnerable countries that bear no responsibility. However, a global deal is essential to providing a truly global solution.

So where are we now? Two-track negotiations have been laboring on since December 2007 – both tracks are working to define a way forward post-2012. The first track defines long-term cooperative action on mitigation,

adaptation, technology and finance. This track encompasses all countries, including the US. The second track is focused on ensuring a continuation of the Kyoto Protocol and hence defining further targets for developed countries, with the exception of the US. The negotiations have increased in intensity and yet at 4 months before Copenhagen it is unclear what form any agreement could take.

The key issues remain the same – who will play, who will pay and how much. The world has changed since 1992. The International Energy Agency (IEA) forecasts in its 2008 *World Energy Outlook* that China and India will have GDP growth rates of over 6% between 2006-2015. Compare that with the US at just over 2%. The per capita emissions of both China and India are low compared to OECD countries. The major emerging countries have a long way to go to catch up but they are sprinting. It is critical that they develop along low-carbon pathways if the planet is to survive.

Whatever the developed countries do to reduce their emissions in the next decade, it will make little impact on global warming unless we reduce the rate at which emissions are rising in developing countries. The major developing countries are poised on the brink of becoming premier league players and are in a strong position to transform their economies to low-carbon pathways. They are growing, they are investing, they are consuming and they see the opportunities. They are rightly not prepared to limit their own development or emissions unless developed countries fulfill their side of the bargain.

The IEA estimates that 1.1 trillion US dollars in extra investments will be necessary to bring global emissions down to 50% of current levels by 2050. While some of this investment will bring down emissions in developed countries, the lion's share will be more effectively invested in developing countries. This is the key

factor behind the negotiations – where the money will come from and where will it be directed. This is big money and could trigger big changes.

Whatever the answer is it will be business that will need to implement the solutions by deploying technologies, investing in new clean technologies and expanding their R&D capacity. Enhanced and interconnected markets will fuel the efforts.

The answers to the climate change dilemma lie in the letters **AFT** – **A** for America and Asia, **F** for Finance and **T** for Technology.

America is back in the picture. After years in the wilderness, the US is again a committed multilateral leader on global issues. It needs to deliver on climate change at a national level, commit internationally and spearhead support for developing countries.

Asian giants need to show their own commitment to actions and willingness to join the fight, but they will not do so until developed countries fulfill their part of the bargain – being serious about reducing emissions at home and supporting developing countries through financing, which will drive technology investments and support adaptation. It looks easy: strong targets by developed countries would create a demand for emissions reductions that would drive investments into clean energy technologies. These would occur principally in developing countries where many of the low hanging fruits lie.

Why does this not happen? It costs money. It creates a different playing field where the developed and the developing world are brought closer together. It will require bold global leadership built on trust, vision and the understanding that the world has changed.





# Inclusive business: Profitable business for successful development

The notion of *inclusive business* may be an innovative idea that is at last ready to achieve ground-breaking results.

Simply put, inclusive business involves doing business with low-income populations across companies' value chains, incorporating them in the supply, production, distribution and marketing of goods and services. This generates new jobs, income, technical skills and local capacity. Likewise, poorer consumers can benefit from products and services that meet their needs in affordable ways.

The WBCSD and its members have been pioneering work on inclusive business since the 1990s, and it has become a mainstay of the Development Focus Area.

You will read elsewhere in this issue about how the Allianz Group is tapping growth opportunities in emerging economies, aiming to reach 3 million clients with micro-insurance products by the end of 2009. Coca-Cola has created a vast network of manual distribution centers in Africa, generating over 12,000 jobs and more than US\$ 500 million in annual revenues. Myriad other examples can be found in the WBCSD case study library.

Several technological developments promise to lower the transaction costs of inclusive business and make it a much bigger business and development opportunity. These include the ability to move money by mobile phones, the development of "smart cards" for poorer customers, and growing access to computers and connectivity in the developing world.

Emerging and developing countries represent the growth markets of the

future. Already accounting for more than half of the world's gross domestic product, their economic weight is likely to increase substantially over the coming decades. Inclusive business helps companies reach these markets, and at the same time can help provide the economic growth that is the key to poverty alleviation.

"Given that most economic activity now occurs in developing countries, and given that over 90% of population growth will happen there, the companies that master inclusive business will be those who realize great success in the coming decades," noted Samuel A. DiPiazza, Jr., former Global Chairman of PricewaterhouseCoopers and Chairman of the WBCSD during 2008 and most of 2009.

WBCSD members believe that globalization can be made more inclusive and that the leading global companies of the future will be those that do business in ways that address the world's major challenges, including poverty and inequity. Inclusive business is one way companies can contribute to tackling development challenges.

The Council's inclusive business work has centered on communicating how companies design, develop and implement inclusive business models in a wide range of publications, case studies, guides and a blog.

In 2006, the WBCSD adopted a more aggressive inclusive business strategy by joining forces with SNV Netherlands Development Organization to form



the Alliance for Inclusive Business in Latin America. The Alliance is active in nine countries where the WBCSD has national business partner organizations: Bolivia, Chile, Colombia, Ecuador, El Salvador, Honduras, Nicaragua, Panama and Peru.

The Alliance has reached out to 300 companies in these countries, and has generated some 40 inclusive business ideas, now being implemented in areas such as agriculture, low-income housing, micro-insurance, mobile banking, forestry and biofuels. The Inter-American Development Bank has been keen to promote and fund some of these initiatives.

Many of the ideas generated are facing hurdles from national business environments and regulatory regimes. The Alliance works with business and other stakeholders at the national level to identify the critical challenges and address them in a collaborative manner. For example, the Alliance's collaboration with the Ecuadorian government has resulted in the concept of inclusive business being written into the national public policy agenda, with a target of creating a quarter of a million new jobs and a commitment of some US\$ 90 million in public funds to co-finance projects.

To keep this momentum going, the Council has been coordinating a Latin American Network of Inclusive Business Leaders, led by Roberto Salas, CEO of the Latin American holding company GrupoNueva. The network's aim is to engage CEOs to champion the cause of inclusive business to both their peers and governments: promoting inclusive business in their own companies, sharing learning with others, and contributing to a common, business-based voice to government for framework conditions that support inclusive business practices.

The Council and its Regional Network partners have convened national-level meetings in Colombia, Argentina, Ecuador, Chile, Brazil and Peru,

gathering some 80 executives from national and international companies.

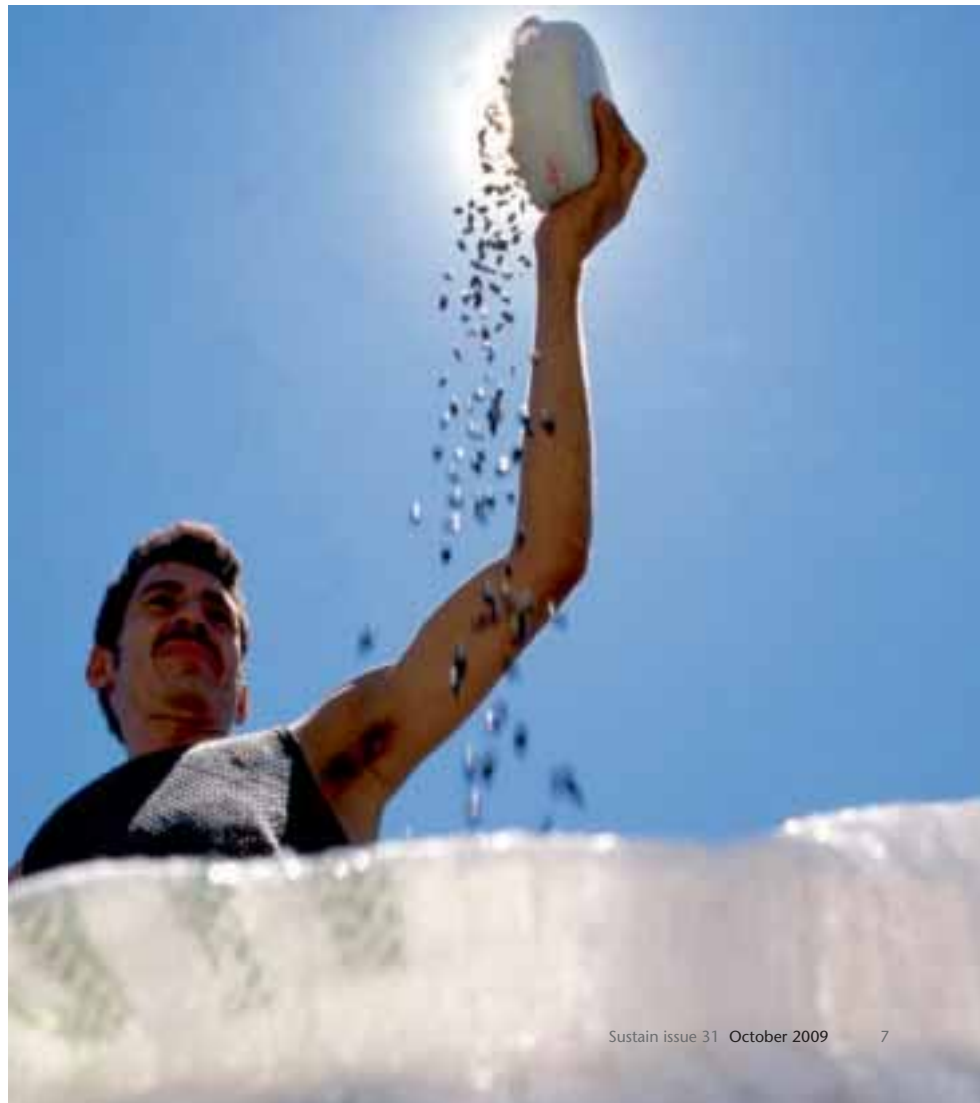
"The biggest challenge we face is to create the 'snowball effect' in the business community," said Salas. "We therefore need to move from 'nice stories' to real examples of value creation. We also need to move from pilot projects to activities with relevant results. The network will help us promote leading-edge thinking and to innovate in the ways in which we communicate our perspectives on inclusive business."


The WBCSD and SNV are exploring how best to build on their successful work in Latin America, to expand the uptake of inclusive business by starting activities in Asia, Africa and the Middle East. Projects have begun in Zimbabwe, Mozambique and Vietnam.

[www.inclusivebusiness.org](http://www.inclusivebusiness.org)

Emerging and developing countries represent the **growth markets of the future.**

The leading global companies of the future will be those that do business in ways that address the world's major challenges, including poverty and inequity.





Duke Energy

## The save-a-watt model

**It is often called “the fifth fuel.” Beyond coal, natural gas, nuclear, and renewable energy lies the largely untapped resource of energy efficiency.**

According to US Department of Energy statistics, US electricity demand is expected to increase by approximately 35% by 2030, even higher in faster-growing regions. As such, all five fuels will be needed.

The traditional answer to meeting rising electricity demand has been to increase supply – to build more power plants. However, Duke Energy believes that energy efficiency can play an important role in reducing customer demand.

Because the cleanest power plant is the one that is never built, Duke Energy believes energy efficiency should play a key role in reducing greenhouse gases in the near term.

Utilities have offered demand-side programs for years – with varied results. In 2007, Duke Energy worked with a number of stakeholders to develop a different model, called “save-a-watt.” Today it is backed by many consumer and environmental groups, and in December 2008, the first of the company’s five state regulatory commissions approved the concept.

The save-a-watt model is designed to help Duke Energy’s customers save energy – and money – and still earn a return for the company’s investors. Under current regulations, utilities make money by earning a return on their investment for physical assets such as power plants, poles and wires, and by charging customers

for each kilowatt-hour of electricity consumed. Simply stated, with the save-a-watt model, the company would be allowed to earn a return on investments that help customers save energy.

The save-a-watt model treats investments in energy efficiency in a way that is similar to investments in a new generating station. This benefits customers, the company and the environment.

Under the program, Duke Energy would earn a rate of return based on a percentage of what it would have cost to build and operate a plant to produce the amount of electricity that the program saves. Under this plan, all customers will receive a discount, even if they do not participate in an efficiency program. Those that actively participate in the programs will see lower power bills – that more than offset the cost to implement the save-a-watt programs.

Duke Energy would be rewarded only for the energy savings that are actually realized by customers. Each year, an independent auditor would verify actual energy savings achieved through energy efficiency programs. This is fundamentally different than the “cost plus” approach electric utilities have traditionally used in being compensated for investments in energy efficiency.

The Alliance to Save Energy, the American Council for an Energy-Efficient Economy, and the Energy Future Coalition endorse the initiative as “an innovative and promising new direction for the company and its customers.”



PRONACA

## Inclusive business in the agribusiness sector



EcoSecurities

## From three-stone fires to a better life

**“What if we focus on small farmers?” This was the question that Rodolfo Benitez, Agricultural Division Manager of PRONACA (Procesadora Nacional de Alimentos or National Food Processor in English) asked during an executive committee meeting.**

PRONACA is one of the largest companies in Ecuador, with an annual turnover of more than US\$ 500 million, in addition to being the country’s leading buyer of yellow maize.

The majority of maize growers in Ecuador are small producers, cultivating up to 20 hectares with a productivity level well below the international average. Consequently, PRONACA could only meet 40% of its maize demand (which totals some 450,000 tonnes annually) through local production, primarily through medium and large-scale growers, and had to import the other 60% at a higher cost.

In early 2007, the WBCSD-SNV Alliance for Inclusive Business approached PRONACA, a member of BCSD Ecuador (CEMDES),

with a proposal to develop an inclusive business model for maize production, through which farmers would increase their productivity, and the company would cover more of its demand via local production, thereby lowering production costs.

The initial pilot began with 80 small maize producers, and has now grown to 200, with plans to increase to 650 producers in the coming year. The initiative includes a training program for the small producers, coupled with facilitated access to credit and new technology, the combination of which allows them to double their productivity and to raise their income from US\$ 0.63 to US\$ 2 per capita per day. Interestingly, even though the farmers faced an initial increase in costs of about 15% incurred by these investments, they increased their productivity by one-fifth.

The initial results indicated a total volume of 7 tonnes produced by local farmers. PRONACA regards this as a promising start, and projects that within the next two years they will produce roughly one-tenth of their local purchases.

The initiative created 234 new jobs and many other indirect social benefits. Prior to the project, only 60% of the small farmers received informal credit and most of them were unaware of the high interest rates they were paying. The small producers gained access to formal credit lines and market rates through PRONACA, which facilitated the process of opening bank accounts for the small producers at Banco Pichincha. In addition, by joining the formal economy and having bank accounts, the farmers gain access to social benefits, reduce the time spent in bank lines and reduce the security risks from carrying large amounts of cash.

The project is scheduled to last 3 years and PRONACA is financing nearly half the costs, while the Multilateral Investment Fund of the Inter-American Development Bank covers the other half. Building on its commitment to investing in sustainable business models, the company is currently exploring new opportunities to incorporate small producers of artichoke, rice, palm and possibly sorghum in its value chain.

**The three-stone fire, centuries old, is a simple cook stove made up of three similarly sized stones placed in a fire. If used inside, the fire produces toxic fumes that can cause health problems, particularly lung disease for the family. If used outside, the cook and the fire are exposed to the elements.**

Improved cook stoves are cleaner, safer and reduce the amount of time needed to collect fuel wood. But how can poor families in developing countries afford such stoves?

EcoSecurities, a leading company in the business of sourcing, developing and trading emissions reduction credits, is working with MicroEnergy Credits (MEC) to provide financing for such stoves and other cleaner, more efficient technologies. MEC is a social enterprise dedicated to helping Microfinance Institutions (MFIs) provide clean energy technologies such as improved cook stoves, solar home systems and biogas

digesters to developing countries. MFIs can use their long-term local presence and client relationships to broaden the scope of services they provide to include access to clean energy solutions. Grameen Shakti, the renewable energy business of the Grameen Bank, has demonstrated that this can be done successfully. However, due to lack of expertise and funding there is currently more demand for such programs than there are programs available.

To date, MFIs have not been able to leverage carbon finance for small scale projects due to the high transaction costs related to the Clean Development Mechanism (CDM).

In response, EcoSecurities and MEC devised an innovative approach to help facilitate carbon finance investment on a micro scale and enable MFIs to offer clean energy solutions to their clients. MEC purchases carbon credits on a pay-as-you-go basis, rather than requiring a minimum project size. EcoSecurities then uses its expertise

to aggregate these carbon credits and sell them to the worldwide carbon market.

There are numerous ways buyers of offsets can invest in these projects; however, a popular option is to purchase emission reductions from these micro-scale projects backed with an equal number of third-party Verified Emission Reductions (VERs). This provides a win-win situation for sustainable development in developing countries and for companies interested in meeting carbon neutrality goals or enhancing their corporate social responsibility strategy by using VERs that have been approved by an established and recognized standard such as the Voluntary Carbon Standard

Investing in the MEC and EcoSecurities partnership enables MFIs to benefit from clean energy investment opportunities within the carbon markets and to support sustainable livelihoods in the developing world.



# How to make the Clean Development Mechanism more effectively tackle technology transfer

By Marc Stuart and Sonia Medina, EcoSecurities



Combating climate change will require the transfer of a great deal of technology.

The Kyoto Protocol requires all parties to cooperate in “the development, application, diffusion and transfer of environmentally sound technologies that are in the public domain.” It commits developed country parties to provide financial resources for technology transfer. This can be accomplished by a variety of policy mechanisms that reward accelerated dissemination of key greenhouse gas (GHG) management tools: subsidies, tax benefits, depreciation allowances and others. However, the elegance and scale of the carbon market means that it is by far the most obvious financial tool to try to harness on a global basis.

The Protocol’s Clean Development Mechanism (CDM) does not have an explicit technology transfer mandate. However, the CDM’s dual role – to achieve cost-effective emissions reductions (for the benefit of high-cost industrial nations) and sustainable development (to benefit the less developed host nations in which CDM projects occur) – would seem a vehicle for technology transfer. Yet a recent report from the UNFCCC Registration & Issuance Unit (Seres, Stephen,

“Analysis of Technology Transfer in CDM Projects”, UNFCCC, December 2008, found at [www.scidev.net/en/capacity-building/key-documents/reports/.](http://www.scidev.net/en/capacity-building/key-documents/reports/)) found that only slightly more than one-third of CDM projects involve technology transfer in the form of equipment or knowledge, mainly from Japan, Germany, France, the UK and the US.

Why is this? One explanation is the regulatory architecture of the CDM itself. The CDM principal of “additionality” contains the premise that projects that reduce emissions are more greenhouse gas friendly than “business as usual”, a premise that would seem to inherently promote technology upgrading. However, additionality is not based simply upon a technology benchmarking approach, but often requires demonstration of intent and financial additionality.

As we get past the “low-hanging fruit” that characterize the bulk of the initial CDM projects, finding new pockets of deliverable emissions reductions under the current additionality construct becomes more difficult, especially for dispersed and smaller GHG interventions.

Therefore, the Copenhagen agreement needs to provide clear financial incentives to identify and develop smaller carbon-reduction projects, and technology transfer must play a crucial role. Lighting, heating, cooling, transport, process controls and other technology interventions are needed to reorient the world to a low-carbon future. Yet none these fits well in the CDM architecture because of their individual small size and widely distributed nature.

Consider lighting – it is a key aspect of national development paths, but those paths now lead to far higher emissions. Some 8% of all energy in the US goes to lighting, and 90%-plus of the energy delivered to incandescent bulbs is wasted as heat. Changing the technology around lighting could have dramatic impacts on emissions. How can those potential avoided GHG emissions be used as a financing tool to accomplish this technology change across the world?

A series of improvements would need to occur for carbon markets to truly encourage technology transfer and sustainable development in rapidly growing economies. With thousands of projects already in the pipeline, the CDM has shown the effectiveness and allure of the carbon trading mechanism and has gathered enormous amount of data that can be used to craft an effective technology transfer mechanism. For that to occur the world would need to

## Several changes are required:

1. A longer crediting period is necessary to encourage cutting-edge technology investment in larger and longer-term projects (renewable energy, energy efficiency, carbon capture and storage). The current discussions around 2050 targets are a positive sign.
2. Methods to aggregate dispersed emissions reductions should be promoted to enable developers of distributed clean technologies (energy-efficient lighting, smart grid IT, transport efficiency, etc.) to use carbon finance more effectively.
3. There should be a move away from project-by-project additionality assessment to a system that is more focused on individual benchmarks and uses statistical analysis for evaluating likely performance. Benchmarking would lower transaction costs, which would also make the system more accessible to smaller projects.
4. Linking the forthcoming US cap-and-trade market with the CDM and other future carbon mechanisms will create sizeable financial incentives for companies to invest in low-carbon and efficiency technology overseas more rapidly.
5. A reasonable compromise is needed between IP protection for new technologies deployed and reasonable licensing agreements that can help accelerate dissemination across new markets.

address the concerns of countries like the United States that want technology transfer coupled with protection of intellectual property (IP).

A significant amount of emissions reductions can be achieved with existing technology. Tools that effectively identify and reward accelerated technology deployment in the appropriate situations are the key to this. Most of these tools and policy recommendations have been identified by the WBCSD in its booklet *Power to Change*.

The WBCSD and business in general can help this process by advocating for rational policy shifts that lower barriers to rational technology upgrades, that take into account technology innovation cycles, and that provide economic incentives to seek out emissions performance throughout the economy, not just the largest and most obvious assets.





# A low-carbon pathway to development

Access to energy is often described as “the missing Millennium Development Goal.” It is one of the key drivers of economic growth and an essential element to progress in meeting such basic needs as health, housing, and education.

Living without electricity can be expensive.

As the main source of technological innovation, business has a role to play in helping bring energy solutions to both rural areas where access is minimal and urban areas where energy supply can be expensive, inefficient, and unreliable.

Global energy demand is forecast to increase 40% by 2030, with the majority coming from developing countries, whose share of greenhouse gas (GHG) emissions is expected to rise from 39% today to 52% by 2030. Yet worldwide some 1.6 billion people lack access to electricity, and about 2.4 billion people do not have clean and safe cooking fuels. Current trends suggest that by 2030, electrification rates will not exceed 50% in sub-Saharan Africa or 65% in South Asia.

Living without electricity can be expensive. Those without grid access are estimated to be spending US\$ 5-15 per kilowatt/hour for energy versus 15 cents per kWh for the average grid consumer, and their total expenditures on such things as kerosene and candles for lighting range from 10 billion to 30 billion US dollars.

This, combined with the ambitions to reduce global carbon emissions, presents the world with the dual challenge of providing access to energy and its accompanying development opportunities while shifting to low-carbon energy sources to manage climate change.

Is there a low-carbon path to global development? Much attention is given to technologies that would allow developing countries to “leapfrog” past polluting technologies such as open fires. Leapfrogging has a precedent in the successful spread of the cell phone in developing countries, which allowed countries to skip the building of vast grids of phone lines. Skipping to cleaner, renewable energies forms the basis of many recommendations around financial and technology transfers at climate negotiations in Copenhagen.

As the main source of technological innovation, business has a role to play in helping bring energy solutions to both rural areas where access is minimal and urban areas where energy supply can be expensive, inefficient and unreliable. Companies such as Electricité de France (EDF), ABB, General Electric (GE), GDF SUEZ and Philips are already innovating to meet the cooking, lighting and heating needs of thousands of people around the world.

EDF worked closely with NGOs and government to form the first Rural Energy Services Company in Mali to provide low-cost electricity through solar home systems and low-voltage village micro-networks. Philips has launched an affordable wood cooking stove for Indian consumers, designed to reduce deforestation and indoor air pollution. ABB joined forces with WWF to engage communities in the installation of diesel-powered electricity mini-grids in rural Tanzania. In Pakistan, GE’s Jenbacher biogas engines are powering the country’s first sugarcane biogas plant, which generates enough power to support more than 50,000 homes.



Barriers remain in making many of the energy access solutions profitable, scalable and sustainable: high up-front costs, capitalizing on the carbon markets, governance and tariff structure, local capacity to implement solutions, and insufficient information-sharing platforms and collaboration at a regional level. Companies cannot tackle the challenge alone.

The WBCSD is engaged in two initiatives that emphasize multi-stakeholder collaboration to identify sustainable business models to bridge the energy divide.

The first, Energy Poverty Action, is a joint initiative with the World Economic Forum, the World Energy Council, and several companies, including Vattenfall, BC Hydro and Eskom. The aim is to deliver business expertise and best practices to reduce energy poverty by developing innovative, scalable and

replicable energy projects beginning in Africa. One of the core concepts of the EPA model is local autonomy, i.e., building the necessary local capacity to empower users to manage, operate and maintain the projects in a sustainable manner

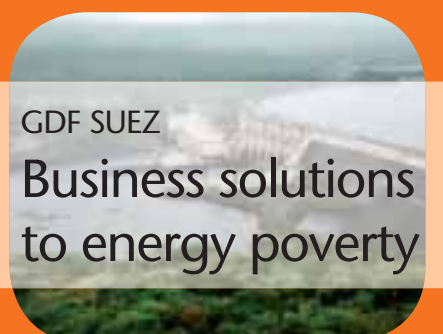
The second is Energy for All, an initiative bringing diverse groups and businesses together and hosted by the Asian Development Bank. Its goal is to provide access to safe, clean, affordable modern energy to an additional 100 million people in the region by 2015.

The Asian Development Bank recognizes a number of successful models for providing off-grid access to energy in Asia including Grameen Shakti's efforts to install more than 205,000 solar home systems through rural energy micro-credit schemes in Bangladesh. The Bank is now looking at the potential for replication throughout the region.

Both Energy Poverty Action and Energy for All rest on the understanding that reaching communities without electricity requires new business models and new policy frameworks. Depending too much on business to invest in distributed energy schemes in the developing world is unrealistic, given the lack of evidence that such investments are profitable in the short run. However, with the right enabling framework at the international level, and the policy incentives, governance structure and appropriate technologies at the local level, it is possible to bring about massive change in the provision of energy in the developing world and bring clean solutions to those that need them most.

[www.weforum.org/en/initiatives/EnergyPovertyAction/index.htm](http://www.weforum.org/en/initiatives/EnergyPovertyAction/index.htm)

[www.adb.org/Clean-Energy/energyforall-partnership.asp](http://www.adb.org/Clean-Energy/energyforall-partnership.asp)



**Energy is a key driver for economic development and social progress, yet access to sustainable energy services remains a challenge for low-income communities in developing countries. To reach communities that do not have energy access today, new business models, supported by appropriate policy frameworks, are needed.**

GDF SUEZ believes that the private sector has an important role to play in designing and delivering innovative solutions to bridge the "energy divide" and support a transition to a low-carbon energy future in the developing world.

The company is active across the entire energy value chain, in electricity and

natural gas, upstream and downstream. GDF SUEZ is also helping local communities to access energy through tailor-made solutions and investment in dedicated projects to support access to energy for low-income populations.

In Brazil, the company inaugurated the São Salvador dam in 2009, which will generate enough electricity to supply a city of one million people. 54% of the 10,000 direct and indirect jobs the project created have been filled by local workers and more than 10% of the total investment was dedicated to social and environmental programs, which included relocating displaced populations and protecting fauna and flora. In Estreito, where the company is building a large hydroelectric plant, GDF SUEZ has committed 130 million Euros to social and environmental programs, including access to energy, which will be implemented in collaboration with the local communities.

In Morocco, GDF SUEZ has developed an initiative, through the Group's subsidiary LYDEC, to support electrification in several dozen shantytowns in Casablanca. Prior to the initiative, inhabitants resorted to illegal leaks and network connections,

often leading to serious accidents. In the late 1990s, LYDEC set up an innovative partnership with local authorities and communities to provide legal access to a safe and reliable electricity supply system. The electrification program has allowed more than 30,000 households (amounting to some 200,000 inhabitants) to connect to the electricity supply system under a management approach that uses "street representatives" from the local community to manage and coordinate daily operations and provide technical support to users. The program has been incorporated into an extensive national project to fight poverty where the aim is to connect more than 145,000 households to essential urban services, including water, waste and electricity, by the end of 2009.

GDF SUEZ is integrating energy poverty issues into its sustainable development strategy, with a declared ambition to "redefine the relationship between people and energy, to make energy a source of progress and sustainable development (energy accessible to as many people as possible, more reliably, consumed more efficiently, and showing greater respect for human beings and their environment)."



# Sectoral approaches to managing climate change

The 2007 Bali Action plan introduced the concept of sectors of industry playing roles in mitigating climate change, and since then this idea has rapidly gained momentum. The question that many have since been trying to tackle is: What does this concept mean, and how would it work in practice?

The text of the Bali Action Plan suggests that sectoral actions and cooperation could enhance the implementation of Article 4.1 (c) of the United Nations Framework Convention on Climate Change (UNFCCC), which says that government parties to the UNFCCC shall:

*“Promote and cooperate in the development, application and diffusion, including transfer, of technologies, practices and processes that control, reduce and prevent anthropogenic emissions of greenhouse gases not controlled by the Montreal Protocol in all relevant sectors, including the energy, transport, industry, agriculture, forestry and waste management sectors.”*

While the proposed function of sectoral approaches appears to be clearly articulated in the Bali Action Plan and the Convention, fierce debate related to its objectives, what it might entail, and how it may be implemented has taken place since the Bali meetings. Many individual sectors and governments have come forward with different ideas and proposals resulting from a broad interpretation of the concept.

Some governments have proposed the use of cooperative sectoral approaches to conduct bottom-up analysis to understand mitigation potential; others have suggested the establishment of sector benchmarks and “no-lose”<sup>1</sup> targets in developing countries to support sector-specific mitigation actions. Another suggestion proposed fostering initiatives in R&D, capacity building, and cooperation on technology under the sectoral cooperation banner.

This diversity has created some confusion and skepticism among governments and stakeholders, but it has also fostered an enhanced dialogue between governments and the private sector, and sparked creativity in policy thinking.

The WBCSD has used sector projects for many years to analyze sector-specific climate change and sustainable development challenges, find cost-effective solutions through business actions, and propose policy measures to enhance the contribution of business to solutions. This work has demonstrated that a “one size fits all” policy solution across all industries in all countries does not exist. However, it showed that

a series of carefully developed and implemented policies and supporting mechanisms at both national and international levels would be essential to enhance sector action.

Bringing these differing sector perspectives together to develop a comprehensive proposal on an international “cooperative sectoral approach” under the UNFCCC has been the challenging task of the Sectoral Approaches Task Force of the WBCSD.

With representatives from a range of sectors, the WBCSD has developed a proposal for how such a sectoral approach might function, and specifies the various objectives that it could serve. WBCSD companies have suggested that sectoral approaches can be developed as a new, large-scale tool within the international framework. It would focus on establishing activities to support emissions reductions across countries and sectors, drawing from incentive and support mechanisms provided by the international framework.

Individual agreements could be created through the voluntary participation of countries – developed and developing – and businesses working together to achieve emissions reductions or increase sequestration in different sectors through different activities. The details related to the specific mechanics are outlined in the publication *Towards a Low-carbon Economy: A business contribution to the international energy & climate debate*. In addition, the WBCSD Cement Sustainability Initiative has undertaken a modeling exercise to evaluate the options for an environmentally effective and economically efficient, international sectoral approach for the cement sector.

Even since the publication of the WBCSD’s proposal in early 2009, the concept of cooperative sectoral approaches has seen an evolution. What at the time was seen as a framework to foster cooperation between nations on sector-specific mitigation actions now focuses on unilateral actions within

## Cement Sustainability Initiative on sectoral approaches

The Cement Sustainability Initiative developed an economic model to better understand the impacts of different carbon policies on emissions reductions, global trade and regional market shares in the cement sector. The model compares the emissions reductions resulting from policies with different levels of global coverage and stringency of emissions goals (such as caps, global emissions intensity goals, sectoral approaches) against a scenario in which no commitments are made. The results show that significant reductions can be achieved with a sectoral approach, particularly because it offers a way for developing countries to formulate nationally appropriate, sector-based climate policies that do not jeopardize their economic growth.

For more information see:  
[www.wbcscement.org/sectoral](http://www.wbcscement.org/sectoral)

developing country sectors. Linking to another concept that is articulated in the Bali Action Plan, that of “nationally appropriate mitigation actions”, the prevailing view in the negotiations is that of nationally focused “cooperative sectoral approaches and sector-based actions.”

One government party stated that “for developing country parties, domestic sectoral efforts may be one option in the toolbox for national mitigation actions.” The final verdict will certainly not emerge until meetings in Copenhagen – and it may not emerge then. But from a business perspective, the development of an effective future international energy and climate treaty that builds on business experience in reducing GHG emissions through sector-based initiatives and projects would be a positive outcome.

1 - The concept of “no-lose” targets suggests that developing countries take an emission reduction target within a given sector and receive benefits (potentially in the form of credits) if they achieve reductions below the given target. No penalties are imposed if the target is not met.



ArcelorMittal

## Steel's contribution to green construction

**In the United States, buildings account for 38% of CO<sub>2</sub> emissions, 40% of raw material use, 30% of waste output and 14% of water consumption, according to the US Green Buildings Council.**

ArcelorMittal, the world's leading steel company, with operations in more than 60 countries, strongly believes that steel construction can lower those percentages all over the world. It is committed to offering a wide range of solutions that will help to reduce the environmental footprint of construction. Steel solutions can make buildings more environmentally friendly, more energy efficient and less costly to operate. Steel is indefinitely recyclable without any loss of quality. Water use, waste generation, dust emissions, traffic and noise pollution are considerably lower when using steel construction techniques. All of these advantages are especially relevant for construction in urban areas.

ArcelorMittal has developed a lighter steel that reduces greenhouse gas emissions by up to 30% during construction, benefitting the construction industry, their buildings and their clients.

Working with the Centre de Recherches Métallurgiques in Liège, Belgium, ArcelorMittal was able to develop an innovative “in line” quenching and self-tempering (QST) process that enables cost-effective production of a high-strength steel called HISTAR®.

The development of HISTAR® steels allows ArcelorMittal to produce new structural steels that combine increased product

thickness, a very high-yield strength, superior toughness at low temperatures and outstanding weldability – properties that had traditionally been considered incompatible. HISTAR® satisfies the needs of the construction industry for light and economical structures that meet both safety and sustainability criteria.

Substituting HISTAR® steel for standard steels achieves an average weight reduction of 32% in steel columns and 19% in beams. This reduces CO<sub>2</sub> emissions by up to 30% during construction by making it possible to create lighter structures without comprising strength or durability. In 2007, more than 50,000 tonnes of HISTAR® steel were produced by ArcelorMittal, representing a savings of 14,000 tonnes of CO<sub>2</sub>, or about as much as 4,000 vehicles emit annually.

“HISTAR® is 100% recyclable and made from recycled steel, and we are proud that HISTAR® meets environmental requirements and sustainability considerations,” noted Georges Axmann, head of Technical Advisory for ArcelorMittal.

HISTAR® steel sections have been used in several hundred structures throughout the world: high-rise buildings, structures in seismic areas, sport stadiums, bridges, stations, car parks and hospitals, as well as industrial structures such as large warehouses, factories and power plants. Structures that are being built with HISTAR® steels include the Freedom Tower in New York, the Emirates Tower in Dubai, the Federation Tower in Moscow, and the Shanghai World Financial Center in China.



A photograph showing two men in a field. One man, wearing a light-colored shirt and dark pants, is kneeling and holding a plant with roots. The other man, wearing a red shirt and blue pants, is sitting on the ground next to him, looking at the plant. The background is a vast green field under a cloudy sky.

# What prospects for pro-poor commercial forestry?

## Why don't more of the economic benefits of the forestry industry reach poor people in forest rich countries?

According to Gary Dunning, Executive Director of The Forests Dialogue (TFD) at Yale University, "governance can be a real barrier to maximizing the true benefits of commercial forestry. However, we learned through TFD dialogues that governance is a product of a country's culture, history, abundance of resources, etc. and thus it is difficult to change/address quickly. In South Africa, government mandated land reform created the necessary motivation to work with companies, so you see a lot of engagement by large companies with communities. In Indonesia, companies like APRIL are taking a classic approach to community development through the building of schools and hospitals, and providing other services that the government is not able to. In Bolivia, the resource is less abundant and policies don't favor large forest enterprises, so you see virtually no big companies. Forestry is almost all managed by indigenous communities or small-scale forest enterprises. Russia faces different challenges in bringing pro-poor commercial forestry back. With the change in government in the early 1990s, the youth left rural areas for economic opportunities elsewhere leaving very few people with very traditional lifestyles, relying on pensioners' income."

James Mayers, Head of Natural Resources at the International Institute for Environment and Development (IIED), offered "three main barriers to progress: firstly, the governance structures don't always reflect reality. Many are based on the belief that large scale is best yet the countries have more small-scale forestry enterprises and rarely do they ask how much these enterprises can contribute to sustainability and poverty reduction. The second is the lack of trickle-down effect, whereby taxes paid by commercial forestry generate national economic growth with local benefits. A lot of money that is destined for government coffers either doesn't make it there or doesn't actually reach the people who need it most. Thirdly, there is too little reinvestment by companies in community development."

Mayers added that he had "seen a lot of really good work by companies to develop outgrower and outproducer schemes as well as joint ventures that empower people locally. Mondi and Sappi's examples in South Africa have



Interview with Gary Dunning, The Forests Dialogue (TFD) and James Mayers, International Institute for Environment and Development (IIED)

generated useful lessons. What we see in South Africa is a stick and carrot situation, with both markets and policies at play. The Black Economic Empowerment initiative required a lot of companies to invest in small scale enterprises, which has stimulated innovative approaches to development. Something that was originally government policy has, over the years, become part of core business. The restitution of rights to the original landholders has also led companies to address the rights of people dependent on forests more concertedly than in other countries. Making the links between commercial forestry and small-scale forestry is necessary if the industry is going to play a role in lifting people out of poverty. Policies are needed to incentivize this but companies can also take a lead."

Dunning agreed that "governments need to create policies which foster or, at least, do not block relationships between companies and communities. Another key factor in overcoming some of the barriers is empowering communities by giving them the training and developing their capacity to take advantage of the resources, as well as encouraging the entrepreneurial spirit to seek creative arrangements with producers."

Asked how confident he was that commercial forestry stakeholders could overcome these challenges, Mayers said he was "optimistic and pessimistic at the same time. While I see continued trashing of the resource, there are some encouraging prospects. One new measure that has a lot of potential to improve the situation is the EU voluntary partnership agreement with developing countries to reduce illegal logging. The first agreement was signed between the EU and Ghana in September 2008 and commits the EU to only importing timber from legal sources. This could improve livelihoods by setting the rules of the game in a way that helps rural-based enterprises thrive."

Dunning pronounced himself "overall confident. One positive aspect is the way companies are taking a lead. The reality of resourcing timber on the ground and the pressure from civil society towards more earth- and human-friendly products is pushing companies to address the 'development' issue. Retailers like Kimberly-Clark are working with their suppliers in the pulp and paper industry to demonstrate what they are doing in terms of sustainability. If companies see they can get a premium in the market by developing pro-poor forestry policies, then these projects will continue to expand."

Mayers noted that overcoming these challenges could have huge development potential, adding: "We estimated that small and medium scale forestry enterprises currently add value in developing countries to the tune of about 130 billion US dollars. Imagine what it would be like if policy actually favored these enterprises and helped them achieve sustainability."

Dunning added that "if the resources stay in government's control, the development potential is suboptimal. We need more locally controlled forests. If communities have more control, then companies will want and need to work with communities."

REDD (the Reducing Emissions from Deforestation and Forest Degradation program being discussed at the climate talks) could also change everything. If the money from northern governments intended to curb deforestation and degradation does not get into the hands of local people in developing countries, then REDD will not succeed in mitigating climate change and supporting sustainable development. Companies have the resources, they just need the incentives to create win-win opportunities to work with those that need it most."

TFD grew out of a series of meetings between CEOs of the forestry industry and environmental groups hosted by the World Bank in the late 1990s. The parties agreed that there was a need to continue the dialogue and as a result, TFD was created with support from the WBCSD's Sustainable Forest Products Industry working group. It has recently hosted a series of dialogues on the topic of forestry and poverty in South Africa, Indonesia, Bolivia and Russia.

[www.theforestsdialogue.org](http://www.theforestsdialogue.org)  
[www.wbcd.org/web/sfpi.htm](http://www.wbcd.org/web/sfpi.htm)

IIED is a policy research organization that works locally and globally to help provide a voice to vulnerable communities in the policy arena. Forestry is part of its natural resources research agenda, which works with local partners in Africa, Asia and Latin America on the equitable and sustainable use of resources with the purpose of pursuing local ownership and management.

[www.iied.org](http://www.iied.org)





GE

## Jenbacher engines turn waste into value

**Customers all over the world are turning to new ways of capturing and using gas to meet their energy needs through onsite power generation. Many of these customers are using GE's Jenbacher gas engines to generate power reliably while in many cases cutting greenhouse gas emissions.**

In Australia, the Jenbacher gas engine business has contributed to several of the country's largest coal mine methane projects, including a power plant commissioned in 2008 operating on Jenbacher coal mine methane gas engines. The methane-rich gas coming from the mine is used to generate onsite power at Anglo Coal's Moranbah North mine in the state of Queensland, helping to reduce the amount of greenhouse gas that escapes into the atmosphere. Through the capture and use of mine gas, the Moranbah North project will deliver significant environmental benefits, reducing about 1.5 million tonnes of CO<sub>2</sub> equivalent per year.

In Mexico, Jenbacher engines are at the heart of a newly expanded landfill gas-to-energy project, hailed by President Felipe Calderón as "a model renewable energy project" for Latin America. The 12 MW project converts gas from the Simeprode landfill near Monterrey into electricity, which is used to support the solid waste facility's operations as well as Monterrey's light-rail system during the day and city street lights at night.

In a sprawling commercial tomato greenhouse outside of Amsterdam, the world's first commercial 24-cylinder gas engine is in operation. The Royal Pride Holland project is made possible by two Jenbacher units, which were installed in a pilot project to demonstrate the engine's commercial viability for the horticultural industry. It highlights the increased emphasis on combined heat and power in Europe as the region increases its focus on energy efficiency.

Thousands of miles to the east, Jenbacher gas engines are at work in a far different way, using biogas created from chicken manure to generate power and heat at a large chicken farm north of Beijing. The plant is the first of its type in China, and could pave the way for similar applications in the future.

Providing 14,600 MWh of electricity per year, the project is designed to help reduce suburban electricity shortages. By using the biogas for power generation instead of coal, the new project is expected to reduce greenhouse gas emissions by about 95,000 tonnes of CO<sub>2</sub> equivalent per year.

# Technology climate negotiations

Whatever agreement governments reach in Copenhagen on a new climate framework, business will be responsible for delivering the technology solutions needed and consumers will have to contribute to the transition by changing their consumer patterns and behavior.

The first steps to engage the private sector in the international debate were taken in the 2007 Bali Action Plan, which stated that the future regime will be informed by "insights from the business and research communities and civil society". This set a precedent for more open business engagement and consultation over the past two years.

The Bali Action Plan calls for measurable, reportable and verifiable emissions reduction commitments by developed countries. It also considers, for the first time, the involvement of developing countries in mitigation efforts through non-binding "nationally appropriate mitigation actions", which must be supported by financing, capacity building and technology transfer from developed countries.

*Technology transfer* in the climate negotiations means the development and transfer of technologies to





# in the change

developing countries to support mitigation actions funded by developed countries.

Developed countries shall finance the incremental cost of the technology needed for such actions in a measurable, reportable and verifiable manner. There are crucial issues to be resolved: Which technologies should be used? How is incremental cost measured? How does one account for the cross benefits generated? Who should pay? How much of that mitigation effort is additional?

Measurement of technology transfer is difficult because the concept has become very broad. Indeed, the concept has moved from the North to South “transfer” of machinery and equipment through foreign direct investment or trade, aid and licensing agreements toward domestic capacity building. It now seems clear that effective and sustainable technology transfer requires building the capacity to operate new technologies efficiently and to modify, adapt and improve imported technology.

In fact, technologies are now being transferred in all directions among

developing countries and between developed and developing countries. The discussion on the barriers to technology diffusion has been going on for decades. The climate negotiations involve many different regional interests and links with other multilateral negotiations, such as the trade talks. Thus surprising issues have acquired an unusual importance in the debate, such as intellectual property rights, which are seen by some to be a barrier to the transfer of technologies.

Some countries suggest removing this “barrier” through compulsory licensing for specific patented technologies, pooling and sharing publicly funded technologies, taking into account other decisions made in the public health sector. Company experience has shown that patents are not a barrier to their daily operations and that technology transfer involves much more than intellectual property rights, and the barrier to technology diffusion relates more to economics and markets, which include the lack of capacity, technological and business know-how, consumer information and education and regulatory stability, among others.

Business is responsible for 80% of global investment and owns 90% of the patents registered worldwide. The WBCSD and its member companies are working to inform the debate and educate business and society by providing facts, business realities and guidance on technology issues, intellectual property rights and how to overcome the barriers for greater diffusion.

There is a general consensus that technology transfer will be a key element of the future international agreements on climate change. However, there are several elements that need to be clarified and could facilitate the agreement.

First, most of the needed technologies exist and can be deployed now. To stimulate investment in appropriate technologies at the right time and place, countries should consider

technology’s full life cycle and enable a portfolio of technologies to be developed in parallel, not sequentially (See *Towards a Low-carbon Economy*, WBCSD, 2009). It is important to consider the life cycle and turnover of existing capital infrastructure as new low-carbon technologies are phased in and new long-term energy infrastructure is built.

Second, there is a large disparity in the estimates of financing needed to deploy the necessary technologies, due to the different assumptions made on “financing the additional costs” and due to biased subjectivity. What is the business as usual scenario? What is the cost of the technologies in each country? How does the cost of technologies reduce over time? How much is the return on those “additional investments”?

Third, research and development in new technologies are crucial. There needs to be a concerted and international effort to invest in developing new technologies that will be able to make deep, long-term emissions cuts. The debate is focusing on what framework is best suited to channel public and private investments – regional centers of excellence or a technology body? How can others learn from private sector experience? How can innovation be shared and protected?

Business is meant to play a key role in the implementation of the new climate agreements. It will provide the majority of the investments needed. However, there is uncertainty as to how to implement this new era of collaboration between governments (developed, developing and emergent countries) and the private sector (big multinational and small and medium enterprises). A post-2012 legal framework is likely to assign private actors an even stronger role in the implementation of treaty commitments. It therefore makes sense that they be represented in a formalized way and included in the governance structure.

Vestas

## Spreading clean energy technology in China

**Emerging markets demand clean energy technologies but are also concerned about flexibility and costs. Vestas manages these needs with an ambitious localization strategy in China and other emerging markets.**

This aggressive localization approach provides clean energy products that are locally sourced and manufactured as well as specifically designed for the resources and requirements in these countries. Emerging markets benefit from more affordable climate change technologies and growing sustainable and globally competitive domestic clean energy industry value chains. Vestas, active in more than 60 countries, gains growth potential and increased competitiveness through local sourcing.

As the world's leading wind turbine manufacturer, Vestas is a major disseminator of climate technology. The best place to witness its localization strategy is remote Hohhot in northern China. On the windy steppe of Inner Mongolia, Vestas has opened a new factory complex dedicated to producing a turbine model tailored for local markets and wind conditions. The V60-850 kW turbine is designed specifically to help unlock the potential of China's abundant low and medium wind energy resources.

The new model was created in China to meet the needs of customers who wanted an advanced turbine that is easier to transport and install in challenging sites, such as hilly, high altitude areas, or sites with difficult

terrain but promising wind resources; it is also easier and less costly to maintain than previous turbines. And more than 90% of the model is made in China. In its design process, a 50-person team of technical experts was established in China to further adapt existing turbines and design new models.

The production of the turbine, using local suppliers and components that adhere to the company's global quality standards, will encourage the development of the local wind industry, and specifically the development of a strong domestic wind energy component manufacturing sector.

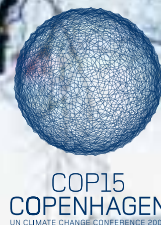
Localizing the whole value chain benefits China in both its climate change and industry development efforts. For the Hohhot project, Vestas is using 20 local suppliers and has begun new partnerships with an additional 75 component suppliers, sourcing over 2,000 parts for the turbine's development.

The commitment to developing local suppliers aims at establishing win-win partnerships that raise the domestic partners' competitiveness to international levels. This collaboration centers around transferring state-of-the-art technology and know-how, which ranges from product improvement programs and sharing of industry-leading specifications to the enhancement of processes and management systems for manufacturing excellence, quality control, and health, safety and the environment.

This project demonstrates that technology diffusion works best under market conditions. Private sector companies are highly responsive to policy initiatives that stimulate market demand and are able to disseminate technology and expertise that countries like China need to meet their climate change targets in a faster and more efficient manner. With more localized technologies, these countries can do so more economically and at the same time build stronger and more sustainable domestic industries.



# Washington and Copenhagen



The US government has been having a very hard time developing, out of a nation disunited on climate, a united position for the Copenhagen negotiations.

Earlier this year, the US House of Representatives managed to pass by a narrow vote (219 to 212) the nation's first-ever climate legislation, a move hailed by President Obama as "a bold and necessary step," but decried by many climate activists as one in the wrong direction.

"In order to get the votes, the bill's managers have taken off most of its environmental edge," said Rob Shapiro, chairman of the US Climate Task Force. He added that if "a toothless bill like this" becomes law, "we would probably have to wait five or 10 years for another chance to do it right."

James Hansen, director of the Goddard Institute for Space Studies at the US National Aeronautics and Space Administration (NASA), wrote that "the only defense of this monstrous absurdity [cap-and-trade] that I have heard is 'Well, you are right, it's no good, but the train has left the station.' If the train has left, it had better be derailed soon, or the planet, and all of us, will be in deep do-do."

Before it could become law, the House's cap-and-trade bill faces a session in the Senate where it is expected to get a much rougher ride. However, there are indications from leading figures in the Senate that it might not take up the bill this year, suggesting that the US will not have a bill passed ahead of the global negotiations in Copenhagen.

"The atmosphere in the Senate is just short of mutinous. The mandatory cap on emissions has virtually no Republican support," pronounced the *New York Times* in a 10 August 2009 editorial. It added that 10 key Democrats from states that produce coal or depend on energy-intensive industries "said they could not support any bill that did not protect American industries from exports from countries that did not impose similar restraints on emissions."

The Republican Party and its lawmakers are opposed to the bill, as are the US Chamber of Commerce and the National Association of Manufacturers. Many leading US-based multinationals support it. Little in the bill requires sacrifices by any person or sector, which makes the fierceness of the opposition all that more surprising.

The opposition Republicans attacked the bill on what it would cost average citizens. However, the bipartisan Congressional Budget Office reckoned that it would cost the average household only US\$ 175 a year by 2020. The poorest 20% of US households would actually receive a US\$ 40 benefit in 2020 from the law.

According to *The Washington Post*, the costs "would result from higher prices for carbon-based fuels, offset by a complex series of tax breaks and

free allowances, new technologies and behavioral changes, and impacts on corporations and their profits."

President Obama had promised while campaigning that all permits would be auctioned off, but the bill gives 85% of them away for free and moves to a full auction only in 2030.

A study by the US government's Environmental Protection Agency found that the large volume of foreign "offsets" – projects such as tree planting that count towards domestic emissions credits – means that US emissions could actually increase between now and 2025.

Both sides see climate legislation as an economic security issue. Opponents argue that it will raise energy costs and thus threaten the competitiveness of US industry. Proponents argue that a failure to move swiftly to cleaner energy systems will rule the US out of growing world markets for such systems.

Proponents also warn that climate change poses a threat to national security in that drought, famine, disease and mass migration could unleash regional conflicts and draw in the US military to help keep the peace or to defend allies. Security arguments usually play well in Congress.

The lead climate negotiator for the US, Jonathan Pershing, said in Bonn that the US focus was "not to repeat Kyoto," referring to the protocol that the US helped to negotiate but the Senate refused to ratify. He added that he thought the agreement that would emerge from Copenhagen would be targets that would be "conceived country by country" rather than a mandated single percentage cut for every developed nation.

As for Hansen, who says his grandchildren are the main reason behind his activism, he was arrested in June while demonstrating outside a coal mine in West Virginia.



# Mobility for development

“Mobility is essential to economic and social development. It enables people to access goods, services and information, as well as jobs, markets, family and friends. Mobility can enhance quality of life, but the development of mobility in today’s conditions also brings congestion, air pollution, traffic-related accidents and the environmental costs of transportation.”

This was the way five corporate leaders described why they put so much effort into the WBCSD Mobility for Development project. As with energy, mobility is crucial for development, but as the Council’s Mobility 2030 report had frankly proclaimed earlier in the decade: “Today’s system of mobility is not sustainable. Nor is it likely to become so if present trends continue.”

The project studied mobility in four world cities: Bangalore (India), Dar es Salaam (Tanzania), São Paulo (Brazil) and Shanghai (China). It concluded that in developing world cities “rapid growth, population density, poverty and inequality, limited public capacity and resource shortages add further to the challenge of enabling people and goods to move about sustainably.”

Overall, the mobility opportunities in all four cities are expanding, but for the poor the mobility situation is deteriorating. Pedestrians, cyclists and bus passengers have to travel on increasingly congested city streets and poor sidewalks. Transport-related health and safety risks remain a serious problem. The bad state of roads and vehicles, poorly controlled intersections and inexperienced drivers are the main causes for transport-related deaths and injuries. Congestion is getting worse.

A focus on Dar es Salaam and the nation of Tanzania shows how mobility challenges for individuals become challenges for a whole region. Dar, the

third fastest growing city in Africa, is a vibrant East African port. Car ownership is low by international standards: only 6% of households but growing. Yet congestion is already a huge problem, with minibuses, cars, handcarts, peddle carts, cycles and pedestrians fighting for space on poorly controlled city streets. Dar residents make an average of four trips per day, half of these on foot.

The port has just 11 berths, only three of which are for containers. But container handling is available only at the port and some railheads, so most containers are transported inland by trucks, which then return empty. The nation’s 85,000-km road network (only 5,000 km of which are paved) carries 70% of the country’s freight and 90% of its passenger traffic. The low percentage of all-weather roads means that there are months during which it is hard for rural people to move, or move their produce, or get the goods and services they need.

It is also hard to get goods and people from Dar through Tanzania to the land-locked countries that depend on Tanzania’s port and transport systems: Malawi, Zambia, Democratic Republic of Congo, Rwanda, Burundi and Uganda. Likewise, it is hard for these countries to get their goods to Dar and out to world markets.

The African Union is now concentrating development efforts along the old transport corridors such as the rail line and road that connect Dar to the copper mines of Zambia. The idea is to use these corridors to move minerals, get farm goods to market and fertilizer, seeds and market information to farmers.

The Tanzanian government knows that transport is crucial to developing farming, mining, manufacturing and tourism, and has set a goal of providing reliable road access to 95% of the rural population by 2015. It is trying to install in Dar a “bus rapid transit” system to move people along dedicated bus lanes.



Three common themes emerged from the Mobility for Development work in the four cities, aside from the main theme that sustainable mobility is a key contributor to development. First, cities can learn from one another and from history. Cities are different, but the ones studied and others around the world share common issues. Stakeholders can benefit from the experiences – good and bad – of other cities and apply this learning to their own situation.

Second, each component of society has a role to play, both individually and in collaboration with others. Government at national, regional and municipal levels, business as both a provider and user of mobility solutions, and citizens as individuals and as members of civil society organizations must join together in the search for appropriate local solutions.

Third, it takes motivated and committed leadership to create a functioning mobility system. Cities need overarching institutions to coordinate transport and regional development, and accountable leadership capable of mobilizing stakeholder support, setting overall priorities for transport systems and associated financing, and ensuring effective coordination between institutions.

The project did much of its information gathering through dialogues held in each of the four cities, listening to government leaders and citizens. As one participant concluded at the Shanghai dialogue: “It is hard to imagine economic growth without transport.”

Moving ahead, the Mobility for Development work will feed into an initiative on the challenges and opportunities of sustainable urban infrastructure, with a view to contributing to the creation of a systems-based approach to providing urban infrastructure that fosters sustainable development.



Allianz

## Protecting the poor through microinsurance

**The Allianz Group, a leading global provider of insurance, banking and asset management, has been active in the microinsurance industry since 2005, when the South-East Asian tsunami devastated communities and left many families homeless.**

The company realized that the risks the poor face are much the same as those for others; but without insurance, the financial impacts of disasters are obviously greater. Yet less than 80 million people in the 100 poorest countries have access to insurance (3% of the population).

This is a significant business opportunity: microinsurance in emerging economies represents a market of great potential growth and profitability, as insurance markets in many rich countries become saturated. Worldwide, Allianz predicts that by 2011 the microinsurance market will double the size it was in 2008. Through innovative products and distribution methods, Allianz believes that the hundreds of millions of people living on less than US\$ 2 per day can become viable clients for insurers.

A lack of local experience, the high administrative costs associated with servicing thousands of small-premium insurance policies, and local distrust have kept insurers from reaching low-income populations in the developing world. However, Allianz found that by working in partnership with local organizations, such as NGOs, trade unions, and microfinance institutions, it can reach


out to clusters of villages across southern India, Indonesia, Egypt and soon West Africa.

As an example, in 2006, Allianz's Indian subsidiary Bajaj Allianz joined forces with CARE International to launch a three-year partnership aimed at providing microinsurance to people in the southern Indian state of Tamil Nadu, one of the areas hardest hit by the 2004 tsunami.

The project was designed to deliver affordable life and non-life insurance products catered specifically to farm workers and fishermen in the coastal communities of Tamil Nadu. The premium for the micro-life insurance policies covering risks of accident, death, loss of household assets, natural disasters and fire is 1 euro per year, which provides families with € 370 of coverage in the event of a natural or accidental death. Currently, this covers around 200,000 people.

In the short-term Allianz acknowledges that the scale of microinsurance will not translate directly into profits, but adapting product and service offerings to the needs of the poor will help unlock this market's potential for the future and solidify the company's presence in new markets. Offering microinsurance in new markets also provides critical learnings about emerging markets and builds relationships with customers whose wealth may grow in the coming decades.

Allianz aims to reach 3 million clients globally with microinsurance products by the end of 2009.



To varying degrees, a country's development and GDP growth has seen parallel increases in its greenhouse gas (GHG) emissions and China is no exception. In the 29 years from 1978 to 2007, total GDP increased 14 times, with an annual average growth rate of 9.8% (IMF). Since 1981, the estimated share of the population living on less than US\$ 1 per day has been slashed from 64% to 16%, lifting over 400 million people out of absolute poverty. Accompanying this remarkable economic growth, China for the first time in 2008 became the world's largest GHG emitter. China is now responsible for roughly a quarter (24%) of total global emissions<sup>1</sup> and China's economic growth shows no signs of leveling off.

# China: Opportunities of limits

Accompanied by its growing integration with the world economy, China's rapid growth has led it to become the world's second largest energy consumer (the US is the largest), the largest coal consumer, the second largest oil consumer (the US is the largest) and the third largest net oil importer (the US and Japan are the largest and the second largest respectively).<sup>2</sup> Since 1993 when China became a net importer of petroleum, its import dependency has risen every year, now reaching almost 52%. The International Energy Agency (IEA) projects that it will import up to 82% of its oil by 2030. It also relies on external sources for other vital natural resources (copper, steel, etc.). This dependency, while not only being a determining factor in its foreign relations, is also pushing China to change its development path and decouple national prosperity from energy- and resource-intensive production and corresponding GHG emission increases.

China very clearly sees threats to its domestic social stability and national security arising from an increase in climate-related natural disasters. Already heavily burdened by natural disasters (between 1990-1999 China accounted for two-thirds of people stricken by natural disasters globally), China clearly sees a risk in subjecting its people to more disasters, on top of severe air, water and soil pollution.

The toxicity and carbon intensity of China's development path is also potentially threatening its ability to trade with many parts of the developed world. Amid melamine and other contamination scandals, people are increasingly demanding more tightly controlled environmental standards for imports in Europe and the US. In addition, there is serious discussion about the need to impose border taxes on imports from countries not within a climate treaty, in order to counterbalance the competitiveness pressures on domestic companies. As one of the main drivers of GDP growth – making up about 35% of China's GDP – exports are under threat.

This has led China's government to require in its 11th 5-year plan a 20% reduction in energy consumption per unit of GDP by 2010. The plan also set out a target of 2% of GDP to be spent on R&D activities in an effort to match developed country expenditures (Japan's per capita R&D expenditure is US\$ 1,000, while China's is only US\$ 140). Additionally, in June 2007, the State Council made it clear that meeting energy saving and emission reduction targets could be the decisive "one-vote veto" in assessing local leaders' political performance – in other words, they risk their political careers if they fail to save energy.

While protecting itself from climate change and adapting its economic structure could be costly, China nevertheless could gain a lot from a rapid transformation to a low-carbon economy. China has been the world's largest Clean Development Mechanism

China is now responsible for roughly a **quarter (24%) of total global emissions** and China's economic growth shows no signs of leveling off.



supplier for the third consecutive year according to statistics published by The World Bank in 2008 – China supplied 73% of all Mechanism projects in the market in 2007. China is also a major supplier of battery technologies (there are more than 30 million electric scooters on the streets of China) and solar energy components, boasting the world's largest solar manufacturer.

Indeed China's renewable energy sector has taken off. The installed capacity of wind farms grew by over 60% in 2005, and doubled in 2006 and 2007, making the country the 5<sup>th</sup> largest in wind installations by the end of 2007. The country's 2020 target for wind was 30 GW, but a few months back, China realized it would break through that level much earlier and instead more than tripled it to 100-120 GW. Similar target upgrading was made for nuclear (doubled the target to 80 GW) and solar (tripled the target to 10 GW).

Due to the size of its market, and, more importantly, the size of its potential future market, China's government has unparalleled opportunities to avoid locking into a high-carbon future. The sheer scale of demand that could be unleashed for low-carbon products and services in the case of aggressive governmental regulation could rapidly bring down their costs, making them attractive to the rest of the world. Choices made in China will shape the global markets for such goods. And contrary to public opinion, it seems like China is making a number of very far-sighted choices.

1 - Netherlands Environmental Assessment Agency, "China now no. 1 in CO<sub>2</sub> emissions; USA in second position", [www.pbl.nl/en/dossiers/Climatechange/moreinfo/Chinanowno1inCO2emissionsUSAinsecondposition.html](http://www.pbl.nl/en/dossiers/Climatechange/moreinfo/Chinanowno1inCO2emissionsUSAinsecondposition.html)

2 - Energy Information Administration (EIA), China Energy Profile, [tonto.eia.doe.gov/country/country\\_energy\\_data.cfm?fips=CH](http://tonto.eia.doe.gov/country/country_energy_data.cfm?fips=CH)



## Anglo American Investing in local enterprise development

**Supporting local enterprise growth not only expands economic opportunities for individuals and communities where companies operate but can also help secure companies' license to operate and improve access to stable sources of supply and distribution outlets for goods and services.**

Anglo American, one of the world's largest diversified mining companies, sees local enterprise development as a key part of its commitment to helping build a sustainable future for communities surrounding the company's mines. In 1989, it started its first small and medium enterprise (SME) development initiative in South Africa, with the aim of investing in black empowered SMEs demonstrating a commercially viable and sustainable business plan.

Called Anglo Zimele (the Zulu word for "independence"), the scheme aims to increase employment and entrepreneurial opportunities for historically disadvantaged South Africans in the framework of the company's obligations to engage black economic empowerment enterprises in its business activities.

Run on commercial lines, Anglo Zimele develops local entrepreneurial capacity to support both Anglo's procurement requirements and broader local business and consumer needs. It has helped more than 520 local companies across a wide range of industries and sectors by providing business development services aimed at strengthening SMEs, most notably through equity, loans and short-term minority stakes as well as by facilitating opportunities to

be included in Anglo's value chain. The businesses supported by Anglo have a 85% survival rate. Anglo American has also worked with the South African government to manage and co-fund its business development program for small mining companies – known as the Anglo Khula Mining Fund.

Anglo American recently extended its enterprise development efforts to Chile, where since its inception in 2006 the Emerge Program has already helped some 20 SMEs involved in the mining sector and more than 2000 start-up entrepreneurs servicing a range of markets.

One such benefactor is Tecnoseal, a small company that manufactures and maintains hydraulic and pneumatic components for machinery. The company wanted to become a mining sector supplier and needed money and a clear business plan. The Emerge Program invested US\$ 30,000 in Tecnoseal and provided it with hands-on management and business planning support.

Anglo Chile also formed an alliance with Fondo Esperanza, a non-profit microcredit organization to help make loans available to more than 6,000 small businesses across the country by 2010 through the Emerge program.

In 2007, Anglo American was awarded a Bicentenary Seal by the Chilean government for its commitment to fostering the development of SMEs, one of the only seven handed out by the government to recognize initiatives to create a more socio-economically equitable Chile.

# Measuring the “win-win”

The Council's Development Focus Area has long championed “win-win” solutions to business dilemmas and development challenges.

By offering direct employment, creating local suppliers, training distributors and selling innovative and affordable products and services that improve quality of life, companies can help uplift people and societies out of poverty and support companies' bottom-line. Yet how can companies measure whether they are really achieving the win-win?

In 2006, some 20 WBCSD members began a two-year project to help companies answer that question. They wanted an approach to measure their impact on society, particularly in supporting development, and tools to communicate these impacts internally and externally. Some of the companies had already done pioneering work in this area. Unilever worked with Oxfam to study the company's impact on poverty reduction across its value chain in Indonesia. Vodafone monitored the effects of mobile phones in Africa. Anglo American developed its “Socio-Economic Assessment Toolbox.” Development organizations, governments and global financial institutions such as the International Finance Corporation (IFC), with their experience monitoring and evaluating project results, also offered useful guidance on the way development impacts can be measured.

However, questions still remained and very little had been done to develop a common approach to measurement that could be used by any company, in any sector, in any part of the world. To develop the WBCSD Measuring Impact Framework, the companies had to tackle questions about how to isolate effects caused by the business from other effects, how to choose the

appropriate indicators, how to assure objectivity, and how to answer the “so what” question of what 1,000 jobs really means to the society in which a company operates.

The Framework, which was launched in 2008, is based on a four-step process. It begins with the business perspective by asking a company to set the scope in terms of geographical boundaries and core business activities to be assessed. The Framework suggests activities ranging from the creation of infrastructure to the generation of jobs to the sale of products. Step two involves identifying indicators to measure the impacts arising from these activities, mapping out which impacts the company controls (direct) and which it influences (indirect).

Step three asks the company to engage with stakeholders in defining development the way they do in order to understand what these measurements mean in a development context. This is the point at which the company assesses the overall contribution of its impacts to the key development issues in the area. Finally the company is asked to identify priority areas for action, appropriate management strategies, and indicators to monitor progress.

The published Framework contains three components. It offers the business case for measuring impact, entitled “*Beyond the bottom line,*” highlighting the experience of several WBCSD member companies. Next comes the four-step methodology to identify, measure, assess, and manage impacts. And third is an Excel-based user guide that helps companies carry out an assessment.



The Framework is based on a business perspective, but it was enhanced by feedback from experts at Oxfam, the World Resources Institute and the Harvard Corporate Social Responsibility Initiative, among others. It aims to help companies go beyond reporting to understand what business impacts mean in a development context and use this understanding to improve decision-making.

The WBCSD encourages member companies to look beyond philanthropy to identify ways their core business activities can be more inclusive. Key to this commitment is the need to measure the impact of these models and use the lessons learned to modify the models and further optimize both business profitability and the business contribution to society as a whole.

The Council sees a need to embed concepts of sustainability and inclusive business into overall business strategy in order for the positive impacts of business to really reach the scale and depth needed to bring about broad-based change. This means bringing all angles of the business together, including procurement specialists, human resources, engineers and so on into the discussions about impact because it is really these actors that can initiate, embed and manage change. The WBCSD is now working with companies and organizations to implement the Framework and looks forward to sharing the lessons learned in the months to come.

[www.wbcscd.org/web/measuringimpact.htm](http://www.wbcscd.org/web/measuringimpact.htm)

“Business knows that what gets measured - gets done. As more and more companies embed sustainable development into their core business strategy, it is becoming increasingly important that we are able to measure progress towards building a more sustainable and inclusive world.”

WBCSD President Bjorn Stigson

#### Approach adopted in the Framework

The Framework is based on a four-step methodology

#### Step 2 - Measure direct and indirect impacts

Identify and measure your direct and indirect impacts, mapping out what is within your control and what you can influence through your business activities.

#### STEP 1 – Set boundaries

Determine the scope and depth of the overall assessment in terms of geographical boundary and types of business activities to be assessed.



#### Step 3 – Assess contribution to development

Assess what your direct and indirect impacts contribute to the development priorities in the assessment area.

#### Step 4 – Prioritize management response

Extract the key risks and opportunities relative to your societal impact and based on this, develop the management response.

Measuring Impact Framework  
Decision by individual companies

### WBCSD Future Leaders Team 2009

This year, the members of the WBCSD Future Leaders Team are working closely with the Development Focus Area to influence development outcomes through inclusive business models that create new revenue streams while serving the needs of low-income communities. The Future Leaders spent the last few months applying the Measuring Impact Framework in their respective companies, providing valuable insight into redefining measures of success and demonstrating the contribution of business to development.

The Future Leaders come from different companies and regions of the world and their Measuring Impact projects reflected that diversity. Some used the Framework at the beginning of a project to help inform strategy or support decision making, whereas others used it in a more traditional way to assess the impact of current business activities. Examples include assessments on: the impact of training programs on employee satisfaction and upward mobility, the impact of a landfill-gas-flare Clean Development Mechanism project on community welfare in Mexico, and the impact of micro-insurance on protecting incomes of the poor in India.

There was a clear consensus among the team that the Framework provides a flexible and customizable approach to measurement. The team also agreed that measuring impact can be helpful in the early stages of a project and will be most useful when embedded early in the decision-making processes of a company. While the Future Leaders found it challenging to limit the scope of the indirect impacts to those most relevant to the business, they felt that the Framework helped companies discover ways to be more inclusive, leverage other actors to support development and have informed conversations with stakeholders.





# Developments in product carbon footprinting

By Rasmus Priess, Thema1 GmbH

The measurement and reduction of greenhouse gas (GHG) emissions associated with goods and services – also known as *product carbon footprinting* – is becoming one of the core elements of any robust business strategy on climate change.

Reducing GHG emissions in the value chain demands collaboration and communication with suppliers upstream, customers downstream and frequently with other stakeholders.

Supply chain partners and public stakeholders expect business action on climate change – expectations that go beyond corporate citizenship and increasingly involve the core business activities of a company along its entire value chain.

Companies around the world are developing the tools for managing product carbon footprints internally and in cooperation with their stakeholders. Activities include developing standards for assessing GHG emissions associated with goods and services, and developing approaches to communication with partners and customers along the value chain. The climate impacts of goods and services are being integrated into government programs and thinking, and companies are implementing individual and sector projects on the assessment of GHG emissions in their value chains and communication with stakeholders.

Each area is evolving dynamically, challenging businesses to act.

Standards development has been stimulated by the publication of the Publicly Available Specification (PAS) 2050 in the UK in October 2008. Two major international standardization processes have since been started to provide more specification and orientation for assessing GHG emissions. The GHG Protocol Product and Supply Chain Initiative, run by the WBCSD and the World Resources Institute, builds on the widely applied *GHG Protocol for Corporate GHG Accounting* and is to be published by the end of 2010. Also, the International Organization for Standardization is developing a new standard, ISO 14067 “Carbon Footprint of Products,” due to be published in early 2011. All three norms build upon the established standards for conducting life-cycle assessments: ISO 14040 and ISO 14044.

Reducing GHG emissions in the value chain demands collaboration and communication with suppliers upstream, customers downstream and frequently with other stakeholders.

After the British Carbon Trust launched its work on a carbon reduction label in early 2007, a number of other approaches have been emerging. The label

communicates a carbon footprint reduction commitment and – depending on the label variety – also a concrete figure of a product carbon footprint. Similar labeling programs are being developed in Japan and Korea. In Switzerland and Sweden “climate seals” are under development, aimed at promoting the least climate intensive products.

Going beyond static carbon labels with aggregate figures, the Product Carbon Footprint (PCF) Project in Germany is building upon the developing standards for product carbon footprinting to introduce more comprehensive communications approaches with customers. The PCF Project is a joint platform of NGOs, institutes and participating companies to promote practical experience, common standards and sensible communication in product carbon footprinting.

Government programs increasingly address GHG emissions associated with goods and services. The French government is developing a mandatory environmental declaration scheme for products to be implemented from 2011, and retailers are testing varieties of carbon labels.

The German government has extended the existing Blue Angel eco-label to include criteria for GHG emissions and will provide a guideline for companies wishing to undertake product carbon footprinting. The Japanese Ministry of Economy, Trade and Industry (METI) is establishing rules for calculating and labeling of CO<sub>2</sub> emissions. The New Zealand government is working on carbon footprinting methods for the primary sector in close collaboration with the international standardization processes.

Besides these more formalized collaborative initiatives, many companies undertake practical trials in product carbon footprinting, relying on a multitude of methodologies and resources.

Assessing product carbon footprints can help companies create transparency

with respect to upstream and downstream processes, and can increase awareness of GHG emissions along the value chain and identify emission “hot spots.” It can also identify GHG emissions reduction opportunities, inform the overall climate strategy, and help companies evaluate the relevance of GHG emissions in comparison to other environmental impacts. Such assessments can help firms prepare for legislative activities and future consumer demand, and contribute to building stronger customer and stakeholder relations.

To realize the full benefits of these efforts, companies must manage a number of challenges. For instance, the costs and effort involved in product carbon footprinting exercises remain high. Factors that can reduce costs include gaining experience and knowledge, and improving the routine in involving suppliers and better data management.

Doing carbon footprint calculations according to cross-industry standards can reduce costs, as can using the best software developed for the purpose.

The results of carbon footprinting are increasingly shared and communicated with stakeholders. As long as standards are being developed, results and underlying assumptions need to

be independently verified and transparent. This is particularly true for the communication of aggregate carbon footprint figures, which can differ widely, even within a certain standard. These should always be embedded in more comprehensive information, which may also include other environmental impacts.


Claims based on carbon footprints are entering the market place. Standards development and harmonization are crucial to harvesting the opportunities in product carbon footprinting. Standards development must be brought down to sector and product category level while ensuring overall consistency.

Yet, ultimately, managing climate change will require competition over low-carbon products rather than over standards.

The results of carbon footprinting are increasingly shared and communicated with stakeholders.







Newmont

## Supporting local economic growth in Ghana

**In 2006, Newmont Mining Corporation, a leading gold producer with operations on 5 continents, developed its first project in Ghana's Brong-Ahafo region. One of Newmont's key values is to develop its business activities in an environmentally and socially responsible manner, which in the Ghana case includes ensuring that local people benefit from a strong local business sector.**

Newmont and the International Finance Corporation (IFC) established the Ahafo Linkages Program to increase the participation of local businesses in Newmont's supply chain and bring development benefits to surrounding communities. The two partners applied the WBCSD Measuring Impact Framework to the Ahafo Mine in Ghana to help them understand the extent of the project's benefits at mid-term, and establish a rigorous approach to measuring, monitoring and evaluating progress.

The mine is in the local cocoa-growing region of mid-western Ghana, in a district where more than half of adults and two-thirds of youths are illiterate.

Aside from providing jobs for 3,500 people, the project has helped improve local infrastructure: mobile phone coverage, upgrading roads and access to electricity.

Newmont and IFC established the Ahafo Linkages Program to: help local businesses enhance and develop suppliers to the mine; improve the competitiveness of local non-mining related businesses to help develop a diversified local economy; and expand and advance the capacity of local business associations and institutions that

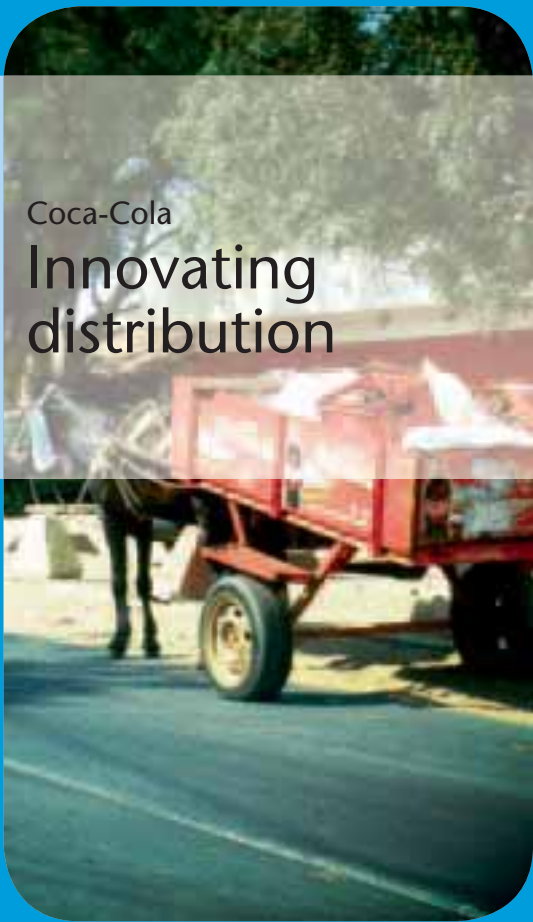
can provide long-term sustainable business development services support.

Newmont wanted to evaluate the program's impacts, particularly direct benefits to communities, as a way to better its measuring techniques and to assess the value in replicating the program in other parts of the world.

The company and the IFC integrated the WBCSD Measuring Impact Framework with other approaches used by the company, in particular Newmont Ghana's Environmental and Social Responsibility and Monitoring Principles and IFC's Monitoring and Evaluation Framework and Indicators.

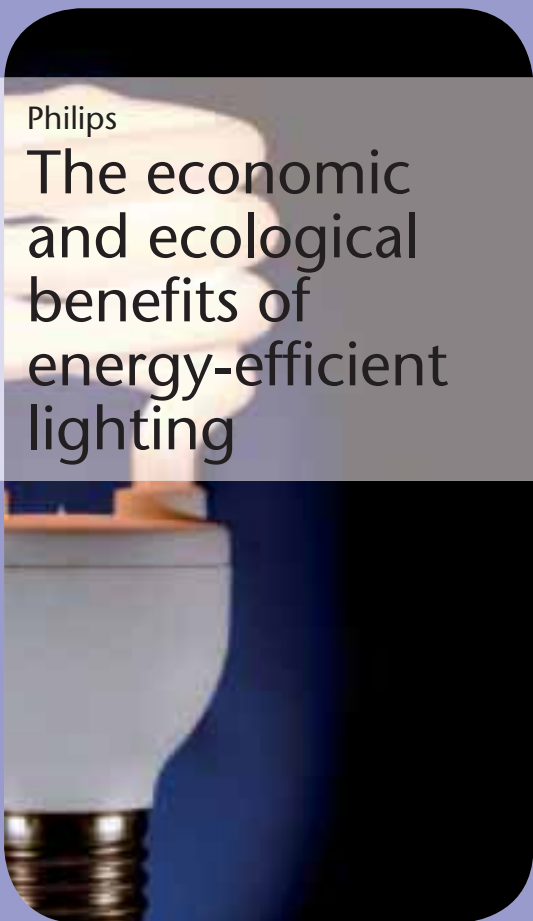
Six months following the establishment of the Program, Newmont and the IFC found encouraging signs of growth in the small businesses in the 12 communities included in the intervention area. Many were obtaining business registration certificates and starting basic formal practices such as book-keeping. The number of local businesses commercially engaged with Newmont jumped from 25 to 125 with a total value of procurement nearly three times greater after the second year of the program. Of the 21 assessed, 52% were able to obtain bank credit and 21 new permanent jobs were created, 10% of which for women. There was also a 40% increase in the tax obligations to local government met by the businesses.

Measuring the impact of the Ahafo linkages program has informed Newmont's decision-making process, supported conversations with stakeholders and will inform the development of a long-term evaluation plan to assess local economic growth in the area.



Coca-Cola

## Innovating distribution



Philips

## The economic and ecological benefits of energy-efficient lighting



**In the late 1990s, the Coca-Cola Company realized that in order to expand its reach into remote and semi-urban areas in developing countries, it would need to redesign its distribution systems to overcome a lack of road infrastructure as well as limited cash flow and business skills among small enterprises.**

The largest non-alcoholic beverage company in the world, Coke's response was the Manual Distribution Center (MDC) model now used in nearly 25 countries around the world. While it is an approach created to solve a core business need of the company, it has also proven to make a positive contribution to development in many African countries.

MDCs are independently owned, low-cost manual operations created to serve emerging urban retail markets where classic distribution models are not effective or efficient. They include a central point for warehousing products, which are distributed mainly manually, by pushcarts, to keep costs at a minimum.

The outlets served are typically low-volume, with high service frequency requirements and limited cash flow, requiring fast turn-around of stock. The MDCs deliver where roads are poor to non-existent, allow for the delivery of small orders, and provide improved customer service.

To date, the Coca-Cola system has created over 2,500 MDCs in Africa, generating over 12,000 jobs and more than US\$ 500 million in annual revenues. MDC owners and employees support an estimated 48,000 dependents.

A team from the Harvard Kennedy School and the International Finance Corporation recently studied the MDC model in Ethiopia and Tanzania. They found that owners of these centers do not make up the poorest part of society and most had primary education. However, in Ethiopia 75% of owners were "new business owners" and in Tanzania the figure was 32%. Each MDC employed an average 3.9 people in Ethiopia and 6.9 in Tanzania.

The MDCs also promote women's economic empowerment, in that 19% of owners and 8% of staff are women in Ethiopia, and in Tanzania the figure is 32% and 5%.

80% of MDC owners have also received training from the bottlers in areas such as basic business skills, warehouse and distribution management, account development, and merchandizing and customer service, including one-on-one coaching. MDC employees also receive training in customer service and sales and traffic safety.

The model has proven scalable with more than 80% of the company's products currently distributed through the MDC model in Ethiopia and Tanzania.

The company plans to double the program and the impact by 2010 as part of its commitment to the Business Call to Action, a global initiative that mobilizes large companies to help reach the Millennium Development Goals by harnessing core business competencies.

**The climate crisis, energy crisis and economic crisis are connected one to another.**

Philips is working to reframe this three-pronged crisis as opportunities.

Like replacing energy-inefficient incandescent lamps in homes, a switch to energy-efficient lighting in cities and non-residential buildings offers a huge opportunity to cut emissions and energy use that we have barely begun to tap. It provides a triple win: End users benefit from lower costs and better quality light, economies gain from lower costs and greater competitiveness, and the environment wins due to lower energy use and lower emissions.

Lighting accounts for 19% of the world's electricity consumption. However, the technology to change that exists today. Philips research shows that 80% of existing lighting technology in non-residential buildings is out of date and inefficient. And only 1% of buildings

are equipped with controls to detect daylight or the presence of people.

On 7 December 2006 Philips called for a phase-out of energy-inefficient incandescent light bulbs, a move aimed particularly at the 25% of lighting electricity consumption in homes. The call has been taken up around the world, and the phase-out of incandescent lamps seems to have passed "the tipping point".

The opportunity is even larger with the non-residential part of the equation, given that in terms of electricity used for lighting, public and commercial buildings represent 60% of the global total, and street lighting 15%.

Globally, using energy-efficient lighting in nonresidential buildings could save 62 billion euros and 330 million tonnes of CO<sub>2</sub>.

Philips announced in July 2009 that it would phase out electromagnetic operating gear in its luminaires

(complete electric light units), as well as older, less efficient versions of its TL fluorescent technologies. This is ahead of EU legislation on energy efficiency that will come into force in 2010.

In January 2009 Philips launched an initiative to accelerate the renovation of existing city and non-residential lighting installations. It will help make energy-efficient lighting accessible to public buildings, offices, factories, schools and shops – anywhere it is needed. The initiative consists of three elements: assessment tools to calculate the energy performance of a current installation and the costs of a new one; a complete portfolio of energy-efficient products and system solutions; and financial support.

Philips is working with leading banks and finance companies to create financial solutions to complement its lighting solutions.

# Energy efficiency in buildings

Roughly 40% of the world's energy is used in shops, offices, homes and other buildings – more than in any other sector. So it is vital to act on this important source of greenhouse gas emissions. Unless we transform the building sector we won't make the essential transition to a low-carbon world.



This can be done, but it is not going to be easy. Buildings stay around for decades, even centuries, so it cannot be achieved purely by introducing new models. Market imperfections don't help – the building value chain impedes energy-efficient construction and the low profile of energy for building decision-makers means that price signals are not very effective in changing behaviors.

The WBCSD's Energy Efficiency in Buildings (EEB) project has grappled with this important challenge for the past four years, and is now gearing up to ask their members to take urgent measures to reduce energy use, with the project's core group members preparing a manifesto.

After studying six markets – Brazil, China, Europe, India, Japan and the US – the EEB project reported its conclusions earlier this year in *Transforming the Market – Energy Efficiency in Buildings*. It found that the building sector won't transform itself. It needs a combination of new attitudes, new financing and new regulations to create the market push and pull that will make low-carbon buildings the norm.

Part of the problem is ignorance – among building professionals and those of us who live and work in buildings. The project commissioned international research that found that building professionals typically underestimate how important a building's contribution is to climate change, and overestimate how much it costs to make them more sustainable.

Cost is certainly important if extra spending is needed, but it's not just about cost. The timeframe typically used to judge such investment decisions rules out many potential energy-saving measures, even if they would more than pay for themselves over their lifetime.

These barriers can be overcome. But it will not be as easy as making energy and/or greenhouse gas emissions more expensive. That would increase the cost savings from efficiency investments, shortening the payback period. But it seems that a higher price for energy or carbon would have relatively little effect unless the price goes through the roof.

The EEB project tested such options by creating a computer model simulating decisions on investments in design and construction options, based on the net present value over five years. The simulation uses a unique database of specific building energy and technical data assembled by the project.

The modeling work suggests that many measures that would achieve significant energy reductions are unlikely to be chosen because they fail financial investment requirements.

At today's energy prices, the simulations for the six EEB regions suggest that financially viable investments could be made that would cut emissions by about 40% below the "business as usual" level in 2050. This would cost roughly US\$ 150 billion a year. Stretching the investment time horizon to 10 years would increase the emissions savings to about 50% and add a further US\$ 150 billion a year to the cost. But that still leaves a further 30% emissions cut to achieve transformation and meet an 80% reduction target. Even a US\$ 40 per tonne carbon price would add emissions reductions of only three percentage points.

Transformation will not occur solely through market forces because the financial, organizational and behavioral barriers are too significant. Stronger market signals and regulatory change are needed because most building owners and users don't know enough and don't care enough about energy consumption, while inertia is reinforced because first costs are too high and savings too low.

## Six broad actions are required:

1. **Strengthen codes and labeling for increased transparency** – Building codes include strict energy-efficiency requirements that are effectively enforced, with energy measurement and labeling mechanisms to provide transparency on energy performance levels
2. **Provide price signals to incentivize energy-efficient investments** – Tax incentives and subsidies to help energy efficiency investments meet financial criteria
3. **Encourage integrated design approaches and innovations** – Property developers involve designers, contractors and end users early and as part of an integrated team; incentives for domestic energy-efficient improvements are related to an integrated approach rather than individual measures
4. **Develop and use advanced technology** – Governments provide support for research and development to accelerate progress, while buildings are designed to use information and communication technology that minimizes energy use
5. **Develop workforce capacity for energy saving** – Energy-efficiency training for all those involved in the sector, vocational programs for those who build, renovate and maintain buildings, and a new "system integrator" profession to support retrofitting
6. **Mobilize for an energy aware culture** – Sustained campaigns to promote behavior change and to increase awareness of the impact of energy use in buildings.

These actions need to be applied appropriately to each building subsector, but represent a comprehensive package that must be seen in totality, rather than as a set of options that can be implemented separately or sequentially.

And of course, we all need to pay more attention to the energy we use to heat, cool and power our home and work environments.







Copenhagen  
Business Day

# Business

leading ACTION now

Friday, 11 December 2009

Confederation of Danish Industry Headquarters

## Who

Copenhagen Business Day – Leading ACTION is jointly organized by the World Business Council for Sustainable Development and the International Chamber of Commerce together with the Confederation of Danish Industry.

## What it is about

Copenhagen Business Day – Leading ACTION will be the third global business day parallel to the United Nations Climate Change Conference. This will be a day for business leaders to explore, share and project their vision and commitment to implement climate solutions now and for the next four decades. The years ahead are pivotal in determining the world future generations will inherit.

Business recognizes that there are challenges for all, for developing and developed countries, business and consumers, and is ready to take a lead now. Business, governments and society are intricately linked – climate change solutions will need all three to work together, to challenge each other, to support each other. Join us in Copenhagen to play your part in this process.

## Where

Copenhagen Business Day – Leading ACTION will take place at the Confederation of Danish Industry headquarters at H.C. Andersens Boulevard 18, Copenhagen, DK-1787 Copenhagen V

Register to take part in the **Copenhagen Business Day** at  
[www.copenhagenbusinessday.org](http://www.copenhagenbusinessday.org)



World Business Council for  
Sustainable Development