



CLIMATE CHANGE PARTNERSHIPS





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About This Issue



Ewig Lermender

True partners collaborate toward a shared goal.

The hardest problems can frustrate even the most determined efforts of concerned citizens, governments, businesses, and other institutions. At their best, partnerships leverage the complementary skills and talents of diverse partners, unleash a cross-pollination of ideas and insights, and through joint action increase exponentially the partners' capacity to solve problems. Partnerships among business, academic, and community organizations and among local and national governments likely will be among the required responses to global climate change.

This issue of *eJournal USA* explains one proven and one proposed partnership structure relevant to today's climate issues. The tested model focuses on

influencing individual behavior and business practices to achieve long-term gain, the other on cultivating a creative environment within which partners can develop marketable products of immediate benefit. Six case studies illustrate the models in action. In addition, an investor organization president explains that environmentally sound business practices are not merely altruistic but good for the bottom line.

A solution to the truly global challenge of climate change will require the contributions of many different people and institutions. Effective partnerships will empower them to supply many of the required answers. ■

— *The Editors*



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Global Resources, Local Answers: Sustained Partnerships Enable Long-Term Climate Solutions

Rafal Serafin and Surinder Hundal

Rafal Serafin is a senior associate of the International Business Leaders Forum (IBLF), an independent, nonprofit organization that partners with businesses around the world to create innovative paths to sustainable development. Surinder Hundal is the IBLF policy and communications director. They may be reached at rafal.serafin@iblf.org and surinder.hundal@iblf.org.

Partnerships among governments, businesses, and civil society organizations possess many characteristics needed to address the social, economic, and environmental impacts of climate change. Promoting and enabling these partnerships is necessary, as international agreement on greenhouse gas reductions remains elusive. The U.N.-sponsored climate negotiations must continue, but will yield only a partial solution. The single-sector U.N. approach works exclusively with governments to design and enforce a one-size-fits-all command-and-control solution to curtail global carbon emissions.

A partnership approach that mobilizes resources, ideas, and engagement from across the business, civil society, and governmental sectors promises to be more effective at diagnosing climate adaptation challenges and working out possible solutions. These cross-sector partnerships can help bridge the gap between global negotiations and local solutions. Partnerships can also tap into the resources, human creativity, and ingenuity each possesses in abundance. They contrast with regimes of control, policing, and enforcement, which tend to stifle innovation and creative solutions to difficult problems.



Backdrop at the U.N. 15th Conference of Parties, Copenhagen, Denmark, December 2009.

©AP Images

So what steps might enable climate change partnerships?

While pressuring governments to agree on carbon emissions reductions must remain a priority, civil society, government, and business leaders can devise joint action toward a fair and just transition to a low-carbon world. The need and opportunity lie in enabling low-carbon lifestyles in both North and South. This means connecting government policy and planning, community or locally based action, social entrepreneurship, and business opportunity in creative and mutually reinforcing ways. But to be effective, these partnerships must be self-aware collaborations that utilize the strengths of each sector.

Unfortunately, the reality is that much of the promise and potential of cross-sector partnering remains untapped or

is being squandered through ineffective and/or mismanaged efforts. There appear to be a lot of sub-standard, under-achieving partnership activities. Many masquerade as partnerships, but are little more than contract management, philanthropic giving, “business-as-usual,” or “telling others what to do or think.” This has been the experience of the International Business Leaders Forum (IBLF) in two decades of working on enabling cross-sector partnerships for sustainable development.

Participants in effective partnerships will commit to sharing risks, costs, and benefits; put a premium on transparency; and work to ensure equity so that no single partner or stakeholder hijacks the partnership. Putting these three principles into practice is the key to ensuring collaboration on climate change that translates into tangible and sustainable outcomes.

At least three types or orientations of climate change partnerships are desirable:

MITIGATION PARTNERSHIPS — the focus is on finding ways of cutting carbon intensity without foreclosing development opportunities. Partnerships can help reduce costs and promote risk sharing by affording each partner access to know-how and learning from partners in all sectors.

An example is BP Alternative Energy’s decade-long partnership with the Polish Environmental Partnership Foundation to develop in Poland a scheme for mobilizing small- and medium-sized companies to improve their environmental performance, become more engaged in community-based action on reducing carbon intensity, and grow more competitive in local, national, and international markets in the process. The Clean Business program has benefited more than 5,000 small and medium-sized enterprises by promoting expertise-sharing across sectors and providing a mechanism to assess and monitor environmental impacts, including carbon intensity. Developed in Poland during the turbulent transition to market economy and democracy, Clean Business now includes prominent international partners including Cadbury, Toyota and other international companies. It offers nations transitioning to a market economy a model of how to use the power of cross-sector partnering to make carbon reduction a source of competitive advantage.

ADAPTATION PARTNERSHIPS — the focus is on exploiting development opportunities amid an evolving context. Partners can help each other understand the changing context of social change and local priorities,

identify new development opportunities and enable local or community learning.

An example is IBLF’s International Tourism Partnership (ITP), which encourages and enables international hotels to conduct their business — from purchasing and supply chains to waste management — in ways that improve the sustainability of the local communities where they operate. The partnership helps members develop practical solutions to “green” their operations and to share experience with smaller hotels through manuals, such as the *Environmental Management for Hotels*, which supplies reliable information on how guest lodgings can achieve environmentally friendly and sustainable operations.

By assisting hotels to partner with one another and with local community leaders (and *vice-versa*), ITP has helped the hotel industry better appreciate the changing context of social and economic development both locally and globally. Since 1992, ITP has contributed to an environmentally friendly partnership culture in an industrial sector that generates (directly and indirectly) close to 10 percent of global gross domestic product.

INNOVATION PARTNERSHIPS — the focus is on developing completely new ways of operating, achieving breakthroughs which disrupt or make ‘business as usual’ obsolete by creating a completely new operational reality. These partnerships strive to create and scale-up new business or operating models, new types of products and services and even new markets.

An example is the Foundation for Environmental Education’s Eco-Schools program, a partnership that helps transform schools into practical examples of low-carbon living, resources of knowledge about low-carbon development, and sources of inspiration for the wider community. In the UK, for example, the Sandwich Technology School has transformed its operations and educational approach, including installation of a wind turbine and other renewable energy systems. The school has become a role model for sustainability for the wider community. Practical experience from dozens of schools in the UK has led the government to commit to helping all schools transform into sustainable schools.

The program operates in more than 50 countries through national NGOs that engage with national and local government and the schools themselves. Partners include international companies such as Toyota and HSBC, which hope to create new markets and new customers for low-carbon living, linking their global aspirations to local operations.

Eco-Schools is a local-to-global partnership in the sense that no one partner is in charge, but all share an interest in innovations that speed the transition to low-carbon living. Schools represent a massive capital investment; reducing their carbon footprint would be a real step forward.

Effective climate change partnerships link the local with the global. By combining the respective strengths and resources of business, civil society, and government, these partnerships offer the means and the opportunity to build greater local resilience to climate impacts in both North and South by, for example:

- eliminating fuel poverty through better building and retro-insulation;
- tackling inadequate housing and associated poor health problems;
- developing less polluting public transport and new sustainable transport programs in urban and rural areas;
- evolving more localized and self-sustaining food growth and production systems;
- encouraging community-owned and managed assets for energy generation, water and sanitation, resource recycling, and waste exchange (reuse);
- promoting regional community-owned and community-managed energy programs harnessing new technologies (bio-generation and other alternatives);
- working with local communities to manage population migration, relocation, and diversification;
- providing financial products and services which factor in the reduced risk and the development opportunities of climate-friendly communities;
- helping workers in impoverished areas acquire the skills to construct, maintain, and operate the infrastructure required by local communities focused on self-sufficiency and sustainability.

Partnerships with civil society, government, and international and national companies can build private sector appetite for more engagement. Too often companies are put on the defensive. Businesses can more effectively be part of the climate change solution if they are engaged in building climate-friendly communities, especially around production facilities. Local focus benefits business by stabilizing the communities in which they, their facilities, and their employees are based.

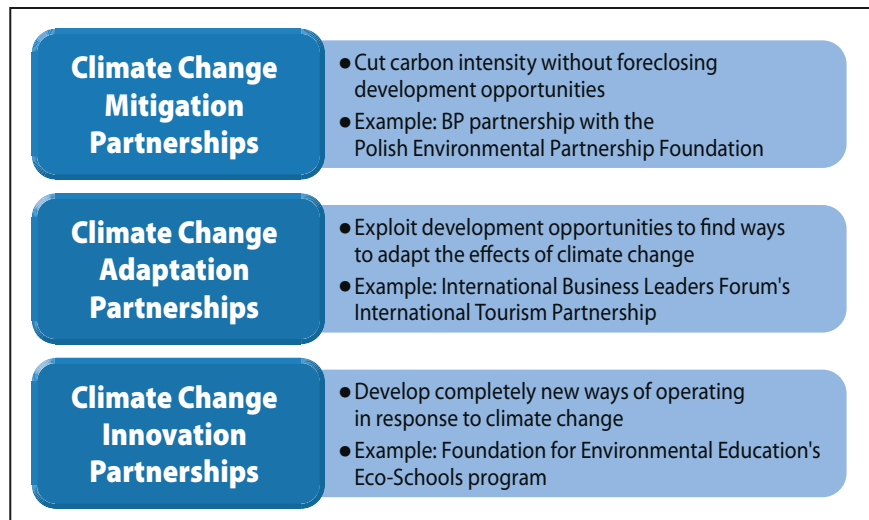


Chart of different types of climate change partnerships (Vincent Hughes)

Vincent Hughes

Residents of climate-friendly communities absorb the skills and capabilities that can help them strengthen community resilience to climate change, and take advantage of new and sustainable economic development opportunities.

Realizing the potential of climate change partnerships will require private, public and civil society leaders to recognize that business can be part of the complex solution to the climate challenges we all face now and in the future. Such leaders already can be found in local communities across the globe and also at the international level. By acting as more self-aware partnership practitioners they are strengthening their cross-sector partnerships to build local and global capacity for dealing with climate change now and in the future.

For more information see: Clean Business, www.cleanbusiness.org.pl; International Business Leaders Forum, www.iblf.org; International Tourism Partnership, www.tourismpartnership.org; Eco-schools, www.eco-schools.org; Cross-sector partnerships, www.thepartneringinitiative.org. ■

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Poland's Clean Business Partnership Promotes the Economic Value of Mitigation

Holly Wise

Holly Wise is a consultant and a senior fellow at Harvard's Kennedy School of Government, and she teaches enterprise development at Georgetown University School of Foreign Service. She spent 26 years in the foreign service with the U.S. Agency for International Development.

Mitigation partnerships focus on reducing carbon intensity and costs without curtailing business development opportunities and operations. Clean Business is one such partnership.



Slag Recycling, a Clean Business company, specializes in turning waste from what was Europe's largest steel plant in Krakow's Nowa Huta district into building material, used for example to repave Europe's largest medieval square, above, also in Krakow. The result is transport cost and environmental savings, thanks to turning local waste into resources for new construction.

Courtesy Polish Environmental Partnership Foundation

In the late 1990s, with the assistance of the International Business Leaders Forum (IBLF), BP Alternative Energy, and the Polish Environmental Partnership Foundation (PEPF) looked for ways to mobilize small- and medium-sized businesses in Poland to improve their environmental performance, become more engaged in community activities to reduce carbon emissions, and grow more competitive in local, national, and international markets.

Together, they developed a climate change mitigation partnership called the Czysty Biznes or Clean Business program. The program responded to each partner's needs while mobilizing government, business, and the community around the idea of environment as a business issue central to Poland's economic development. Mitigation partnerships focus on reducing

carbon intensity and costs without curtailing business development opportunities and operations.

The creation of Clean Business in 1998 is particularly striking given that it began during Poland's transition from central planning to a market economy and democratic rule. During that period, environmental policy was not a government priority. Climate change was seen as irrelevant, an issue for others to address. Clean Business illustrates how business and community groups can establish new norms that subsequently become enmeshed in government policy.

The partnership provided PEPF with an opportunity to advance its interest on the national level while allowing BP to share its knowledge with smaller companies. Vivienne Cox, former chief executive officer and executive vice president of BP Alternative Energy, said her company wanted to connect its business to the local communities in which it operated., "We were keen to

create local organizations [that would] take their role in society seriously,” Cox said.

In recent years, Clean Business has focused on providing businesses with practical tools for assessing and monitoring their environmental performance, such as the Environmental Manager Internet Tool, which Clean Business companies can use to reduce costs and identify business opportunities in two ways. First, data on various environment performance indicators are collected and recalculated in terms of carbon dioxide emissions; this allows companies to monitor their environmental performance and confidentially compare it with that of their competitors. Second, members receive advice and support from specialists in their areas of concern.

In return for access to the tool, companies provide monitoring data on their environmental performance and share their experiences with other companies in the program. This reciprocity builds trust and collaboration among Clean Business companies, generating new business opportunities. To date, Clean Business has benefitted small- and medium-sized businesses, Poland and the environment in the following ways:

- The program has assisted more than 5,000 small businesses by promoting expertise sharing across sectors and providing a mechanism to monitor and assess environmental impacts.
- It has established 16 clean business clubs throughout Poland with more than 500 participating businesses. These clubs provide learning opportunities on the practicalities of sustainable development and the reduction of the environmental impact of energy, water, and material consumption. They encourage and enable businesses to reduce waste and become more energy efficient and, consequently, more competitive in the marketplace.
- Clean Business has helped the companies involved to achieve, on average, a 10 percent annual reduction in carbon emissions.
- The Clean Business partnership has generated interest among other large international businesses. It has prompted British confectionary company Cadbury and carmaker Toyota, among other companies, to partner with the PEPF in pursuing their carbon reduction efforts.
- On a broader level, the program has established a strong model promoting the use of cross-sector partnerships to make carbon reduction a source of



Courtesy Polish Environmental Partnership Foundation

Krakow's Nowa Huta steel plant, still one of the largest in Europe, has the largest slag waste mountain in the world. The plant now serves as resource for Poland's infrastructure development, thanks to Clean Business companies such as Slag Recycling and Madrohut that recycle the waste for other uses.

competitive advantage for nations transitioning to a market economy.

Ultimately, the sustainability of the nongovernmental organization-business partnership is ensured through its capacity to respond and adapt to the ever-changing environmental needs of members and partners while enabling those involved to reduce their carbon impact and improve their competitiveness. In these ways, Clean Business is a partnership that serves to mitigate climate change impacts. In addition, “It is a good way of allowing multinationals to help develop the business infrastructure in new markets,” Cox said. ■

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Mitigation Partnership: Clean Business

- Reduces carbon output and costs without curtailing business
- Raises awareness of environment as a business issue in Poland
- Mobilizes public sector to enact environmental policies
- Enables member companies to assess and monitor environmental performance
- Reports assisting more than 5,000 small businesses achieve an average 10 percent carbon emissions reduction

Hotel Partnership Members Share Ideas for Adapting to Climate Change

Holly Wise

The International Tourism Partnership (ITP) presents a compelling model for an adaptation partnership. The partnership provides a space within which businesses can actively explore, learn about, and define new responses to pressing sustainability issues in collaboration with industry partners.

Since its creation in 1992, the International Tourism Partnership (ITP) has promoted environmentally friendly partnerships in the tourism industry, a key economic sector that now generates nearly 10 percent of global gross domestic product (GDP). The ITP does so by encouraging and enabling international hotels to improve the sustainability of their operations, and of the communities in which they work, by adopting and adapting best practices in local procurement and employment, and through appropriate waste management. It also encourages members to utilize the ITP as a forum to discuss their sustainability efforts and for reporting concerns.

The ITP was founded to serve as a climate change adaptation partnership by the International Business Leaders Forum (IBLF) — an international non-profit organization dedicated to collaborating with business leaders in identifying innovative solutions to sustainable development challenges. The ITP seeks to provide the hotel, travel and tourism industry with the knowledge to develop practical solutions to climate change problems.

Described in the article, “Global Resources, Local Answers” in this publication, adaptation partnerships foster collaboration by disseminating awareness of

the climate challenge and helping partners identify and capitalize on development and cost reduction opportunities. Adaption partnerships emphasize linking businesses to the communities in which they operate so that the community and the businesses can respond more effectively to the impacts of climate change. Partners can help each other manage changes in local priorities, identify new paths to move forward, and promote information sharing.

The ITP fulfills this mission through a number of publications it has developed to provide members with information about practical solutions that will “green” their operations and to share their experiences with smaller hotels. Among these are *Environmental Management for Hotels*, which has

provided information on achieving environmentally friendly and sustainable lodging operations since 1993; the Green Hotelier Web site, which shares a similar goal; and the *Sustainable Hotel Siting, Design and Construction* guide, published in 2005 in association with Conservation International.

By its nature of providing rest and relaxation for guests, the hotel industry is at a greater risk of overusing local resources, such as water and waste management services. Guests who might not indulge in excessive use of such resources at home tend to do so in hotels. The ITP generates practical solutions such as adding air to the water in guest room showers to maintain pressure but



Courtesy Marriott Corporation

The International Tourism Partnership generates practical solutions such as adding air to the water in guest room showers to maintain pressure but reduce water use. Other ideas include encouraging guests to reuse towels and linens.

reduce water use. Other ideas include encouraging guests to reuse towels and linens.

ITP also provides programs that encourage member hotels to focus on the communities in which they operate. For example, the Youth Career Initiative (YCI) provides at-risk high school graduates between the ages of 18 and 24 the skills they need to secure employment in a wide range of industries. Working with partners such as the German Development Agency (GTZ), World Vision, and Marriott International, YCI offers six-month training programs in 11 countries.

ITP's governing structure allows for transparent decision making and gives members the opportunity to influence the direction of the partnership. This helps assure that the ITP designs programs from which each member can derive maximum benefit. A core ITP team invests significant time in developing relationships with members, assuring they understand how ITP supports their businesses.

Members pay a fee to defray ITP's operating costs. In return, they may access ITP resources and can influence the group's priorities. This model emphasizes collaboration across all levels of governance. "The ITP provides a unique partnership model that focuses on much more than promoting specific businesses; it creates increased

awareness about the environment and development issues as a whole," Stephen Farrant, ITP's director, said.

ITP's impact on partners and local communities is evident most significantly through improved waste management within hotels and increases in local employment. Many international hotels that already have developed carbon mitigation programs continue to use the partnership to address the social impacts of climate change.

The ITP presents a compelling model for an adaptation partnership. The partnership provides a space within which businesses can actively explore, learn about and define new responses to pressing sustainability issues in collaboration with industry partners.

The opportunity to join a unique partnership with an exclusive focus on sustainability within the tourism sector remains a powerful incentive for hotel groups across the world to join the ITP, Farrant said. "A growing awareness that sustainability issues are set to become evermore important in the coming years also helps," he said. ■

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Adaptation Partnership: International Tourism Partnership

- Disseminates awareness of climate change challenges in the tourism industry
- Enables international hotels to improve sustainability of operations
- Provides a forum for members to discuss sustainability reporting or concerns
- Maintains numerous publications to guide members in making "green" decisions
- Operates programs that have a direct impact on local communities

Eco-Schools Generate Innovative Local Climate Change Solutions

Holly Wise



Courtesy Polish Environmental Partnership Foundation

Eco-Schools often become testing grounds for low-carbon solutions related to design, building materials, commuting patterns, and food programs. The testing serves to raise awareness and present opportunities to restructure investments in a low-carbon direction.

Innovation partnerships such as Eco-Schools are resources for other innovation partnerships aimed at speeding the transition to a low-carbon economy and to national governments that aim to cut carbon emissions as a necessary response to global climate change.

Eco-Schools is a public-private partnership that helps schools apply the concepts of low-carbon living in their operations and communities. With a focus on practical action, students, teachers and community residents learn about the implications of climate change and sustainable development.

The partnership links 32,000 schools in about 50 countries with non-government organizations (NGOs) that work with national and local governments. The Foundation for Environmental Education (FEE), an international nonprofit organization dedicated to promoting sustainable development through environmental education, started the international program in 1994 and has partnered with the International Business Leaders Forum to involve private corporations.

In many countries, Eco-Schools generates cross-sector partnerships, which create and encourage innovation in the school and the wider community. Schools become testing grounds for low-carbon solutions related to design, building materials, commuting patterns and food programs. The testing serves a mechanism for raising awareness and presenting opportunities to restructure investments in a low-carbon direction.

Eco-Schools is an example of a climate change innovation partnership that focuses on developing new methods of operation beyond the “business as usual” framework. Innovation partnerships strive to create and scale-up new business or operating

models, products, services and markets. When working on climate change issues, innovation partnerships focus on changing core business practices and, by involving many partners, on reducing the risks and costs of innovation.

The Sandwich Technology School in the United Kingdom has improved its operations through Eco-Schools. Sandwich Tech has transformed its operations and educational approach by installing wind turbines and other renewable energy systems. It has reduced carbon impact while generating economic, social and environmental benefits and has become a role model for sustainability for the wider community.

The Eco-Schools model features two distinguishing characteristics. First, as an innovation partnership, it prompts schools to transform their core operations and mobilizes those involved with schools to generate practical climate change solutions. Second, the partnership operates as a local-to-global collaboration with all partners participating equally.

FEE provides a framework that enables members to advance their individual goals through joint action.

Member organizations recognize that they cannot in isolation achieve a transition to low-carbon living. The local-to-global design has attracted partners such as automaker Toyota and financial services company HSBC, which provide the Eco-Schools program funding and technical assistance. The program enables corporate partners to link their global aspirations to local operations, such as Eco-Schools, that focus on innovation and low-carbon product and process adoption. Other international partners include the United Nations Environment Programme and the European Union.

For daily implementation and operation of an Eco-School, FEE requires a national NGO to act as a coordinator in each country. All coordinators meet once a year to discuss policy and planning issues, new initiatives and concerns. These meetings offer opportunities to recruit global or international partners, and they provide a method of program self-regulation and quality control.

The Eco-Schools project attracts financing, volunteers and in-kind support at local, national and international levels, enabling the program to flourish in 50 countries. National coordinators ensure sufficient project funding by helping to broker cross-sector collaborations among businesses, public agencies, and NGOs. All partners assist a school at every stage of its transformation into an Eco-School.

Urban Mines, a U.K.-based NGO focused on waste management, orchestrated an Eco-School transformation in Halifax, England. The project, called Tread Lightly, encourages children in Halifax to use energy more efficiently and reduce their waste by recycling at home and at school. The project has involved the Halifax Bank of Scotland in supporting local school initiatives on recycling, energy and sustainability education. “For us, success comes in a real sense of community ownership and a long-lasting commitment to

the environment,” Gill Tatum, Urban Mines chief executive officer, said.

These types of collaborations encourage participating schools and national coordinators to contribute to and learn from Eco-Schools programs in other countries. For example, the Eco-Schools Environment and Innovation project is an international competition sponsored by Toyota that involves schools in Denmark, Finland, Norway, Portugal and Turkey. The program encourages schools to develop their own innovations to reduce their impact on the environment.

Odtü Gelistirme Vakfı Özel İlköğretim Okulu Primary School in Ankara, Turkey, won the 2010

competition for “I Take Responsibility,” which puts students directly in charge of electricity use in the classrooms. Electricity switch units operated by a card, similar to those found in some hotel rooms, are installed in each classroom. One student per class takes responsibility for carrying the class card. The project and the theme of energy saving were integrated into the curriculum of the entire school. It and has achieved a lower electricity bill for the school and a better



Courtesy Polish Environmental Partnership Foundation

A Polish boy participates in a celebration of the Eco-Schools program. Successful Eco-Schools are awarded with the Green Flag, an internationally acknowledged symbol for environmental excellence, during an awards ceremony.

environment for everyone.

Innovation partnerships such as Eco-Schools are resources for other innovation partnerships aimed at speeding the transition to a low-carbon economy and to national governments that aim to cut carbon emissions as a necessary response to global climate change. ■

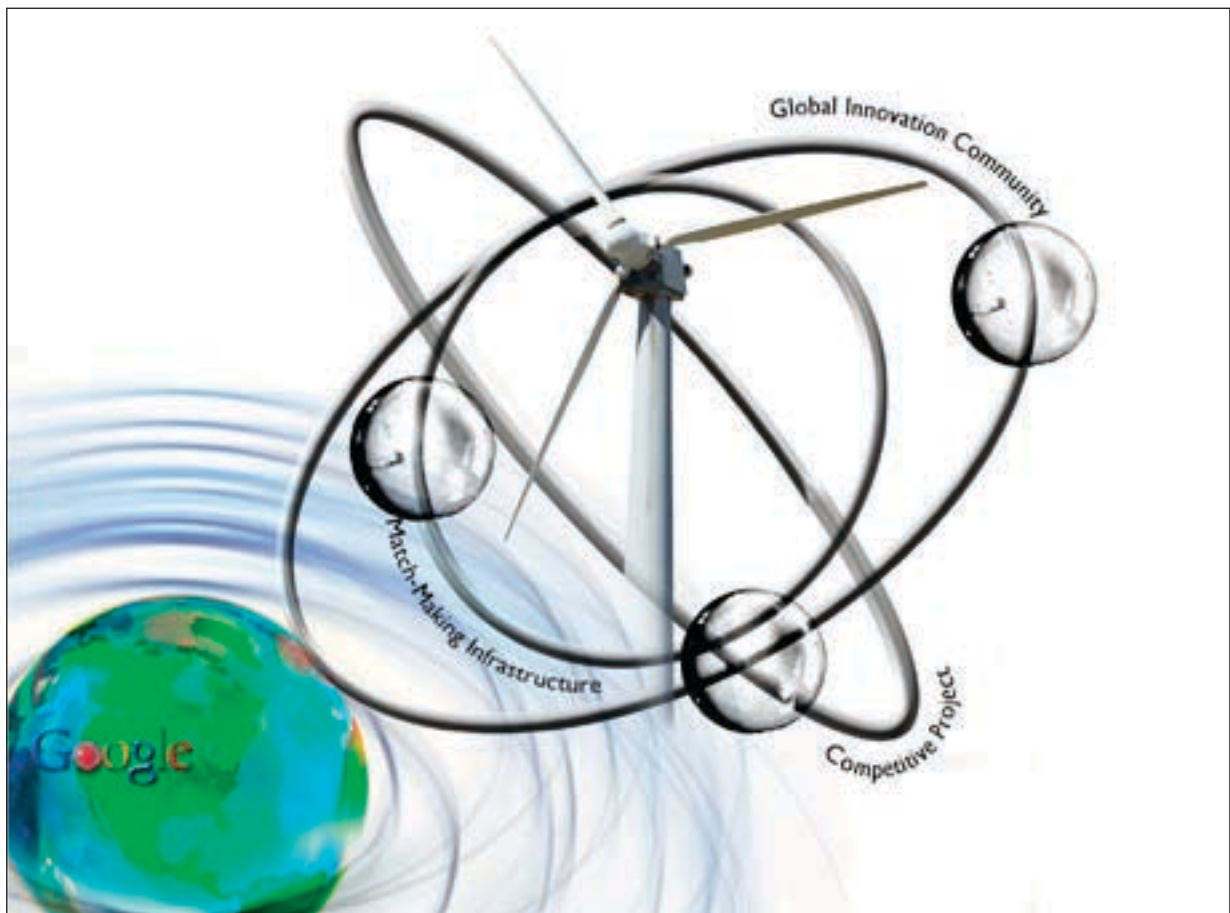
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Innovation Partnership: Eco-Schools

- Generates cross-sector partnerships to encourage innovation in schools
- Focuses on changing core operating practices while reducing risks of innovation
- Enables schools to become testing grounds for new technology that improves lives of residents
- Global business partners work with national and local organizations
- Schools compete internationally for best student-designed innovations

Harnessing Global Expertise: Matchmaking Clearinghouses Speed Climate Change Innovation

Lewis Milford



Courtesy Clean Energy Group

Clean Energy Group proposes that a new international climate innovation facility is needed to act as a matchmaking infrastructure to meet the challenges of climate recovery by creating a virtual Internet bazaar of experts to move technology ideas from lab to market.

Lewis Milford is president and founder of Clean Energy Group and the Clean Energy States Alliance, two nonprofit organizations that work with state, federal, and international organizations to accelerate the commercialization and deployment of clean energy technologies.

Distributed innovation is a well-documented approach to product development in corporate and public-goods sectors that could be used to shape climate technology strategies

and institutions. It would bring vitality, insight, and new solutions to the most difficult technology turnover challenge the planet has ever faced.

Global demand for energy is projected to more than double by 2050 and to more than triple by the end of the century. At the same time, annual global emissions must decline more than 80 percent from current levels to stabilize carbon concentrations

at a safe level. Even with significant energy efficiency improvements, the world in 2050 still will consume between 30 and 40 terawatts (tw) of energy — more than half of which must be carbon neutral (not increasing the amount of carbon being released into the atmosphere) to achieve the necessary reduction. Today, less than 2.5 tw of global energy consumption is carbon neutral. By 2050, we must develop and deploy on the order of 20 tw of new carbon-free energy — this is an eight-fold increase.

To put this starkly, we must in 50 years develop a carbon-free energy infrastructure larger than our entire existing energy infrastructure — all the power plants, vehicles, industries, and buildings on the planet today. To meet this massive challenge, we must not only accelerate deployment of existing technologies but also radically speed up technological breakthroughs.

AN UNPRECEDENTED INNOVATION CHALLENGE

Breakthroughs in the cost, performance, and scalability of climate technologies are necessary. The reason is simple — existing climate technologies at current costs and performance cannot meet the demand for carbon-neutral energy. Meeting a challenge of this scope requires innovation in every phase of technology development, from basic research and development to commercialization and dissemination.

A 2007 study found that existing carbon-neutral energy sources could only supply 10 to 13 tw of power by 2100 — less than half that needed to stabilize carbon dioxide, even at an unacceptable level of 550 parts per million (ppm) atmospheric concentration. Breakthroughs in new as well as existing energy technologies and sources will be required for stabilization at 550 ppm, and even more to reach 450 ppm, the level many scientists deem necessary.

Most experts agree that climate change recovery requires not only government-driven emissions caps but also aggressive innovation in climate technology. Accelerating innovation requires an internationally coordinated product research and development system to manage, coordinate, and speed innovation through global partnerships among private, government, academic, and non-profit organizations.

One such strategy is distributed innovation (DI), a modern collaborative method that channels dispersed and multi-sector expertise in alternative energy or product development into common efforts. DI is a well documented approach to product development in

corporate and public-goods sectors. It should be used to shape climate technology strategies and institutions. It is cheaper, virtual, and collaborative. It would encourage new public and private partnerships. Most important, it would bring vitality, insight, and new solutions to the most difficult technology turnover challenge the planet has ever faced. Wasting time on the old solutions makes little sense when more modern and effective forms of international collaborative innovation are waiting to be used.

ACCURATELY DISTRIBUTING THE EXPERTISE

How do we bring expertise that is widely distributed around the world to bear on developing specific products to meet either worldwide or local climate-change challenges? Existing global institutions such as the World Bank or the International Energy Agency have important missions, but shaping conditions to advance technology innovation challenges is not among them. A new institutional framework is needed at the international level. Whether part of an existing institution or as a new body, an “international climate innovation facility” would orchestrate innovation by “choreographing” and coordinating the actions of different types of experts across the globe.

A new facility would support innovative low-carbon solutions by overcoming legal, economic, and other obstacles along the value chain — the range of activities required to bring a product from conception through production to market. The facility also would solve intellectual property rights (IPR) problems and develop new finance and business models. The facility could be modeled after the Global Fund to Fight AIDS, Malaria, and Tuberculosis, an existing “public goods” institution linked to but independent of the United Nations and other agencies. The facility even could be virtual, removing the need for a new “brick-and-mortar” center.

The facility would employ the bottom-up, collaborative DI approach that has solved complex problems in private and public arenas. Some key characteristics:

- DI employs modern information technologies to link people of diverse expertise in different institutions and countries to work collaboratively on specific product development and deployment projects.
- DI connects specialists based in different sectors, including governments, private corporations, non-

profit organizations, and finance entities, as well as technologists and academic researchers.

- DI accelerates deployment of specific technologies.

Distributed innovation increases the speed and depth of knowledge dissemination beyond what is possible in conventional information-sharing and institution-linking networks. DI uses “innovation platforms” and other new “matchmaking infrastructure” tools that potentially can enable tens of thousands of people who otherwise never could have collaborated to review challenges and propose solutions. Contributors could be rewarded with financial incentives for “solution providers,” cash awards for technological solutions, or a negotiated value for intellectual property rights.

A DI approach would spur new international partnerships among governments, institutions, and individuals in developed and developing countries by building early linkages among all relevant actors (e.g., academic researchers, national laboratories, government agencies, private companies, financiers, utilities, installers, state deployment funds, and others). The partners would work together in the research, development, and financing processes. The result would be new, innovative, and synergistic cross-functional teams that bring opportunities to investors, funding for innovators, and solutions for consumers.

This decentralized bottom-up approach would improve global climate technology research and development policy by

- supporting the acceleration of *breakthrough* clean energy technologies and the scale-up of existing technologies by focusing on all elements of the value chain from lab to market;
- being product-focused — rapidly driving upstream research to downstream deployment within defined timeframes;
- addressing the whole technology value chain by filling in the gaps that block effective accelerated deployment;
- producing a replicable model for a broad suite of low-carbon technologies that could benefit from distributed innovation.

With this approach, a true portfolio of technology options can emerge, with initiatives maturing on different time scales — from short-term solutions to reduce emissions almost immediately, to mid-range commercial



Courtesy Clean Energy Group

Clean Energy Group advocates that governments should adopt the “distributed innovation” business strategies of companies like Eli Lilly and IBM that solve problems using ideas from outside their companies.

opportunities in the next five to 10 years, to longer-term energy innovations not yet imagined.

Coordinating key players from the funding and finance communities early in the research and development process would assure more efficient use of public and private funding. Investment capital could more easily shift from individual, “siloe” research projects toward specific product-focused projects. DI tools create incentives for private capital to finance technology earlier.

CURRENT OBSTACLES TO LOW-CARBON TECHNOLOGY INNOVATION

According to clean energy studies by the World Bank and the *Stern Review on the Economics of Climate Change*, several barriers inhibit public and private investment in clean energy research and the development, scale-up, and cost reduction of existing technologies:

- Carbon emissions are priced variably or not at all, creating too much risk in climate policy. This limits private investment in climate technologies.
- Recognized “valleys of death” — certain points in the development process when significant funding is needed — inhibit private investment.

- It is difficult to attract enough capital without reducing investor risk through specific government support.
- The technology needs of developing countries are especially underserved because of barriers specific to their condition, such as lower incomes and dispersed population.

CAP AND TRADE ALONE WON'T WORK

Global experts agree that a market-based cap-and-trade system alone will not deliver emissions reductions and technology innovation at the scale and speed necessary fully to address climate change. The *Stern Review* agrees that carbon pricing must be complemented by measures to develop technologies. Nicholas Stern writes, "...uncertainties and risks both of climate change and the development and deployment of the technologies to address it are of such scale and urgency that the economics of risk points to policies to support the development and use of a portfolio of low-carbon technology options."

There virtually is no dispute about that from any reputable organization, including the Group of 20 Finance Ministers and Central Bank Governors (G20), the World Bank, the Intergovernmental Panel on Climate Change (IPCC), the International Energy Agency (IEA), and the United Nations Framework Commission on Climate Change's (UNFCCC) Expert Group on Technology Transfer.

OVERCOMING TECHNOLOGICAL, ECONOMIC, AND POLITICAL ROADBLOCKS

A number of centrally coordinated international distributed innovation programs have resulted in successful technological innovations. Presented in this publication are two of them:

Innovations in Agricultural Value Chains focuses on removing market barriers, such as difficulties in safe processing, in the production and delivery of cassava, maize, and dairy products in Kenya and Ghana. The project demonstrates how a centrally coordinated distributed innovation approach can produce concrete results in developing innovative technological solutions in industries requiring accelerated product development in difficult markets.

Lighting Africa serves as a partner clearinghouse to facilitate international collaboration among an assembly

of public and private sector partners. It is modeling a distributed innovation approach to accelerate product development to bring modern off-grid lighting products to this "bottom of the pyramid" population. Starting with lighting and advancing to additional energy services, Lighting Africa acts as broker between private companies and customers to create markets for better products.

Also presented in this publication is a case for using distributed innovation to accelerate product development in a the highly technical area of advanced marine-based renewable energy solutions. While the opportunity for marketing these products is significant, development costs are extremely high and funding is more difficult to obtain. An internationally coordinated market acceleration approach that taps distributed knowledge and experience could support rapid cost reduction and remove other barriers.

THE NEED FOR STRUCTURAL REFORM

The technology innovation required is so great, and the roadblocks so significant, as to require a structural reform at the international level. Indeed, many countries, including members of the European Union, are already well aware of the benefits of international collaborative research and development, including "pooling financial resources, sharing risks and setting common standards for large or relatively risky R&D projects ... and supporting technology deployment in and technology transfer to developing/emerging countries," according to research by the European Commission.

The world is searching for new ways to collaborate on climate technology innovation. The need for collaboration is obvious and well documented. A challenge of this scale requires creative new strategies and structures beyond conventional networks, information sharing, and bilateral research programs. Needed are ways to accelerate product development and innovation and to scale up clean-energy technologies. ■

Linking International Experts, Solving Local Agricultural Challenges

Jessica Morey

Jessica Morey is a project director with Clean Energy Group. She works primarily on CEG's International Climate Change Technology Innovation Initiative, as well as assisting CEG's Clean Energy States Alliance (CESA), a coalition of state programs working together to support clean energy technologies and markets.

A collaborative project in Kenya and Ghana demonstrates how a centrally coordinated distributed innovation approach can produce concrete results in developing innovative technological solutions in industries requiring accelerated product development in difficult markets.

Innovations for Agricultural Value Chains in Africa is a Gates Foundation-funded collaborative project that focuses on removing market barriers, such as difficulties in safe processing, in the production and delivery of cassava, maize, and dairy products in Kenya and Ghana. This project demonstrates how an internationally coordinated collaborative approach can produce concrete results in industries requiring accelerated product development in geographic areas that are difficult to reach.

At the heart of the project is the non-standard process of involving internationally distributed expertise from non-agricultural disciplines — a form of “open innovation” — to analyze problems from fresh perspectives. This interdisciplinary group identifies and recommends creative technology solutions to overcome value-chain gaps and improve markets for small farmers. This centrally coordinated collaborative approach focuses on joint research as well as joint product and market development. Rather than leading to another study, the project produces concrete steps to develop and deploy technology solutions.

While this project focuses on deficiencies in the cassava value chain in Africa, the types of challenges are shared across the entire agriculture sector in many developing countries. These barriers undercut farming operations, distort costs, and prevent small farmers from



Courtesy of Photoshare

Cassava is a critical crop in sub-Saharan Africa for food security and for potential value-added market opportunities, but constraints have hindered the efficiency of cassava markets.

receiving the real value of their commodities. Worse, climate change may reduce agricultural production capacity in Africa and beyond, affecting the poor most adversely. While this program indirectly addresses some challenges of climate change, the process described could be used in developing other solutions that directly respond to specific needs resulting from climate change, such as in developing sources of renewable energy.

The cassava value chain exemplifies the success of an open, collaborative approach to market acceleration. Cassava is a critical crop in sub-Saharan Africa for food security and for potential value-added market opportunities. However, major constraints have hindered the efficiency of cassava markets.

One challenge is the presence of toxic cyanogenic compounds in raw cassava roots. Although many millions

of people safely eat cassava every day, the cyanogens, if inadequately processed, can pose serious health risks, including acute intoxication, which can cause nausea, dizziness, vomiting, and sometimes death. An analysis of the value chain by an interdisciplinary group in partnership with local farmers revealed a number of barriers:

Storage: Because unprocessed fresh cassava roots spoil within 48 hours of harvest, farmers sometimes delay harvesting until they have buyers, leading to high land consumption.

Processing: Separate steps are involved, each posing challenges:

Root preparation: Peeling, slicing, and grating are critical to safely consumable cassava but also are labor intensive and non-mechanized.

Drying: Because cassava roots are 70 percent water by volume, drying is a critical step for many processed cassava products. Most farmers rely on the sun for drying, but this is difficult during the rainy season and can delay processing and shipping. The longer drying period can permit molding and destroy the cassava. This seasonal problem affects the price of cassava products throughout the year.

Consultation between affected farmers and international science teams produced several effective responses to the cassava storage and processing issues, including:

The “Ca-Say-A Bag.”

Two component bag liners for cassava that slow deterioration by blocking oxygen and consuming existing oxygen within the bag; **Mechanized** scale root peeling and grating technologies;



Bill and Melinda Gates examine ground cassava. Innovations for Agricultural Value Chains in Africa is a Gates Foundation-funded collaborative project that focuses on removing market barriers.

Courtesy Bill and Melinda Gates Foundation

Improved mechanized dryers and new cost-effective approaches to drying, including use of renewable energy sources.

One example of a technology conceived by the team is the “Cassava Tuberator” micro-dryer. Cassava chips of various sizes are fed into a vertical cylinder of forced heated air. As the chips dry, they become lighter. They rise in the tube and are ejected when the moisture content is correct. A volume of chips can be dried in hours rather than days, and the process is more sanitary than sun drying. This also resolves the challenge of using expensive fuels, such as diesel, and provides needed energy-source flexibility.

Maize and dairy value chains demonstrated similar gaps and

inefficiencies across the production process, and the team of international scientists and local farmers developed a number of specific technology and product concepts to overcome these.

Of the hundreds of innovative ideas generated, 22 were selected for further development and five are being refined for implementation. One concept, a modified plastic tank for maize storage, is being prototyped and deployed in Kenya, and other ideas are being linked with potential financiers. These ideas would not have been generated without the coordinated involvement of distributed expertise around the globe. ■

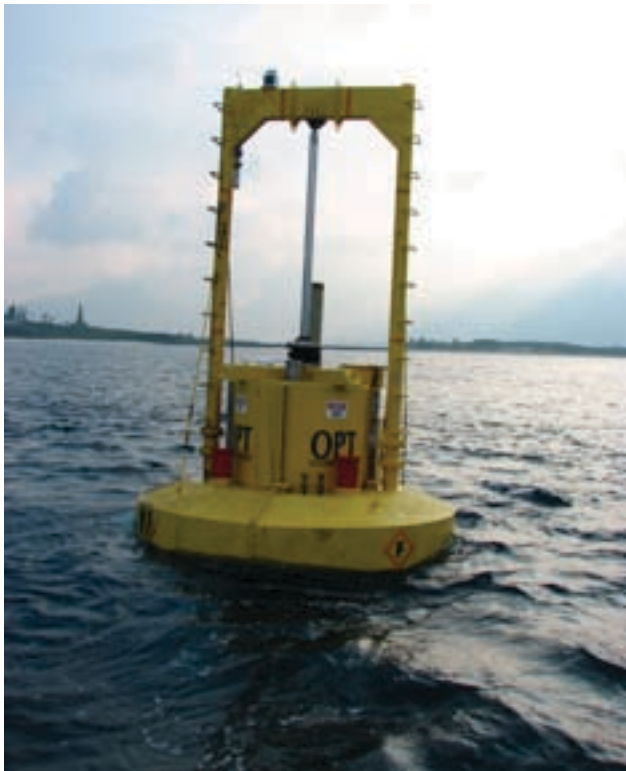
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International Collaboration: Agriculture

- Coordinates distributed innovation approach in difficult markets
- Involves interdisciplinary non-agriculture international experts
- Identifies and recommends creative but practical technology solutions
- Presents specific product models to be considered for implementation
- Refines product development process for replication in other industries and sectors

Getting Energy from the Ocean: Tapping Dispersed Knowledge

Jessica Morey



Courtesy Ocean Power Technologies Inc.

Anchored about a mile offshore near Hawaii, the Ocean Power Technologies PowerBuoy looks like a traditional buoy. It rises and falls on waves between 3 and 22 feet tall, driving a hydraulic pump that converts the motion into electricity through an onboard generator. The electricity is transmitted to shore through an undersea cable.

The marine energy industry faces a number of hurdles that could be overcome using distributed innovation, a coordinated international collaboration effort, to accelerate the market by tapping into solutions globally.

Estimates suggest that power generated by tidal waves and streams could meet upwards of 15 to 20 percent of global demand for low-carbon energy. Hydrokinetic (wave, tidal, and current) power technologies could harness these widely available major energy sources — and mitigate climate change — in developed and developing countries alike.

Despite the large commercial opportunity, marine energy faces significant hurdles. Costs are much higher

than for conventional and some renewable power sources. Moreover, no single technology has emerged as an industry leader, and more than 75 developers are competing globally for limited public and private investments.

Other significant challenges have slowed marine energy development and kept costs high:

- testing in expensive, risky, and harsh marine environments;
- accessing the power grid from remote locations;
- managing unknown environmental impacts;
- wading through regulatory thickets involving multiple federal and local agencies.

In addition, the industry is dominated by a large number of small start-up companies, contributing to a lack of information-sharing and a certain amount of “reinventing the wheel.” These small companies also frequently lack adequate funding to bring their marine technology devices to market.

APPLYING DISTRIBUTED INNOVATION

The question for policymakers is how to catalyze rapid cost reductions and accelerate the market to overcome these barriers. The answer could be an internationally coordinated market acceleration approach that taps distributed knowledge and experience, such as the distributed innovation (DI) approach outlined in the “Harnessing Global Expertise” article in this publication. This approach would support fast learning and could help lower costs dramatically.

“There is an immediate need for everyone to work in tandem.” — UK Marine Action Plan 2010.

A report by the United Kingdom Renewables Advisory Board recommends “a more collaborative approach to [research and development] projects between industry, academia and [g]overnment, with pro-active and closer management of [these] projects. This will help ensure that projects are focusing on tackling the correct

problems, that opportunities for information exchange are taken, that projects are generating relevant research information, and that as many results as possible are published.”

An international distributed innovation approach to accelerate the marine energy market should be encouraged for a number of reasons:

- **Any setback with a particular device negatively affects the entire industry.** Because the industry is so small, failures tend to stand out disproportionately to the technical challenge. One device developer noted, “every time there is a failure you lose a couple of months across the whole industry.”
- **The capital requirements to advance the industry are huge,** estimated to be on the order of \$750 billion by 2020, and costs have proven to be higher than expected.
- **The marine energy market, like all clean energy technologies, is global.** Developers are working outside their own countries, and this will continue.

Collaborative approaches can remove market barriers and accelerate the marine energy industry in areas such as

- *Modeling* — Improved computer models to assess device performance and costs could significantly reduce development costs, and the information could be shared internationally between test facilities and university laboratories.
- *Testing facilities* — Currently there are no open sea test facilities in the United States, and only a few sites are being developed in the UK and Ireland. Sharing experience and skills across countries could rapidly improve the performance and costs of testing facilities.
- *Device performance and cost data* — The industry, investors, and the public sector need more cost and performance data to make sound private business decisions and give the public sector confidence in its investment.
- *“Balance of systems” technologies* — Cost reduction can be found not only in design improvements, which make up only 20 percent of installed

marine energy costs, but also in balance of systems (BOS) — improved anchoring, better electrical infrastructure, and innovative ways to conduct installation, operation, and maintenance.

- *Partnerships* — Encouraging these across the industry, especially between small developers and larger engineering firms and utilities with financial resources and project development experience, could greatly accelerate technological development.
- *Managing environmental and regulatory risks* — Collaboration and cooperation would reduce the effort required for environmental assessments and other regulatory processes. A U.S. study concluded that many industry participants “found the lack of knowledge or lack of access to [existing environmental and regulatory] information just as limiting as the lack of funding for [new] studies.”

The marine energy industry faces a number of hurdles that could be overcome through a coordinated



A number of small start-up companies dominates the marine energy industry, contributing to a lack of information-sharing and “reinventing the wheel.” Small companies often lack adequate funding to bring their marine technology devices to market.

international DI effort to accelerate the market by tapping into solutions globally. Despite the promising results of this approach in other technology areas, no project is yet underway to accelerate the marine energy market globally through open innovation. The U.S.

Department of Energy, however, has indicated interest in starting an international marine collaboration. ■

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International Collaboration: Marine Energy

- Proposes international distributed innovation approach to high-tech development
- Identifies major barriers to development of innovative products
- Promotes awareness of activity occurring in the industry
- Outlines specific areas that international collaboration would facilitate
- Presents significant opportunity for harnessing wave, tidal and current energy

Coordinating Bright Ideas Yields Off-Grid Power in Africa

Lindsay Madiera



Courtesy Lighting Africa



Courtesy Lighting Africa

Lindsay Madiera is a consultant for the International Finance Corporation (IFC), the private sector arm of the World Bank Group, where she has been supporting the initiative, Lighting Africa, since its launch in 2007.

Lighting Africa's success illustrates the direct benefits of a centrally coordinated public-private distributed innovation effort to help nascent industries mature and to achieve full-scale commercialization of new technologies. Such efforts could be equally successful in responding to climate change.

The Lighting Africa project acts as broker between private companies and customers to create markets for better lighting products and to reduce reliance on kerosene fuel.

The Lighting Africa project has helped more than 70 product types manufactured by 50 companies find space on African retail shelves, up from just 10 in 2008, and to lower the prices of good-quality products from higher than \$50 to a range of \$25 to \$50.

Today, 1.6 billion people worldwide and more than 500 million in Africa lack access to electricity for basic needs such as household cooking and lighting. The number in Africa is expected to rise over the next 20 years to nearly 700 million. These people rely predominantly on fuel-based cooking and lighting (mostly with charcoal, wood, and kerosene) that is inefficient, costly, dangerous, a threat to human health, and a contributor to greenhouse gas emissions.

Lighting consumes the highest percentage of expenses for energy in the home; African consumers spend between \$10 billion and \$17 billion on kerosene for lighting. To improve this situation, public and private sector partners are modeling a new distributed innovation approach — acting as market makers — to accelerate product innovation that will bring modern off-grid lighting products to this “bottom of the pyramid” population.

PRIVATE SECTOR CANNOT DEVELOP THE MARKET ON ITS OWN

Advanced modern lighting technologies have the potential to replace kerosene with better consumer products, but substantial barriers block commercial markets for these products in the developing world. Moreover, the private sector is ill-equipped to capture the market on its own.

Lighting Africa, a World Bank and International Finance Corporation (IFC) joint program, acts as a partner clearinghouse to facilitate international collaboration to address these problems. Starting with lighting and advancing to additional energy services, Lighting Africa acts as broker between private companies and customers to create markets for better lighting products. By supporting the development of improved products and business models, it helps provide practical, affordable alternatives to kerosene.

An essential role of Lighting Africa is as a “matchmaker” between industry groups and other relevant stakeholders such as non-government organizations (NGOs), local governments, academia, financial institutions, and international development organizations. By matching products to buyers, Lighting Africa helps provide African consumers with modern lighting options at affordable prices, substantially improving their lives and reducing the impacts of climate change.

Without intervention, a number of barriers that have been addressed through this distributed innovation approach would have inhibited the development of markets for better lighting products in sub-Saharan Africa, South Asia, and other parts of the world:

- lack of understanding and high transaction costs that deter the private sector from fully appreciating the market opportunities;

- lack of consumer awareness about the benefits of off-grid lighting, resulting in poor consumer purchasing decisions;
- lack of product quality assurance and technical support services, resulting in fewer products and compromised quality;
- policy and regulatory impediments such as import duties, customs issues, and market-distorting subsidies that undermine creation of sustainable markets;
- lack of business support services and access to business networks/partners;
- limited access to finance along the supply chain, undermining purchasing power.

RESPONSE

Lighting Africa reduces barriers and promotes rapid market acceleration by providing market intelligence and consumer education, business support services, and policy and public sector operations. Two of its most visible services involve providing quality assurance and access to financial assistance.

A multi-pronged approach to quality assurance helps manufacturers design high quality products and protects consumers from buying poor quality ones. Lighting Africa accredits test labs near manufacturing centers (mostly in Asia) and builds local testing capacities at universities to provide manufacturers access to a “quick screening” of their products. The project also works with local regulators and collaborates with the new International Stakeholder Association to develop a “quality seal” to help buyers make informed decisions.

Lighting Africa partners with commercial financing institutions to educate them about the business opportunities in this sector and supplies them with wholesale capital and risk mitigation tools to guide them in financing participants throughout the supply chain. The project also is considering offering direct financing to organizations such as E+Co and Acumen Fund, which provide project funding in developing countries.

Partnering with microfinance institutions and leveraging innovations in mobile banking also better enables consumers to finance their purchases of these products. The project’s strategy is to create self-sustaining markets that make efficient, carbon-friendly products affordable to consumers rather than rely on often limited and short-term donor funding.

RESULTS

Early evidence shows that the project's support has helped accelerate many parts of the market for modern off-grid lighting in sub-Saharan Africa. In 2008, fewer than 10 products were developed specifically for this market; today more than 70 product types manufactured by 50 companies find space on African retail shelves. Also in 2008, products above \$50 dominated the market; now many quality products retail between \$25 and \$50. Manufacturing costs of solar portable lighting are projected to decline by 40 percent per year, largely due to falling solar photovoltaic (PV), battery, and light-emitting diode (LED) prices.

Lighting Africa's success illustrates the direct benefits of a coordinated public-private effort to help nascent industries mature and to achieve full-scale commercialization of new technologies. Lighting Africa also is an excellent example of the important role a neutral international organization can play in facilitating this kind of coordinated action to develop and distribute products that are urgently needed in high-risk environments. ■

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International Collaboration: Lighting Africa

- Illustrates direct benefits of centrally coordinated public-private distributed innovation effort
- Promotes awareness of safety risks of kerosene fuel
- Matches international partners to collaborate on new non-fuel lighting technology
- Reduces inherent barriers to long-term market development in poorer areas
- Develops affordable lighting for those living outside power grids

Ceres: Greening Corporations, An Interview with Mindy Lubber

Mindy S. Lubber is President of Ceres, a coalition of investors, environmental organizations and public interest groups that pioneered corporate partnerships to address global climate change by integrating sustainability into capital markets. She directs the Investor Network on Climate Risk (INCR), and is the recipient of the Skoll Social Entrepreneur Award. Ceres has been awarded Global Green USA's 2009 Organizational Design Award and Fast Company Social Capitalist Awards in 2007 and 2008. Before coming to Ceres, she was the Regional Administrator of the U.S. Environmental Protection Agency and Founder/CEO of Green Century Capital Management, an investment firm managing environmentally screened mutual funds.

Ceres was founded in 1990 by a group of environmentalists and investors who had, in Lubber's words, "a joint mission to assure that large companies are factoring in the impact of environmental sustainability issues into what they do and how they work."

Question: How did Ceres begin?

Mindy S. Lubber: Investors cared about environmental impact because they worried that companies that ignore environmental issues do so at their financial peril. They do not fully incorporate the risks of toxic spills, of not being prepared for climate change, or of water shortages. So we came together right after the Exxon Valdez oil spill [1989]. It was not about confrontation, but about saying the impact of business practices on our environment and on our economy is profound, and we need to raise the standards for sustainability within capital markets.

Q: How long did it take to get corporate attention?

Lubber: It took a couple of years to make the case that it really was in a company's best interests to address sustainability, climate, and other environmental issues. That was a new concept in the early 1990s. We asked companies to support an ethic of environmental sustainability principles. Getting companies' support takes time. They don't just support things — their lawyers read it, their boards read it, and their CEOs read it — as they should. People said it was never going to happen,



Social entrepreneur Mindy Lubber is president of Ceres.

Courtesy of Ceres

companies would not support a set of serious principles, but they did. And that started many long-lasting and fruitful relationships.

We said companies need to be doing more. The first thing to do is disclose their sustainability footprint. We designed something called the Global Reporting Initiative, which has become the international gold standard for corporate reporting on sustainability. And we were told nobody would do that, but we now have 1,695 multinational companies who do sustainability reports built off the Global Reporting Initiative. Just as we expect companies to do a financial report, we expect companies to do a sustainability report. What is their carbon footprint? How are they addressing it? What are their toxic waste dumping practices? We design a reporting system that not only informs the public, neighbors, and investors — people who own companies — so they understand the potential risks and liabilities companies might have from sustainability issues. So there

has been a progression of impact, results, engagement, and convening, but it has taken time.

Q: Has interest in sustainability best practices grown?

Lubber: Fifteen years ago when we talked about best practices for corporations fully reporting their sustainability footprint from human rights to the environment, it turned out to be not only about disclosure, but companies learning how to look at their impact. Indeed, we learned that what gets measured gets managed. When companies measure their risks, from water shortages to toxic spills, they manage them better. From the mid-1990s to 2000 companies were getting a handle on sustainability as it relates to their companies, how they measure it and how they manage it. In the next five years we worked with companies on specific initiatives: How could they build better facilities, or integrate sustainability into their products?

Now we are not debating whether sustainability and climate issues are legitimate capital market issues. We have 8 trillion dollars' worth of members in our investor side of Ceres [Investor Network on Climate Risk] saying that these are real investment risks and opportunities. We have 82 companies that are partners in integrating sustainability from the boardroom to the copy room. The U.S. Securities and Exchange Commission (SEC) now requires companies to disclose the material risk from climate in their reports to the SEC.

Ceres recently published a study about the 21st-century corporation: It's more than principles, disclosure, or one-off deals; it is now the expectation of stakeholders, consumers, neighbors, labor, and investors that companies integrate sustainability throughout the food chain.

So the expectations have grown. It is no longer a one-off "We do a great recycling project. Aren't we a good environmental company?" We push them, work closely and stay with it, in a collegial, partnership way. We are very specific about the expectations and we write them down. Our position is that each corporation needs a board committee that looks at sustainability, and an executive officers' compensation, in many cases, should be tied to sustainability metrics, as it is to a hundred other metrics. Sustainability officers should be elevated to

the executive suite and report to somebody who really is managing the whole enterprise.

The world had progressively changed, we have moved from sustainability in word to sustainability in deed.

Q: Does association with Ceres and similar groups enhance the corporate image?

Lubber: Affiliating with Ceres or other organizations sends a very clear message to employees. Companies want to be on the leadership team. They want to do what is right. They are willing to be transparent, and that's a good thing. Being out there with credibility — which is required if they are going to work with us — is value to their investors, who are now asking questions about how companies are addressing sustainability, and to their consumers.

Q: What are the most effective components in corporate climate change partnerships?

Lubber: The most important elements that mean success are companies changing their practices. Not talking about it, but changing. It's happening, still piecemeal, but it's starting, and the more we see change, and the more we can help companies change, the better.



Courtesy of Ceres

Q: Can you give some examples of successful partnerships with Ceres?

Lubber: The fact that all of our companies are executing thorough sustainability reporting is an example of mass success, as is filing a legal petition with the SEC to require better disclosure of sustainability reporting.

But more specifically, American Electric Power, a large emitter of carbon, is not your traditional "green" company. We started working with them about four years ago, first on a broad-based sustainability report on the economics of being a utility that emits carbon. We worked directly with their board members on a detailed study of how they need to slowly back out of a largely coal-fired utility. We then worked with them to integrate sustainability in a broad way across the company, and they did one of the better sustainability reports. They are starting to sell more energy efficiency than they



Wikipedia Commons

Ceres' partner American Electric Power owns Desert Sky Wind Farm in west Texas. The site includes 107 turbines, each rated at 1.5 megawatts spread over a 15-square-mile area. Mindy Lubber, Ceres president, says AEP is "starting to sell more energy efficiency than they sell coal or electricity built off of coal."

sell coal or electricity built off of coal. They have made sustainability a hallmark of what they do.

We just worked with Dell on redesigning their entire environmental program, and hosted a meeting with fifteen stakeholders from around the world to push Dell on what the company's priorities ought to be, the changes they ought to make, and how they ought to do things.

We've worked with National Grid, whose chief executive officer now has metrics on compensation based on carbon footprint reduction. They are integrating sustainability into compensation, which we ask companies to do.

Q: Does integrating sustainability contribute to profits?

Lubber: Most of the time. The very tricky piece of sustainability is that companies are evaluated on what they spend and make over very short periods of time. The results from sustainability initiatives often don't show up over these three- or six-month periods.

But there is a reason why Wal-Mart has made sustainability their hallmark these days. They've saved an enormous amount of money. They've generated an enormous amount of enthusiasm in their work force. They are having better luck hiring the best and the brightest out of the top business schools because they are seen as a sustainability leader. So in their case, they are saving money, they are making money, it is good for business.

In some instances it takes a bit longer. You can't see it immediately. Insurance companies that are addressing climate change don't want more Hurricane Katrinas where they are paying out 40 billion dollars in liabilities. They'd like to see climate change mitigated, but they see results over time.

When Dell redesigned their computers so there is less toxic waste, and their practices to include strong "take back" policies — rather than dumping computers in landfills where toxic chemicals go into our water supply — it cost them a lot of money at the outset. But they believe, and we believe, that in the long term it's going to increase their market significantly.

Q: Is "greenwashing," where companies falsely present themselves as environmentally friendly, a problem?

Lubber: I am desperately concerned about greenwashing on a regular basis, which is why Ceres doesn't give the companies we work with a "green star" or "green plus." Any company, even those taking steps forward, is going to find things that are hugely problematic. So we push companies to be transparent and detail-oriented. If they've done something good, they have to tell what the results were.

Q: Are you optimistic about the direction corporate environmental partnerships are headed?

Lubber: I think enormous change has come, but there is a long way to go. It is very important that we are no longer debating whether sustainability is a business issue. Wall Street firms are putting out sustainability and climate change analytics every day. Bloomberg has an environmental sustainability platform for how to analyze companies. The SEC has mandated it and companies are doing it. Now the goal is to move companies to act in a much more comprehensive way. The good thing is they are open, they are listening, they understand there is a business proposition, and we are trying to move them ahead as fast as we can. ■

The opinions expressed in this article do not necessarily reflect the views or policies of the U.S. government.

Climate Partnerships Resources

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