

*Bracken Hendricks, Aimée Christensen, and
Ronald Toussaint*

Green Reconstruction

Laying a Firm Foundation for Haiti's Recovery

In building back a better, stronger, more resilient Haitian society from the rubble of this tragic earthquake, the question to put before Haiti and the community of nations is not whether to build back green but, rather, what possible justification could there be to shortchange the Haitian people by locking in wasteful, unhealthy, and unsustainable practices when smarter solutions exist?"

The answer is self-evident, but the urgency of the disaster response, along with improper accounting of the real costs and benefits of reconstruction decisions, could easily stand in the way of realizing the current opportunity. Haiti has a strong interest in a reconstruction process that not only rebuilds critical infrastructure to address pressing short-term needs and a simmering humanitarian crisis, but also lays the foundation for long-term growth, develops local economic assets, and improves access to vital services. The global community has a clear obligation to ensure that the reconstruction of Haiti's infrastructure increases economic resilience by adding value to existing indigenous assets and reducing vulnerability to external shocks, whether from natural disasters like earthquakes and hurricanes, or man-made crises like spiking energy prices and declining agricultural productivity.

Bracken Hendricks is an Advisor to the Clinton Global Initiative on technology, infrastructure, and environment, and a Senior Fellow with the Center for American Progress. Hendricks is the co-author of the book Apollo's Fire: Igniting America's Clean Energy Economy with U.S. Congressman Jay Inslee (D-WA), and was a Co-Founder and first Executive Director of the Apollo Alliance for good jobs and clean energy. He has advised the Obama administration, members of congress, and other elected leaders on global warming solutions and economic policy.

Aimée Christensen is the Founder and CEO of Christensen Global Strategies.

Ronald Toussaint is Senior Technical Advisor in International Cooperation in Environment with the Haitian Ministry of the Environment.

Hendricks was the leader of the "Enhancing Access to Modern Technology" action area for the Clinton Global Initiative's 2010 Annual Meeting.

In short, the reconstruction of Haiti must not only stop the bleeding, it also must ensure that future injuries are prevented and community health is restored. A sustainable reconstruction can expand opportunity by investing in local entrepreneurs and supply chains that build Haitian industries. Greening the recovery will also position Haiti to thrive in the coming low-carbon economy, which will punish wasteful resource use and reward innovation and human ingenuity in

A sustainable reconstruction can expand opportunity by investing in local entrepreneurs and supply chains that build Haitian industries. Greening the recovery will also position Haiti to thrive in the coming low-carbon economy, which will punish wasteful resource use and reward innovation and human ingenuity in using resources in ways that yield higher quality economic and social outcomes.

using resources in ways that yield higher quality economic and social outcomes.

This paper highlights a strategy for coordination across the redevelopment process, identifying the roles different partner groups can play in accelerating the consideration of more sustainable reconstruction options and applying a more intelligent screening of proposals already on the table. It also identifies several priorities for that coordinated effort as the rebuilding process gets underway.

The nature of sound economic development has fundamentally and forever changed in a world where global warming is a reality,

and where resource constraints increasingly govern access to the basic building blocks of growth, from topsoil to fresh drinking water, clean air, and abundant affordable energy. Sound use of natural resources is now a basic condition of effective development, not a nicety or luxury. Any development plan that doesn't account for resource constraints at the front end will become a less effective and potentially dangerous roadmap for the future.

In developed countries where a mature infrastructure is in place, retooling electricity grids for the distributed use of renewable power, retrofitting homes and workplaces for greater energy efficiency, and reengineering municipal infrastructure to use natural systems to treat wastewater more effectively will require massive investment. In developing countries, especially where natural disasters, the ravages of war, or rapid urbanization and population growth demand that new infrastructure be built from scratch, it is imperative that we not squander the

opportunity to build back better by applying the hard-won wisdom of a century of industrialization.

Making smarter, more efficient development decisions has become a precondition for continued prosperity. Nowhere is the potential to get this right better teed-up than in the reconstruction of Haiti, which is currently under way. Billions of dollars will be spent in coming years by governments, civil society, and the private sector. These investments present an unprecedented opportunity to re-imagine both urban and rural development, and to rebuild using natural systems as economic assets.

Greening the Haitian redevelopment process will involve developing domestic renewable energy resources; constructing healthier and more resource-efficient green buildings; investing in state-of-the-art and technologically “smart” electricity grids that encourage well-networked and distributed generation of energy close to the point of use; designing more flexible and accessible urban and transportation infrastructure; promoting the use of more energy- and resource-efficient appliances and consumer products; and recognizing the ecosystem values provided by watershed restoration and forest stewardship that allow nature to provide critical services at a fraction of the price of massive engineered infrastructure projects.

Each of these infrastructure design choices can be made with an eye toward local economic impact. Done right, these public investments can drive robust capital formation within communities, incubate small businesses, and support vibrant local economies. Sustainable reconstruction will steward not only environmental conservation and promote efficient use of limited resources, it will also cultivate a more vibrant and resilient Haitian economy by building local businesses and empowering the Haitian people to make this change. But reaching this goal will not happen by accident; it will depend on sound strategy, design choice, and careful planning. This is a pivotal moment for the success of Haiti’s green reconstruction, which will depend on aligning incentives for development that simultaneously promote economic growth, environmental integrity, and community reinvestment.

REALIZING THE OPPORTUNITY AT HAND

Even before the earthquake, Haiti’s devastated natural systems were unable to support the country’s economic or food needs, or the basic security and safety of its people. With deforested hillsides unable to store water, storms and related flooding regularly led to the death and displacement of thousands of Haitians.¹ The land lost productivity, as the most fertile topsoil was washed down steep grades into the ocean. The degradation of these natural systems was directly tied to the lack of energy to meet the needs of the people of Haiti, in both rural and urban areas.

Development, infrastructure, and conservation are intertwined. Trees are cut down in part to expand agriculture to meet the growing population’s need for more land, but they also are cut down to make charcoal for cooking fuel, which is

used in both rural and urban areas. As the soil washes away, it fills rivers and reduces the ability of hydroelectric dams to generate power, thus impeding the country's major source of electricity.

Because energy systems and land management are so closely linked, and because handling both most effectively is fundamental to sustained economic growth, the rebuilding of Haiti should include investment in two important areas: large-scale restoration of the nation's watersheds (e.g., tree planting), and expansion of sustainable energy services in both urban and rural areas. Haiti's current cyclical predicament, where environmental degradation constrains economic opportunity and growth pressures further degrade underlying natural resources, illustrates clearly that all economic reconstruction must be seen through the lens of environmental sustainability in order to be effective.

Fortunately, there are resources in the pipeline to begin meeting these challenges. Through the formal donation process, some \$9 billion has been committed to Haiti's recovery and development.² This presents a tremendous opportunity to consider the real needs of a nation that even before the earthquake suffered from dire poverty and economic insecurity. Therefore, it is essential that reconstruction efforts recognize that unless Haiti's natural systems are restored and Haiti's energy services expanded in a sustainable way, Haiti's recovery will be undermined at every turn. As one observer noted, "The land is so degraded that just one storm or quake can undo a decade's worth of progress."³

To do the job right, the Haitian government and major donors can prioritize the greening of Haiti, especially through local investments and by aligning community interests. This will provide the vital foundation for Haiti's broader economic, health, safety, and security needs. As Helen Clark, chair of the United Nations Development Program (UNDP), has said, "Planting trees is not just some quaint side project. It's the key to rebuilding the country."⁴

The Millennium Ecosystem Assessment has exposed disturbing global trends in our current patterns of resource use that compromise the natural systems that are the foundation of all prosperity. If the current degradation of soils, forests, water, and atmosphere persists, not only will we fail to meet millennium development goals, but further suffering will be baked into the structure of our economy. Greening the master plan that governs donor aid to Haiti is not a luxury, it is the key to sustainable success in this critical effort.

There are other resources that will be deployed outside the formal donor process, including those from the private and nonprofit sectors. These resources may prove to be more nimble, and if strategically deployed they can increase the impact, improve the likelihood of success, and decrease the cost of formal governmental reconstruction. The UNDP, for example, coordinates a series of ecosystem restoration projects, including tree planting and mangrove restoration in coastal areas. Not only can they inform the use of funds by emphasizing the importance of community-based investment in ecosystem restoration, they also can help steer both the \$9 billion and additional private donor resources toward infrastructure projects that engage local economies in conservation.

However, for a green and locally grounded reconstruction strategy to take root, it cannot only be driven by donor contributions. A major goal of reconstruction is the restoration and strengthening of the Haitian economy. Therefore, business models, markets, and economic opportunities are essential for much of the heavy lifting in the shift to sustainable development strategies over the long term.

Many international corporations are already working in Haiti, directly or through their foundations, to support the recovery efforts. These institutions bring business knowledge and operational capacity, which can help launch joint ventures and provide new sources of capital to local projects through direct investment or innovative tools, such as carbon financing. These investments will help build lasting economic resilience if they focus on strengthening local supply chains, which will create a legacy of Haitian jobs and entrepreneurship. For instance, the non-profit Technoserve has partnered with Odwalla juices to grow mangoes sustainably. This has brought additional capital investment into the agricultural economy and created local distribution networks and economic empowerment, while also creating a market for sustainably harvested products. Linking conservation goals to local development can align economic and environmental interests in powerful new ways.

GETTING THE PLANS RIGHT FOR ECOSYSTEM RESTORATION

The restoration of Haiti's watersheds will increase soil fertility and protect local communities while also creating and securing agricultural jobs. Watershed restoration also has the potential to supply tree-based and other agricultural crops that bring in additional income and new value-added production to local economies, and new sources of energy. For instance, using the Port-à-Piment watershed in southwestern Haiti as its a model, the Haiti Regeneration Initiative has set a goal of identifying best practices for long-term watershed restoration. This pilot project will provide a template for designing integrated watershed management programs that will combine reforestation, agro-forestry, sustainable energy, and flood risk management activities, and it will be replicable for use in other watershed areas throughout Haiti. If integrated into the broader reconstruction effort, this type of forward-thinking redevelopment strategy can begin to lay the groundwork for the development of business models that provide long-term economic stability.⁵

Similarly, new approaches to energy development will expedite the rebuilding effort and can build local economic opportunity, create new revenue streams for existing businesses, develop entirely new markets, and provide cost savings and enhanced productivity to regional economies. The Solar Electric Light Fund is using donor capital to finance the solar electrification of five health clinics in Haiti for Partners in Health. In the aftermath of the earthquake, facilities like these have experienced a rise in demand for health-care services, along with unpredictable fluctuations in the supply of fuel needed to operate power generators. This example illustrates just how important secure, reliable, locally produced electricity is for

Haiti's future economic productivity. Others are establishing self-sustaining business models for small and midsize energy businesses to meet distributed energy needs. It is critical that in designing new energy infrastructure, such decentralized models built around the distributed generation of domestic renewable energy become central to the architecture of a new national grid network.

The key factor driving the effectiveness of both of these efforts is not the availability of capital; it is the business model and planning for the use of that capital that has the real impact. For development to be truly sustainable, it must build local markets, engage the existing economy, and respond to unique local conditions. For example, the people of Haiti have too often suffered from well-intended but ill-designed aid efforts in the agricultural sector. Unsustainable development efforts have ranged from historic encouragement to plant inappropriate annual crops like beans, which contributed to soil degradation, to tractor donations by the U.S. government that can damage the fragile landscape in an extremely hilly nation.

By combining careful planning with sound strategies for the restoration of watersheds and the cultivation of renewable, domestic energy resources, it is possible to achieve many benefits in parallel. A green development strategy for Haiti will identify combinations of crops, infrastructure, and business models that meet local food needs, provide products for sale, repair soils, secure hillsides, and lay an economic foundation that increases long-term security, even while responding to urgent reconstruction needs.

Greening reconstruction must use this important opportunity to shift from historic project-based planning approaches to more reliable long-term and holistic strategies. This can mean, for example, supporting tree planting for watershed protection using payments from electric utilities that rely on hydropower. Utility payments can underwrite the cost of tree planting, which is a cost-effective way to protect their equipment from siltation, with water and soil conservation as an additional benefit. Furthermore, when debris from tree thinning is used to produce charcoal for highly efficient cook stoves that are distributed by small and midsize enterprises, additional new local supply chains and business opportunities are created, which enhance sustainability of the Haitian economy instead of straining natural resources.

This holistic and financially sustainable development model can ensure that individual projects add up to the long-term restoration of Haiti. Historically, project-based developments rarely last more than a decade before the resources dry up, and they too often leave no sustainable infrastructure to carry on the efforts. By building local markets and aligning the interests of many players within the economy around the success of the projects, these development investments can build self-sustaining new institutions and networks, and thus a stronger Haitian economy. A range of instruments and sustainable business models can be identified and cultivated on the front end of reconstruction plans, from carbon funds to tree planting to building local supply chains for meeting energy needs with solar elec-

tricity, cook stoves, charcoal, and biofuels, thereby putting in motion long-term, sustainable solutions.

In all of these efforts, success depends on partnerships between government, civil society, businesses, and citizens. Potential partners in ecosystem restoration include nonprofits such as Forest Trends and the Rights and Resources Initiative, which can provide technical assistance and connect projects to broader global resources, and also help attract private dollars through carbon offsets, carbon credits, water payment schemes, biodiversity incentives, and other funding streams to help finance these projects on a much larger scale than grants alone could achieve. Forest Trends has proposed a \$25 million fund to provide reliable carbon financing for forest and broader watershed restoration and agricultural projects, and to sustain the long-term investment required.

DRIVING RECOVERY AND RECONSTRUCTION WITH SUSTAINABLE ENERGY

This ecosystem restoration must be coupled with reducing long-term demand for trees, meeting Haiti's need for cooking fuel and supplying efficient cook stoves and charcoal fuel alternatives. This too can be done in a way that builds sustained economic networks. There are already organizations on the ground in Haiti undertaking this work. The Paradigm Project is a "low-profit" organization focused on the sale of high-efficiency cook stoves that reduce fuel use by 50-60 percent while building distribution networks within communities. The nonprofit EarthSpark International sells high-efficiency Miracle Stoves, as well as non-wood, waste-based briquettes.

For women who make their living cooking in the markets, the payback for one of these stoves can be as short as a single day; for residential use it's about five days, and the cost savings persist for the life of the stove, redirecting precious funds to other urgent family needs. Yet the up-front cost is a barrier to market uptake even though the economics clearly make sense, so there is a need to create rent-to-own and microfinance solutions to achieve real impact at scale. E&Co is a longstanding global nonprofit that lends to small and midsize clean energy entrepreneurs that could be a potential resource and partner for these projects in Haiti. The use of these products also reduces greenhouse gas emissions, which can potentially allow projects to access funds for carbon finance from corporations outside Haiti that are seeking to offset their climate impact.

Underserved electricity needs also are undermining Haiti's economic opportunity and security, slowing business development and hurting capital formation by Haiti's poor and middle class alike. In Haiti, only 12.5 percent of the 9.2 million inhabitants have access to electricity. The electricity sector has a capacity far below national demand. In 2006, total installed capacity was 270 MW, of which about 70 percent was diesel oil-fired thermal and 30 percent was hydroelectric—enough electricity for only about 270,000 homes. Potential demand is closer to 157 MW in Port-au-Prince alone and 550 MW nationwide. Furthermore, some estimate that

up to a third of total electricity is stolen by unauthorized users, which adds another challenge to managing energy supply.⁶

Haiti's reconstruction will require reliable energy for urban growth and industrial activity, yet it would be a mistake to presume that this represents a call for new fossil-fuel development. Traditional energy resources like diesel-fueled and LNG-powered electric generation facilities can further saddle Haiti with economic and security risks from global oil and gas markets. Haiti has many untapped indigenous renewable energy resources, including extensive waste-to-energy resources, potential for landfill methane, and substantial hydroelectric power generation, as well as significant potential for small-scale hydropower and solar hot water heating on a distributed basis. Most of these sources provide power on a 24/7 basis. In the near term, fossil fuels will continue to provide much-needed energy, especially in urban areas; however, these renewable resources can both help meet the demand for reliable base-load energy and reduce fluctuations in peak demand, even as they increase access to energy.

For rural areas, solar-powered LED lamps and solar electric home systems can provide small-scale solutions for residential lighting needs. Larger-scale solar installations can provide lighting for schools and community centers and refrigeration and lighting for medical clinics. Servicing renewable energy needs—whether for solar panel installation, batteries, or supplies of biofuels—also creates demand for local labor that can easily be met by existing small businesses. Local kerosene distributors or charcoal vendors, for example, can shift their product mix to serve these newer, cleaner, and safer products and meet their existing clients' increasing demand for energy.

To provide an energy platform for local economic activity, village-scale micro-grid developments can create both a flexible community-based infrastructure and new economic opportunities for local businesses. EarthSpark has proposed the development of locally owned, micro-grid load-managing entities, while also creating the opportunity for small and midsize clean energy entrepreneurs to develop solar, agricultural waste, and wind energy options. Having access to village-scale power will also open up opportunities for non-energy entrepreneurs to launch businesses that need electricity. In many places, village-scale micro-grids may prove to be a much more sound, resilient, and profitable investment for Haitians than new high-voltage power lines for transmission of central station electricity generation. Therefore, the planning process would benefit from comparing these investments up front and on a level playing field.

Taking a similar approach are the Sirona Cares Foundation and the Community Solutions Initiative of the Institute for Electrical and Electronic Engineers, which have set a goal of providing renewable electricity to one million Haitians by creating sustainable businesses built around micro-grids and distributed generation for rural electrification. By giving Haitians the ability to earn a living by providing electricity to their communities and establishing new services like cell phone charging, these organizations are improving commerce and reducing poverty, even as they bring needed electricity to rural areas.⁷

On a still larger scale, renewable energy and efficient energy offer powerful solutions for meeting the energy needs of industry, along with larger regional grids that provide stable supplies of base-load energy that can firm up access to other intermittent renewable energy sources such as wind and solar. Hydroelectric power is an ideal base-load energy resource, with smaller scale systems available for rural needs, yet all hydro systems depend upon watershed restoration. Co-generation of energy in Haiti's sugar refineries also can contribute significantly to base-load needs by readily tapping an abundant renewable resource for the Haitian economy. Co-generation at refineries would drive new investment into domestic productivity, increase plant performance, enhance economic competitiveness for local industry, and bring substantial new supplies of clean energy to market.

The current reconstruction of Haiti must address an estimated energy deficit of 350 MW, according to Haiti's government-owned utility, Electricite d'Haiti.⁸ In the absence of a clear clean-energy development strategy, the obvious solution for meeting this pressing need would be to build more traditional power plants that run on imported fossil fuels. This would just bring more needless risk to Haiti, while sending scarce foreign exchange overseas. There are other (indigenous) options for achieving affordable and reliable energy, while also improving the sustainability and security of Haiti's energy supply. For example, Haiti currently has two sugar mills within its borders. These plants' operations waste both heat and energy, yet both, if modernized, could become substantial generators of clean biomass energy by relying on abundant local feed stocks.

If donor funds and new reconstruction investments were directed not toward new diesel or LNG power plants, which provide no direct benefit beyond their electricity generation, but toward state-of-the-art co-generation at these two sugar mills, their contributions not only would produce new energy but also would improve the efficiency and cost structure of the existing industrial base, thereby strengthening those industries and creating more jobs. Furthermore, if these retrofits were matched by the construction of two additional state-of-the-art sugar mills at identified sites, each with renewable energy generation, it would be possible to generate 100 MW of new clean biomass electricity to help make up Haiti's current energy deficit, meanwhile also eliminating the need for Haitian sugar imports.

If such a biomass-based energy option were employed in tandem with other renewable resources such as solar and wind, the potential to bring renewable energy online could more than double that output and nearly eliminate the anticipated need for new generation. Pre-feasibility studies in Haiti have already identified 90 MW of wind energy potential at just three sites: the Passage du Vent; regions of Port-de-Paix, Lac Azui; and the Jacmel region. Meanwhile, other analysts have identified a potential additional 100 MW of solar energy distributed across Haitian communities, and accessible close to the point of demand.

Between Haiti's abundant sun, wind, and biomass resources, close to 300 MW of renewable energy has been identified as readily available and waiting only for the investment, the political will, and a plan to bring them online by integrating these resources into current utility and reconstruction planning. When combined

with the 30 percent of electricity already supplied by base-load hydroelectric plants, it is clear that a domestic, affordable, reliable, and low-carbon energy mix is readily achievable in Haiti today. Moreover, the potential for grid interconnection with the Dominican Republic offers the potential for further access to reliable sources of electricity, notably from new wind projects in the DR.

There are numerous other opportunities to rethink Haiti's energy use. Each year, Haiti consumes 100 million gallons of diesel fuel. Increased production and blending of domestic biofuels could help replace this imported resource with local and environmentally preferable products. Reconstruction of Haiti's buildings could also drive the setting of high-quality building standards that bring more energy-efficient appliances into homes and workplaces. By upgrading building practices, reductions in energy use of from 20 percent to more than 50 percent are

routinely achieved today. This provides substantial long-term cost savings and rapid payback for up-front investments. A sound strategy for reconstruction should also protect citizens from the unnecessary and avoidable cost burden of inefficiency.

It is noteworthy that these secure, domestic, and clean "leap-frog" energy technologies also lead to very different economic development outcomes than traditional 20th-century power plant construction. Not only are the

Secure, domestic, and clean
"leap-frog" energy
technologies also lead to very
different economic
development outcomes than
traditional 20th-century
power plant construction.

security and reliability of the grid enhanced, rural electrification provided, and new electricity generated to support urban growth, but a host of new supply chains are created within the national economy, from agriculture to industrial establishments to manufacturing, distribution, construction, and maintenance jobs that can be created and sustained.

It is also important to note that existing businesses and investors in the current Haitian energy industry can play a major roll in deploying these new energy resources. The quickest path to electrifying Haiti with new clean energy resources will involve robust public-private partnerships, and using the existing utility infrastructure while providing new opportunities for entrepreneurs and community-based organizations to participate in expansion of the market.

These simple examples illustrate what is possible today. Each dollar invested in clean energy can do triple duty: supplying direct energy services, building local industries, and reducing economic vulnerability to future price shocks, embargoes, or environmental disasters. But these outcomes depend on choices made by government planners and aid organizations in reconstruction efforts today. While the urgent needs of the moment may make it seem preferable to cut corners in imple-

menting green components in this renewal, the long-term impact could be costly and would be paid for in missed economic opportunities and reduced quality of life for Haitians.

A national-level assessment of Haiti's energy needs and resources must be made to provide the foundation of data that is essential to integrating innovative, clean, and efficient cutting-edge energy technology into Haiti's current reconstruction and infrastructure planning most effectively. One possible option for making such an assessment would be through the Inter-American Development Bank⁹ and its new joint Innovation Center launched with the U.S. Department of Energy at April's gathering of the Energy and Climate Partnership in the Americas. The Innovation Center is a grant-based resource to nations of the Western Hemisphere for technical assistance related to policy frameworks and projects to accelerate renewable energy and energy efficiency. But whatever the vehicle, increased international aid resources will be available for these purposes, which can be put to service in building enduring economic opportunities in sustainable Haitian enterprises.

ENGAGING NEW BUSINESS MODELS AND APPROACHES

For both ecosystem restoration and energy development, new business models and financial approaches must be deployed and local capacity developed. Although the \$9 billion in official assistance appears to be a large investment for such a small nation, these funds will need to leverage private capital further, given the scale and diversity of Haiti's needs. Local capacity development and training will be essential to ensure that this money helps grow jobs and businesses at the community level. Historically, development investments have been made without building ongoing Haitian capacity and partnerships. Grant-based donations that do not sustain market-based institutions require ongoing inflows of cash that cannot be relied on over time. Instead, business models that are self-sustaining should be deployed, leveraging grant dollars only for areas that cannot generate revenue while applying low-profit and other investment resources to build Haitian institutions where revenue generation is possible.

Grant dollars can be used, for example, for training, to expand local reforestation and agriculture establishments, or to establish new business franchises, such as the Sirona distributed electricity model. These funds can be augmented with carbon financing income or other revenues generated from projects. The World Bank has been working with Haiti's government to lend to mayors for municipal projects that also create local ownership and accountability. This approach is showing significant early success. There may be opportunities to leverage this municipal approach to accelerate micro-grid development across Haiti, thereby creating an engine for locally based energy projects. The International Finance Corporation, the private-sector arm of the World Bank Group, and other financial organizations are potential collaborators in promoting strategies for regional clean energy development, and in helping to structure carbon funds, promote innova-

tive business models, and encourage smart infrastructure design that leverages new networks, information technology, and onsite energy generation.

CONCLUSION

Haiti is a country with urgent and dire needs, but without investing in Haiti's environmental recovery there will not be a lasting economic recovery, and long-term security for this nation will likely remain elusive. However, if ecosystem restoration and clean energy development, can be prioritized, Haiti has the opportunity to become a global example for sustainable prosperity and improved quality of life. With just two years until Rio 2012, the 20th anniversary of the Rio Earth Summit, we can use that deadline to support Haiti in building a model for sustainable development that is needed the world over, in particular for green and locally empowered reconstruction.

To that end, Haiti's reconstruction efforts must support a nationwide assessment of watershed restoration and energy needs for electricity, cooking, and transportation, and must develop a work plan for investment in a holistically designed program capable of guiding efforts in formal, nonprofit, and for-profit capital investment.

This assessment could ensure that the business structure for Haiti's development of urban, industrial, and rural electrification supports local private-sector generation and distribution of renewable energy, thereby encouraging development and interconnection to local and regional energy grids, and recognizing the economic value of onsite energy generation.

It could rapidly scale the distribution of high-efficiency cook stoves by supporting the development of businesses focused on the production and distribution of these products, and by working with suppliers to structure sustainable business models through tools like microfinance and lease-to-own arrangements.

These efforts could combine grants, public and private investment, and carbon purchase capital to enable end-to-end long-term support for watershed restoration and sustainable agricultural activities on an accelerated basis at scale.

Such an assessment could also inform reconstruction efforts by establishing a system to evaluate project investments based on comprehensive planning, sustainable business models, and long-term ecological impact, incorporating both local and international expertise. For projects meeting the highest standards, a fast-track system for advancing implementation could also be established.

The Haitian government and reconstruction authorities, to articulate Haiti's priorities and guide investment decisions, could also adopt a set of green economic principles, goals, and standards.

To make significant progress on these long-term concerns, it is important that they be linked to near-term economic development efforts, and that their benefits be valued appropriately within the overall planning for Haiti's reconstruction.

Haiti's current environmental and resource pressures already serve as a harbinger of what is to come for the entire global community if we allow development

and the environment to continue to conflict. During this period of reconstruction in Haiti, there is an opportunity for the Haitian economy to serve as a beacon of hope for what can be achieved with foresight and determination, in particular if we can shift financial flows to restore natural systems through local economic activity, and right our climate system by moving to clean energy. In helping Haiti achieve its own immediate recovery goals and realize its leadership potential in environmental restoration and economic renewal, it is possible for the global community to help itself as well. The green reconstruction of Haiti can create the foundation for a real recovery marked by enduring prosperity. Together we can take the first steps forward on this path today.

-
1. Stephen Leahy, "Haiti Can't Face More Defeats," IPS, November 18, 2008. Available at <http://ipsnews.net/news.asp?idnews=44683>.
 2. Michelle Nichols and Andrew Quinn, "Donors Pledge Billions for Haiti Aid," Reuters, March 31, 2010. Available at <http://www.reuters.com/article/idUSTRE62U0KR20100331>.
 3. Ethan Budiansky, "Caribbean Programs Officer at Trees for the Future."
 4. Jeneen Interlandi, "A Tree Grows in Haiti," *Newsweek*, July 26, 2010.
 5. "The Haiti Regeneration Initiative." Available at <http://haiti.ciesin.columbia.edu>.
 6. Reference data from interview with Regine Simon Barjon. Available at <http://aaenvironment.blogspot.com/2010/01/pre-earthquake-electricity-production.html>.
 7. See project background at <http://www.ieee-pes.org/> and www.communitysolutionsinitiative.com.
 8. See http://www.bme.gouv.ht/energie/National_Energy_Plan_Haiti_Revised20_12_2006VM.pdf.
 9. For additional information on IDB efforts, see <http://www.acore.org/files/gomezslides.pdf>.