World Economic Forum

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Industry Agenda

The Green Growth Action Alliance: Progress Report from the First Year of Catalysing Private Investment

June 2013

Acknowledgements
This report reflects several important contributions and – like the Alliance itself – was truly a collaborative effort. The World Economic Forum wishes to thank all of the members of the Green Growth Action Alliance for contributing time, data, case studies and opinions. We would also like to acknowledge the many organizations and individuals that played a leadership role in the different working groups and country pilots for their contributions. In addition, the Forum wishes to recognize and thank our knowledge partner Accenture, who played a lead role in helping to design, launch, convene and manage the Green Growth Action Alliance, and also assisted with the production of this report. Finally, thanks go to the Global Green Growth Institute, which provided welcome resources and support for the Alliance's work over the past two years.

Disclaimer
The viewpoints expressed in this report attempt to reflect the collective engagement of individuals as Green Growth Action Alliance members and do not necessarily imply an agreed position among them or institutional endorsement by any participating company, institution or organization involved in the Alliance, or by the World Economic Forum.

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Foreword

Felipe Calderón
Chair
Green Growth
Action Alliance

How can major economies transform to maximize the efficient, equitable use of resources, while meeting the challenge of ensuring economic stability and growth? We can start by dispelling the myth that economic growth and low-carbon, environmentally-sensitive development are competing objectives. A growth model that improves resource efficiency and mitigates climate change also generates a number of mutually reinforcing benefits, including accelerated job creation, healthier populations, expanded access to secure energy supplies and sustained global economic growth. As the President of Mexico, I strongly endorsed green growth as the only viable long-term model for the country's long-term development.

Last year, when I had the privilege to serve as President of the G20 process, I also prioritized green growth as a key theme. The G20 leaders recognize the central importance of green growth and many countries are demonstrating strong leadership through effective and progressive policies. But governments do not act alone. Business is a natural partner, providing new technologies, business models and investment opportunities in increasingly profitable green technologies, such as energy efficiency, renewable energy, low-carbon transport and water/agricultural resource planning. Governments require leadership from the private sector, as well as the creation of new partnerships that can incubate innovative new models for green growth.

It was in this spirit that I agreed to serve as Chair of the Green Growth Action Alliance, a catalytic initiative that was launched at the Los Cabos G20 Summit last year with the specific goal of unlocking private investment in green infrastructure projects. The Alliance now numbers over 60 leading organizations from the public finance, private finance, clean energy, agriculture and infrastructure sectors, working with international and non-governmental organizations and donor and host country governments to achieve this goal. I am proud to say that, in just one year, the Alliance has risen to meet the challenge.

This first Progress Report documents five new financing and business models that have been incubated and shaped by Alliance members, including a new model for an agroforestry fund for climate-smart agriculture in Vietnam, a layered risk-return fund to catalyse energy efficiency, and a new purchasing cooperative of major companies in India, as well as a global Catalyst Fund at the International Finance Corporation. These and other examples were showcased in January 2013, when the Alliance issued *The Green Investment Report,* a consensus view on the size of the “prize”: current and potential investment flows for green opportunities.

These achievements are the result of hard work and dedication among Alliance members and our government partners. I would like to thank my fellow Executive Board members for their leadership and commitment to make the Alliance work. Along the way, we have shown how a multistakeholder group can deliver results for the G20 and the global community. We have also proposed a new way of doing business – convening for a purpose – that is beginning to transform the green investment arena. Of course, our work is not finished. Now begins an even harder set of tasks: to adopt, replicate and achieve the scale in investment that is needed to tackle climate change and to transform our current growth pathway to a green, resource efficient one. This will be done city by city, company by company, and country by country. It is therefore my hope that later this year in St Petersburg, and next year in Australia, when G20 finance ministers convene and are joined by the Business 20 and other stakeholder groups, they will be inspired by the work of the Alliance and our many partners to take up these and other examples and achieve inclusive, equitable green growth for all. The global community is waiting.

Preface

Dominic Waughray
Senior Director
Head of Environmental Initiatives

Thomas Kerr
Director
Head of Climate Change and Green Growth Initiatives

At the World Economic Forum Annual Meeting 2013 in Davos-Klosters, three leading economic voices – the presidents of the International Monetary Fund and the World Bank and the Secretary-General of the Organisation for Economic Co-operation and Development – delivered the troubling message that it will not be possible to emerge from the current global economic crisis without addressing resource scarcity and climate change. The Forum's *Global Risks 2013* report echoes these views, with climate change emerging as one of the top global risks faced by mankind.

Mobilizing the required scale of green investment lies at the core of the combined global economic and climate challenge and demands new approaches for triggering action. This makes it a pertinent agenda for the World Economic Forum. The Forum was therefore delighted when the recommendation for a new public-private alliance on green investment, proposed by the multistakeholder Green Growth Task Force, assembled for the Mexican B20 process, was formally endorsed at the the Los Cabos G20 Summit, June 2012. The Forum has since been privileged to act as secretariat to the "Green Growth Action Alliance" (the Alliance) a coalition of actors focused on delivering results. During the last year, it has been exciting to witness true leadership as Alliance members and partner governments have committed to roll up their sleeves and tackle a series of difficult financing and policy challenges. Particular thanks are due to those companies and organisations that have engaged their time and energy in the Executive Board and the various working groups of the Alliance, to Accenture who have acted as project adviser to the World Economic Forum on the Alliance; and to President Felipe Calderon for his leadership as Chair.

The results speak for themselves. The Alliance has clearly demonstrated that with a small bit of support and resources, diverse groups can and will work together to achieve a shared outcome, in a time-bound manner. One member said that we were creating a series of "sandboxes" in specific country and market settings where solutions can be developed, tested and launched with the support of the local government. We are proud to have helped create a new model over the past 24 months that is generating solutions for the global commons; and we are now eager to work with our partners and other stakeholders to ensure that this approach is permanently embedded into public finance agencies, national planning departments and businesses going forward.

This first progress report of the Alliance aims to provide a blueprint for action that government, business and civil society leaders can use to transform the global economy into an economically and environmentally sustainable pathway. We are encouraged, as a number of actors are already picking up and advancing the public-private ideas and the collaborative processes we have developed in the course of the Alliance's first year. Clearly the time is ripe for this sort of action-oriented initiative. We thank all of our members, our Executive Board, and our Chair for their dedication and leadership and look forward to celebrating the next round of accomplishments in 2014 as the Green Growth Action Alliance and its work program evolves.

Working with the G20: A New Way to Convene for Action and Results

The concept of green growth began to take hold in 2008 at the Pittsburgh G20 Summit, where leaders launched the *Framework for Strong, Sustainable and Balanced Growth*. The Framework was again referenced in 2009 at the G20 Summit in Korea, where leaders put a high global priority on green growth, while also starting a new innovation at the Summit, creating the Business 20 – or "B20" – as an invitation to leading businesses to provide formal input. The 2010 B20 Working Group IX published a comprehensive report, *Creating Green Jobs*, which made several recommendations about the business and social opportunities of a smarter approach to green investment.

Since that beginning, and during a time when business and government leaders are struggling to address the global financial crisis, the concept of green growth – creating new economic opportunities while solving environmental and resource scarcity challenges – has grown into a leading global priority. Subsequent G20 Summits, and a number of related intergovernmental, non-governmental and private sector platforms, now actively promote government policies and public-private partnerships to deliver greater investment in resource-efficient, low-carbon infrastructure and services (Figure 1).

The 2012 B20 Green Growth Task Force members created the Green Growth Action Alliance as a practical means to implement this green growth agenda. It benefited from the World Economic Forum's experience with public-private partnerships on climate finance, including the 2009 G20 *Low-Carbon Prosperity Task Forces on Climate Investment and Clean Technology Finance*, the 2010 *Critical Mass Project*, as well as with the UK Government's Capital Markets Climate Initiative. The Alliance brings together over 60 members, including host country and donor governments, international and non-governmental research organizations, development finance institutions and the private sector. The Alliance was formally welcomed by G20 leaders in Paragraph 72 of the Summit communiqué: *"We encourage further exploration of effective mechanisms to mobilize public and private funds for inclusive green growth investment in developing countries, including through the public-private Dialogue Platform on Inclusive Green Investments. We welcome the B20's Green Growth Action Alliance."*

Figure 1: A Growing G20 Focus on Mobilizing Private Investment for Green Growth

The Alliance was created with a specific focus: to develop new ways and means to unlock private capital for green growth. There are a number of platforms advancing solutions for clean energy, agriculture and water technologies, policies and practices. The Alliance combines these efforts with a focus on identifying and addressing the barriers to large-scale investment. It aims to make the low-carbon option the most attractive investment option. The Alliance is a coalition of action, one designed to turn ideas into practice and to capture the best of the private sector – including new business models and a focus on long-term profitability. The creation of a new type of collaborative space has stretched the remits of individual organizations. Commercial banks are now offering their time and ideas to help kick-start green investment markets. Investors are beginning to look beyond their typical risk/return calculations. Host country governments are considering policy changes that lower the cost of financing and reduce risk. And host country and donor governments are co-investing in green opportunities using targeted public funds to draw in and attract private capital.

Immediately after the launch, Alliance members agreed to focus on four high-impact work areas (Figure 2).

The purpose of this report is to assess progress against these four priorities, to report on lessons learned and to guide the rapidly growing number of G20 and other international/national efforts that are attempting to mobilize private capital for inclusive green growth.

Figure 2: An Action Agenda to Unlock Private Investment in Green Infrastructure

The Alliance is focusing on four high-impact activities:

1. Track global progress in green investment and highlight the role of smart public policy to deliver private capital at scale
2. Develop proof points that draw in private investment for green growth at the country level
3. Provide new ideas and public-private models to shape the green growth policy agenda
4. Work with governments, MDBs and DFIs to scale up, replicate and adopt successful approaches

Work Area 1:
Track Global Progress in Green Investment and Highlight the Role of Smart Public Policy to Deliver Private Capital at Scale

The Alliance launched its first report, *The Green Investment Report: The ways and means to unlock private finance for green growth*, at the World Economic Forum Annual Meeting 2013 in Davos-Klosters earlier this year.[2]

The Report provided a common framework to identify the gap in global green investment and illustrated the current state of the market – providing recommendations for scaling up green investment to governments, international financial institutions and private investors alike. It synthesized the best available data and research from Alliance members and leading institutions, including Bloomberg New Energy Finance, the Climate Policy Initiative, the International Energy Agency, the Organisation for Economic Co-operation and Development (OECD), the United Nations Environment Programme, the World Bank Group and the World Resources Institute.

The Report found that considerable progress has been made in transitioning to green growth. In particular, global investment in renewable energy in 2011 hit a new record; it grew 17% from 2010 to US$ 257 billion, representing a sixfold increase from 2004 and a 93% rise from 2007, the year before the global financial crisis (Figure 3). Developing countries were also found to be playing a growing role in scaling up green investment: cross-border and domestic investment originating from non-OECD countries grew 15-fold between 2004 and 2011 at a rate of 47% per year (compared with 27% per year for OECD-originating investment), and clean-energy asset financing originating from developing countries in 2012 was on track for the first time to exceed those originating from developed countries.

However, despite positive signs of progress, green investment continues to be outpaced by investments in fossil-fuel intensive, inefficient infrastructure. Significant barriers exist to securing the required scale and pace of progress. The Report argued that greening investment at scale must therefore be a precondition for achieving sustainable growth. According to current growth projections, the investment required for the water, agriculture, telecoms, power, transport, buildings, industrial and forestry sectors stands at **US$ 5 trillion per year to 2020.** This business-as-usual investment will not deliver stable growth and prosperity, and risks locking in fossil-intensive assets that may become stranded as governments enact new policies to address climate change. New kinds of investments are also needed to address climate change – on the order of an **additional US$ 700 billion per year**,[3] required for clean energy infrastructure, low-carbon transport, energy efficiency and forestry (Figure 4).

Figure 3: The Evolution of Global New Asset Flows for Clean Energy

Note: Bloomberg New Energy Finance Asset Finance Database (2012)

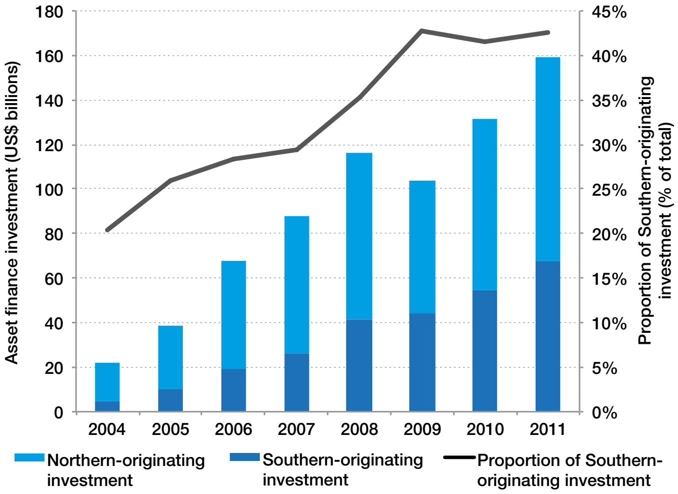
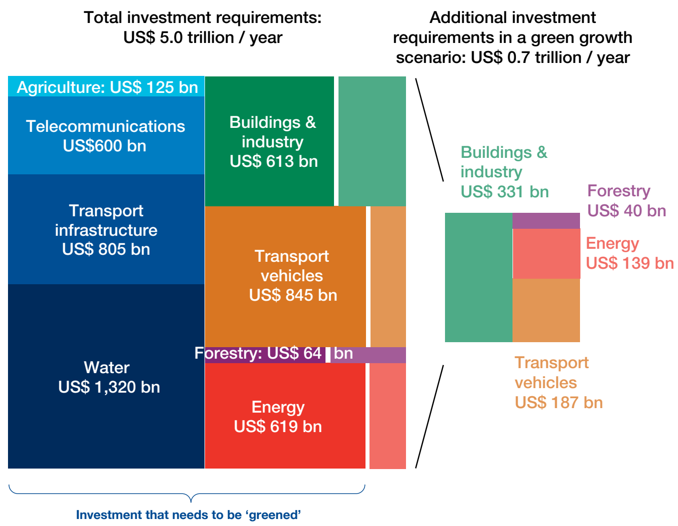


Figure 4: Total Estimated Investment Requirements for Business as Usual and Estimated Additional Costs under a 2°C Scenario

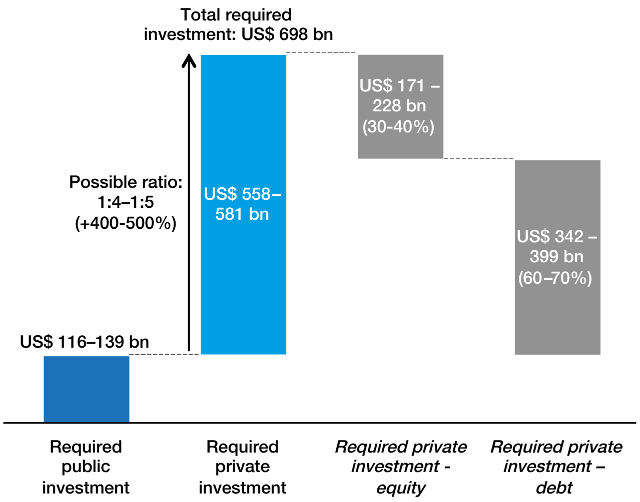
Sources: World Economic Forum Green Investment Report (2013)
Note: All data converted to $ 2010 equivalents



Experience demonstrates the potential for closing the green investment gap by mobilizing private finance through the smart use of public finance, combined with investment-grade policies. Strong potential exists for increased public lending, advancing de-risking instruments and targeting grant money combined with technical assistance to attract much greater private investment. If annual public-sector investment can be increased from the current US$ 96 billion to US$ 130 billion and be more effectively targeted, it could mobilize private capital in the range of US$ 570 billion. This would come close to achieving the US$ 700 billion of investment required to address climate change (Figure 5). *The Green Investment Report* documents a number of successful case studies in which public monies have achieved strong leveraging (ratios of 1:3 to 1:8 and higher) of private sector investment.

Figure 5: Potential Public-Private Finance Mobilization to Address Climate Change

Note: The debt-to-equity ratio is assumed at 70:30 based on the current average debt to equity ratio of clean energy projects



The *Green Investment Report* made the following recommendations to unlock the green investment opportunity:

1. **Greening investment, and thereby the economy, is the only option.** Building from their messages at the 2012 G20 Summit, government leaders should reaffirm that greening the economy is the only route to sustained growth and development.
2. **The transition is financially viable.** The incremental costs of greening growth are insignificant compared to the costs of inaction and those of potentially stranded assets as governments enact increasingly stringent climate policies. Governments, investors and international organizations must improve efforts to overcome barriers and improve the global tracking, analysis and promotion of green investment. The OECD, Climate Policy Initiative and other efforts are offering helpful data, but more work is needed to strengthen the data and to improve data coverage for non-energy green investment.
3. **Effective policies and methods to deploy public finance are well understood and must now be scaled up.** The G20 governments must focus on investment-grade public policy to enable the private sector to invest, and public financial institutions need to more actively engage long-term investors by increasing the deployment of proven instruments and mechanisms.
4. **Private investors should more aggressively pursue green investment opportunities.** Green infrastructure investment provides attractive long-term, risk-adjusted returns. Private investors need not wait for perfect public policies to remove all risk. They can enhance the comparative risk analysis of green investment by making greater use of investor forums – such as the Global Investor Coalition on Climate Change – and engagement with public finance agencies to advance new financing solutions that open up an attractive, sustainable market.

The first Green Investment Report was positively received. Looking forward, it represents a potentially useful device to provide a regular and comprehensive update to the G-20, the private sector and others on green investment flows and to track global progress on unlocking private finance for green growth in particular.

"The Green Growth Action Alliance has developed a new path for pragmatic, delivery-focused and international collaboration, and is delivering tangible solutions. Accenture has been pleased to serve as the World Economic Forum's Knowledge Partner in this area for the past three years, and we will continue to work towards helping the Alliance make a difference in the future."

Pierre Nanterme, Chairman and Chief Executive Officer, Accenture

Work Area 2: Develop Proof Points that Draw In Private Investment for Green Growth at the Country Level

In its first year, the Alliance has worked to unlock capital for clean energy in Kenya; to shape new vehicles for financing climate-smart agriculture in Vietnam; to advance new policy and market solutions to jump-start India's National Solar Mission; and to transfer innovative structures for financing energy efficiency from Europe to Mexico and the Russian Federation.

The Alliance has developed a unique approach to delivering new financing solutions for green growth in developing economies (Figure 6):

1. **Identify a specific green investment opportunity.** The Alliance starts by partnering with developing country governments with a clear green growth ambition, such as a renewable energy target, an energy efficiency goal or an emission reduction plan. These plans, policies and regulatory frameworks represent a key ingredient for designing financing instruments that engage private finance. Examples include:
   - Vietnam's goal to reduce greenhouse gas emissions by 20%, increase GDP by 20% and reduce poverty by 20% by 2030
   - Mexico's ambition to reduce emissions 35% by 2030
   - Kenya's goal to increase the provision of clean energy from 1.5 gigawatts (GW) to over 21 GW by 2030

   After confirming the government's plan, a first step is to gather information about the investment climate, including the country's credit rating, currency, maturity and liquidity of financial markets, debt-to-gross domestic product ratio, governance and recent developments in the target sector.

2. **Identify and create a coalition of interest.** Next, the Alliance identifies relevant public and private sector stakeholders that are already actively working to advance the green investment opportunity. This includes experts from the domestic and international financial services sector and other targeted sectors, non-governmental organizations (NGOs) and donor governments. At this stage, it is important to identify and partner with a neutral domestic counterpart that has a solid network, reputation and skills to assist with forming a coalition of interest. The host country co-hosts this process, which is typically time-bound (i.e. less than a year) and has the stated goal of unlocking private finance for the targeted green sector.

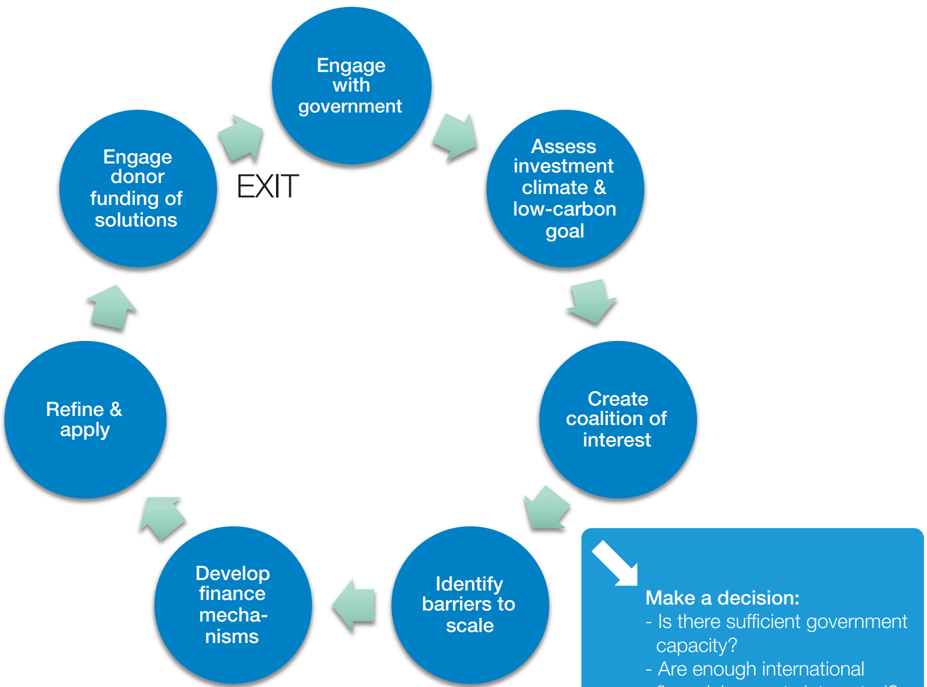
3. **Engage financing experts and identify key bottlenecks to financing green growth sectors.** After a critical mass of interest is achieved, the Alliance then conducts stakeholder interviews and in-country workshops to assess the current cost of capital, perceived risks, project deal flow and other bottlenecks to investment challenges. The full Alliance membership is regularly consulted as a sounding board for the resulting ideas. At this point, the aim is to agree on the top challenges to deploying private finance.

4. **Develop potential financial and policy solutions.** Using expert interviews and analysis, the group identifies a shortlist of financing solutions and policy interventions. Often, a solution exists but has not gained wide acceptance. The Alliance helps to bring these good ideas to light, test them, and then identify a path towards scaling up the best solutions. The coalitions typically break into subgroups driven by individuals with an interest in advancing a particular solution. Stakeholders then work to develop a detailed design for financing solutions. Key to the success of this phase is to engage the right expertise with the availability to design the solutions in a way that prepares them for future implementation.

5. **Refine and share solutions.** The proposed interventions and solutions are then prioritized through an iterative process and tested at World Economic Forum gatherings and through focused in-country events. In addition to proposed financial solutions, the groups often recommend policy interventions that are important to unlock private financing at scale. This step serves to socialize findings with regulators, NGOs and politicians. For example, in India, the work led to a recommendation to remove a policy that prevented greater renewable energy lending because it combined renewable energy with all energy lending.

6. **Finalize concept and identify funding sources.** The final step is typically focused on obtaining a commitment of public financing to kick-start and seed the financing solutions. Processes such as the G20, donor governments' climate finance meetings and Forum events can be used to socialize solutions and attract funders and fund managers. In some cases, the Alliance has engaged domestic public banks as co-investors. After seed funding is obtained, the Alliance begins to transfer responsibility to in-country stakeholders and others that have led the development of the solution.

Figure 6: A New Way to Convene for Results



Throughout the process, the Alliance secretariat monitors progress to ensure that effective mechanisms are being designed to help unlock private financing on the ground, that financing is pledged from donor or other public finance sources and that private finance is leveraged via these mechanisms.

The Alliance and its supporters have developed five "proof points" to unlock greater private investment in low-carbon assets using this approach. These financing mechanisms and other innovative solutions can be scaled up rapidly to achieve sustainable national growth. The innovation, champions, context, path to a solution and next steps are summarized below.

1. Floor price mechanism to backstop India's national renewable energy certificates market

What's the innovation?
The creation of a stronger price signal for investors through a targeted mechanism that ensures a minimum price for renewable energy certificates

Champions
UK Department of Energy and Climate Change, Clinton Climate Initiative, Deutsche Bank, Parhelion Underwriting, Standard Chartered, Indian Ministry of Power, Indian Ministry for New and Renewable Energy, State Bank of India

Background
In India, renewable energy certificates (RECs) are granted to producers per unit of clean energy that they contribute to the grid. RECs can be sold on registered exchanges, with producers selling to buyers to allow for compliance with renewable purchasing obligations (RPOs), although secondary trading is not allowed. The price of RECs is also regulated, with minimum and maximum levels set by the electricity regulator. The RECs market in India is nascent but its potential as a market mechanism to incentivize investment in the solar energy sector could be significant. The development of the REC market has been inhibited by a number of factors including the lack of a buyer of last resort. As such, financial institutions have been reluctant to lend to projects on the basis of REC market revenues because of the risk that such revenues may not be realized.

To support this emerging market, the Alliance designed – and the UK Government seed-funded – a pilot REC floor price mechanism to ensure a minimum price for solar power production that will complement the revenues derived from the sale of electricity – providing more certainty and consistency in solar power prices and RPO enforcement for investors. This will result in REC revenues becoming "bankable" and therefore being taken into account in determining the debt capacity of solar projects, with the ultimate aim of scaling up investments by the private sector.

Path to a solution
Members of the United Kingdom government's Capital Markets Climate Initiative (CMCI) and Alliance members conducted a preliminary analysis of the barriers to greater private sector investment in the Indian solar industry and identified seven interventions that could help unlock financing for the solar sector. Following feedback from a roundtable in India in April 2012 that brought together financiers, developers and Indian and UK Government representatives, the group identified the creation of a REC support facility as a priority.

The World Economic Forum worked with the UK Government, its advisers National Economic Research Associates and PricewaterhouseCoopers, and the Clinton Climate Initiative to design a concept note for a REC facility of an estimated size of £50 million (around US$ 76 million) that provided solar power developers with a guaranteed price for RECs. This involved analysing the impact of a guarantee on simulated project cash flows. Options for structuring the facility, its criteria for extending funds and the appropriate implementing agency have been – and continue to be – tested with CMCI members and Indian stakeholders from the lending, developer and policy community. To socialize the concept and identify further areas for development and implementation, the group hosted stakeholder roundtables in October 2012 with Indian financiers and in January 2013 with the Indian Government.

In-depth and regular stakeholder engagement at each stage of project development – particularly with the local private sector stakeholders – has been vital in developing a concept that can respond to the real challenges that exist and therefore have the greatest impact on the market. Early and in-depth engagements with potential implementing agents were also found to be vital. A concept can be solid but ultimately fail to deliver if detailed implementation plans are not developed to a norm that meets both donor and recipient government standards. Finally, it is important to allocate sufficient time for the thorough analysis of the intervention's potential and future impacts to ensure that no perverse incentives are created or negative impacts reduce the solution's attractiveness.

Next steps
The Alliance shaped a unique public, private and civil society coalition to help the CMCI to identify an impactful, practical way to target its climate change funding. The Alliance-drafted project concept note received positive feedback and was approved by the UK Government in the autumn of 2012. The business case for this project will be submitted to the United Kingdom's International Climate Fund in July 2013 and approval is being sought from the Indian Government. If approval is gained from both the Indian and UK Governments, the project will be implemented in 2014. The Alliance looks forward to monitoring progress and to sharing the RECs Floor concept as a way to attract private investment in other national markets that are implementing REC schemes.

"We cannot exit the financial crisis without also addressing the climate crisis. There are proven ways to target limited public finances to crowd in private capital for green infrastructure, but hard work is needed to scale up successful approaches and to develop new models at the country level. I am happy that the UK's Capital Markets Climate Initiative was able to inspire the work of the Alliance, and look forward to continued collaboration in the future."

Greg Barker MP, Rt Hon Minister of State for Climate Change, United Kingdom

2. Insurance for geothermal development drilling well output in Kenya

What's the innovation?

A new insurance product to address geothermal exploration risk – one of the key initial barriers to private investment

Champions

Kenyan Government, Kenyan Generation Company (KenGen), Parhelion, Energy Centre of Netherlands, Climate and Development Knowledge Network, United Nations Environment Programme Finance Initiative

Background

Geothermal energy is a promising means to meet Kenya's growing demand for reliable and clean baseload power. Geothermal already comprises 13% of power generation in Kenya but estimates suggest that this accounts for only approximately 3% of the available resource, implying significant potential for further growth. The government's ambition for the sector is to develop 5,000 megawatts (MW) by 2030.

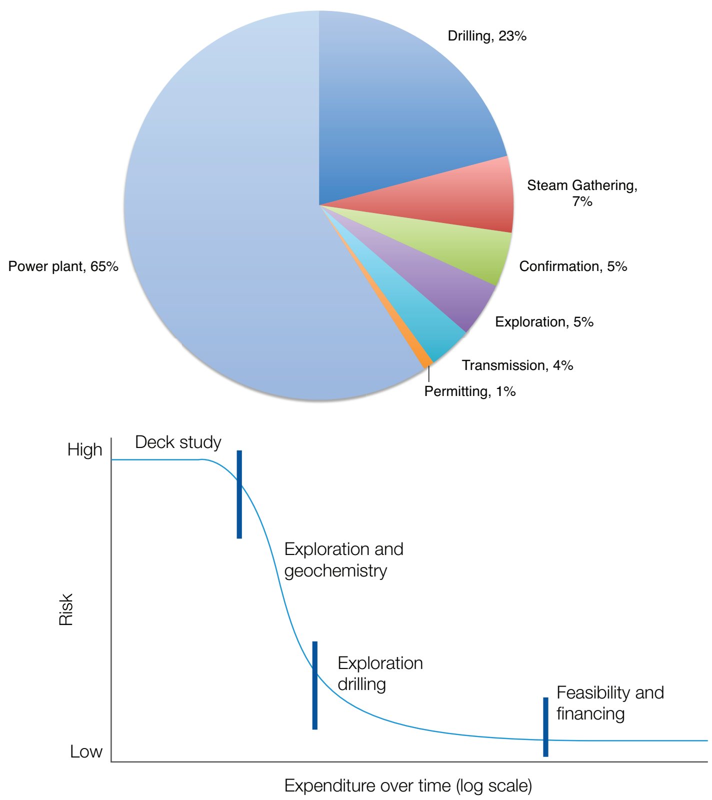
The high initial risk associated with resource exploration and the significant cost of drilling wells have hampered the development of geothermal resources that are cost-competitive on a life-cycle basis. The uncertainty and costs surrounding the success of initial development drilling for geothermal reservoirs make many good-quality geothermal projects difficult to finance, with lenders unwilling to lend and project developers holding insufficient equity (Figure 7). To help overcome these challenges and encourage greater participation from independent power producers, the Kenyan Government formed the Geothermal Development Company (GDC) with responsibility for geothermal resource development. A number of donors have attempted to support the sector by creating funds that reward successful exploratory drilling and provide grants for the preliminary and high-risk stages of project development, most recently through KfW's Geothermal Risk Mitigation Facility. However, despite success in exploiting existing geothermal fields, the pace of expansion has been slow and public finances (donors and the Government of Kenya) continue to provide most of the funding.

Path to a solution

Given the challenges associated with project risk and development of a geothermal resource, geothermal well output insurance could help GDC to expand its activities as the primary developer of geothermal power by reducing the impact of failed wells on its financial bottom line. It could also assist KenGen in financing the development of its existing licenses at Olkaria, and might also support the direct participation of independent power producers (IPPs) or project developers and investors in earlier stages of geothermal development.

Figure 7: Cost breakdown of a typical geothermal project

Source: Agence Française de Développement (2012), Scaling up Clean Energy Investments: A Donor Perspective, presentation given to Green Growth Action Alliance workshop, May 2012



> Kenya's power demand continues to rise steeply. This presents an opportunity to provide the clean energy that is needed for its growth and its sustained fast paced development. We can accelerate the development of geothermal, solar, wind and other clean energy sources on a small, medium or large scale implemented by both the public and the private sectors. In this respect, we are encouraged by the work under the Green Growth Action Alliance that engages our public and private sectors in the design of innovative mechanisms to unlock private financing for clean energy. We look forward to carrying forward this work in the future.

Edward Njoroge, Chief Executive Officer, KenGen (Kenyan Generation Company)

A new Geothermal Development Drilling Well Output insurance product has been designed to fill this gap by reimbursing drilling costs if insufficient aggregate geothermal capacity is achieved. This concept was initially conceived by the International Finance Corporation (IFC) in conjunction with geothermal advisory company GeothermEx in connection with the development of Turkish Geothermal Reservoirs. It is a flexible tool that can be tailored to work efficiently and economically in a number of different scenarios and reservoir types. This risk sharing mechanism is intended to reduce risk after the first exploratory wells have been drilled.

Building from the IFC model, the Alliance tailored a solution for Kenyan geothermal projects and Kenyan legislation. Key features of the insurance include multi-well coverage against insufficient aggregate geothermal power output. The makeup of the insured value (drilling costs) and the aggregate capacity threshold for an insurance payment are project-specific and pre-agreed. The insurance incorporates an individual well success definition (a combination of pressure, enthalpy and flow rate). Potential salvage values (the possibility that a well is capable of use as an injection or observation well) are pre-agreed and factored into pricing. The drilling programme and the location of wells must be pre-agreed; a minimum five-well programme is likely to be required. The availability and pricing of insurance will depend upon a number of other factors, including the drilling rig quality and appropriateness, the drilling experience and record of the drilling contractor, the quality and success of the exploratory and other wells drilled, and the associated test data available, together with the drilling plan.

Next steps

This targeted proposal for a new Geothermal Development Drilling Well Output insurance product to share risk after the first exploratory wells have been drilled emerged from workshops in 2012 and in discussions with the Ministry of Energy in Nairobi. It offers great potential, however, the costs of insurance make it unattractive for any one private sector developer to develop the product individually. Therefore the Alliance is actively seeking donor support to develop a *wider* pilot insurance programme, perhaps as part of the country's NAMA (Nationally Appropriate Mitigation Action) being developed for the United Nations climate change process. Implementing this type of targeted insurance program will provide much needed risk coverage for private sector investors. Estimates made for the Alliance suggest that a relatively small (e.g., US$ 800,000) donor investment in such a program could unlock US$ 7 billion of investment in Kenya's geothermal resource.

The Alliance has begun to secure the new Kenyan Government's support following its recent appointment. To procure donor support for the development of the proposed pilot programme, a more detailed concept note is required, to address the following questions:

- How a development drilling insurance programme can benefit GDC, particularly its ability to recycle limited funds more quickly
- How a development drilling insurance programme can benefit KenGen (in particular its next 560 MW of planned geothermal developments – currently the subject of third party tenders)
- What the estimates of the impact of insurance and potential benefits are
- What the estimates of the impact on project developers and independent power producers are
- Whether the provision of power purchase agreements by KenGen can improve the attractiveness to potential investors, financiers and the government
- How great the appetite is of insurers in the marketplace and of donors for this pilot's seed funding

3. Financing climate-smart agriculture in Vietnam

What's the innovation?

The creation of the Agroforestry Partnership Fund, a portfolio of sustainable agroforestry projects that attracts private investment by using domestic public finance anchoring

Champions

Ministry of Agriculture and Rural Development of Vietnam, Nestlé, Forest Finance, Clarmondial, Global Commons Floor, International Finance Corporation and the World Bank, IDH (the Sustainable Trade Initiative), Metro, Yara, SNV (Netherlands Development Organisation), UN Food and Agriculture Organization

Background

Climate-Smart Agriculture (CSA) is a critical component of national efforts to reduce emissions, increase resilience, stabilize value chains and ultimately realize green growth. Shifting private investment to support CSA is therefore a goal for many governments with agricultural economies. However, while a number of initiatives exist, an example of how to attract private investment for CSA in practice is lacking.

Vietnam offers an excellent opportunity to provide that example. The country has set agricultural sector targets to reduce emissions by 20% by 2030, improve resource efficiency, develop efficient supply chains and reduce poverty. Cognisant of the significant investment required to finance that transformation – estimated at around US$ 3.5 billion – Minister Cao Duc Phat welcomed the opportunity to work with the Alliance to illustrate how financing can be attracted. This engagement

"We remain fully committed to implementing the green growth strategy, first of all in a low-carbon and resource-efficient agriculture sector. It is important that we invite not just public finance but also private investment and we welcome suggestions to improve the legal and administrative system for that purpose. I invite the Green Growth Action Alliance to help us get more farmers and businesses to connect Vietnam to the world."

Cao Duc Phat, Minister of Agriculture and Rural Development of Vietnam

> **Great to see progress being achieved to scale initiatives and deliver new ways to attract private sector investment. Under the leadership of MARD [Ministry of Agriculture and Rural Development of Vietnam], these collaborative platforms of the New Vision for Agriculture and the Green Growth Action Alliance have really helped to sustain that commitment.**

Rashid Qureshi, Managing Director, Nestlé Vietnam

grew from an existing public-private platform in the country facilitated by the World Economic Forum's New Vision for Agriculture initiative.

Beyond developing new finance instruments that can channel investment in CSA, certain fundamental challenges to providing financing are typical for the agricultural sector in Vietnam. A number of these challenges are provided here to illustrate the context for advancing financing for climate-smart agriculture.

Access to finance from formal banking institutions is extremely limited in Vietnam, as is microfinance activity. The premium for certification to farmers is relatively low, against high costs of input materials such as fertilizer, which can deliver higher yields and lower carbon emissions and water usage when applied well. Farmers have land rights for a small and restricted area, which raises the additional challenge of efficiently aggregating supplies and interests. The opportunity costs for any perennial crop or tree species are high and financing needs to take into consideration the lapse of time between planting and harvesting. Agricultural products require efficient infrastructure. Sustainable agriculture begins with the development of efficient supply chains to reduce waste, requiring significant infrastructure to move produce from harvest to market, ideally through storage houses and facilities that permit responses to favourable market conditions. In addition, improvement is only possible through the collaboration of the various parties in the value chain. Vietnam currently has no formal, centralized trade body that can act as a discussion or convening forum or promote the interests of the actors involved.

Taking up the challenge, the Alliance co-sponsored a kick-off workshop with the Ministry of Agriculture and Rural Development in September 2012. The goal was to identify the barriers to investment, explore models for extending credit to farmers, and develop and deliver new ways to allow lending to the rural sector by Vietnamese banks. During the workshop several possible finance models were considered, including commodity collateralized financing, microfinance, certification, warehouse receipt finance and public-private finance. The Alliance then worked to build critical mass for the most viable solutions among stakeholders and created rough frameworks for the desired structure. At an April 2013 workshop, the Agroforestry Partnership Fund concept emerged as the most promising solution.

Path to a solution

The Agroforestry Partnership Fund aims to achieve maximum leveraging of private investments through a portfolio of climate-smart agro/forestry projects with a diverse range of revenue sources and levels of profitability. To ensure the Fund's impact is directly related to climate-smart objectives and it delivers attractive financial returns, a number of environmental, social and governance metrics have been developed against which the projects will be evaluated.

The Fund's investment strategy centres on the production of ecologically-sustainable or organically-produced and certified products that can be sold at a committed price premium to the large processors. The investment focus will initially lie on sustainable forestry management, organic shrimp farming and coffee plantation rejuvenation. Projects will be commercially operated by small and medium-sized enterprises (SMEs) that show a track record of applying sustainable management practices. Projects will be positioned as business model templates to be copied by smallholder producers who make up a large share of the Vietnamese agricultural and forestry sectors. Excess returns will be invested in non-commercial activities that aim at removing obstacles hindering smallholders from adopting these sustainable production business models on a small scale. In addition, excess returns will flow to mangrove and non-mangrove conservation projects and other activities that strengthen climate change benefits. They will also aim to serve as an indirect investment vehicle for areas that offer significant co-benefits, such as the protection of coastal zones, avoided deforestation/REDD (programme on reducing emissions from deforestation and forest degradation) activities, biodiversity protection and poverty alleviation. After proving the business model, the scope of the Fund will gradually be expanded into other crops relevant to the Vietnamese agricultural sector.

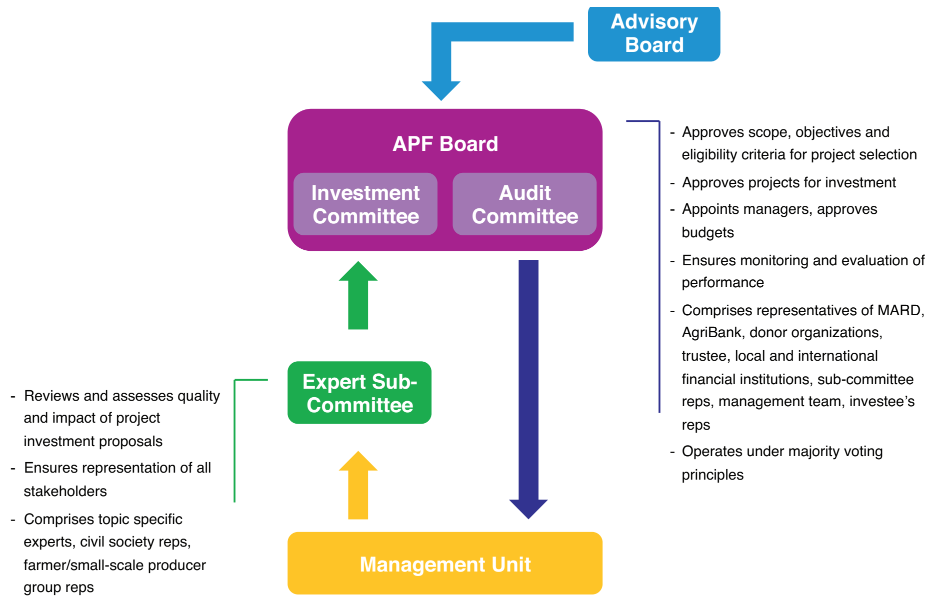
To prove the investment strategy, a US$ 50 million pilot Fund was set up in 2013; the target Fund size for round two is US$ 500 million. The Fund will aim to generate an internal rate of return in the mid to high single digits per annum for investor distribution.

The Fund will use a fully regulated governance structure; it has been designed as a professionally-managed investment entity that is administered and managed in accordance with international standards. The fee structure and revenue share model will follow industry practice in the alternative investments space. The Fund will target institutional investors such as asset managers, pension funds, insurance companies, banks and firms with a specific focus on Green Growth Action Alliance members. In addition to standard operating governance arrangements, The Fund's activities will be supported by an Advisory Board consisting of representatives of the State Bank of Vietnam, the Vietnamese Ministry of Planning and Investment, the Ministry of Agriculture and Rural Development, the Ministry of Finance and local government entities (Figure 8).

"At a time when climate change impacts are increasingly being felt, the need for practical action across the globe with strong carbon emissions reduction becomes more urgent than ever. Building on our experience established with over 600 energy efficiency and renewable energy projects and investments over US$ 14 billion, the European Bank for Reconstruction and Development is pleased to be a member of the Green Growth Action Alliance and to bring our practical project financing knowledge working with the private sector to address the global climate change challenge."

Josué Tanaka, Managing Director, Operational Strategy and Planning, Energy Efficiency and Climate Change, European Bank for Reconstruction and Development

Figure 8: Proposed Governance Structure – Agroforestry Partnership Fund abide



Next steps

The Agroforestry Partnership Fund illustrates the power of the Alliance in action. In less than one year, a unique group of agribusiness, finance, and international organization experts have worked with a host country government to create what may be the world's first illustration of how to unlock private finance for a low-carbon, resource-efficient agricultural sector that is scalable and replicable. Critical next steps for the Fund include developing a commercially interesting and climate-smart portfolio of projects, establishing the governance structure with a Vietnamese anchor entity and representatives from the relevant government ministries, and fundraising for Fund development costs, promotion and outreach to potential investors.

4. Creating new markets for energy efficient investment in Mexico and the Russian Federation

What's the innovation?

Stimulating off-balance-sheet financing of energy efficiency investments in public buildings

Champions

European Bank for Reconstruction and Development (EBRD), Siemens, Accenture, Deutsche Bank, Banorte, International Finance Corporation, Inter-American Development Bank, Mexican Government, Comisión de Estudios del Sector Privado para el Desarollo Sustentable (CESPEDES), Instituto Nacional de Ecologia y Cambio Climatico (INECC)

Background

Public sector buildings are characterized by under-investment both in the building structure and building services equipment (for heating, lighting, ventilation and air-conditioning, etc.). This causes energy inefficiencies, and the potential for significant energy (and monetary) savings. Realizing this potential requires designing, financing and implementing energy efficient investment projects. However, building owners (typically central or local governments or their agencies) often lack the technical knowledge needed to realize energy efficient investments. They also have limited funding to finance energy efficient projects, often due to current indebtedness or caps imposed on public debt.

The Energy Service Companies (ESCOs)[4] concept of Energy Performance Contracting (EnPC) addresses these constraints. Under this approach, ESCOs finance and implement energy efficient investment projects that have commercially acceptable paybacks (e.g. <10 years for building services equipment[5]); they are repaid from a share of the future savings. EnPC can be applied to a wide range of energy efficient projects, including public buildings (such as schools, hospitals, day-care centres, etc.), office and commercial buildings, and street lighting. A key feature of EnPC is that savings are guaranteed by the ESCOs – if they are not realized, they do not receive payment.

Path to a solution

While ESCOs organize financing for the required investments, they usually seek to refinance initial costs; as most ESCOs are engineering or construction companies with limited balance sheet capacity, they cannot easily support much long-term debt. Refinancing is usually achieved by selling a portion of the future receivables due under the EnPC contract by way of a forfeiting transaction[6] that takes place once the energy saving measures have been installed and the energy savings have been verified. After forfeiting receivables, the ESCO will continue to guarantee energy savings for the duration of the EnPC, which may be up to 10 years.

In such established markets as Germany, EnPC forfeiting transactions are already offered by commercial banks. In emerging markets no track record of EnPC exists so banks are not yet ready to offer these services directly to ESCOs. However, the same service can be provided by establishing Dedicated Energy Efficiency Financing Funds for ESCO financing – providing forfeiting and potentially working capital finance to ESCOs entering into EnPCs with both public and private sector clients. Such specialized funds could be established individually or jointly by any strategic stakeholder with an interest in improving the energy efficiency of buildings, including governments or government agencies, banks, ESCOs or real estate companies.

Initial capital needs for an EnPC financing fund in a given country may be quite modest – in the range €10 to €20 million. This amount is sufficient to demonstrate energy saving benefits in a number of buildings and to establish a track record of EnPC financing. An EnPC financing fund could issue bonds at a later stage to finance more EnPC projects, or commercial banks may be ready to enter the forfeiting market.

The Green Growth Action Alliance is now testing this fund concept in the Latin American market, more specifically in Mexico where, through consultation with stakeholders from across the value chain, finance has been identified as a key barrier to expansion of the energy efficiency market. As such the Alliance has convened key stakeholders to establish a specific fund structure for this market.

Next steps
The fund concept is based on the EBRD's successful experience in over 600 energy efficiency projects in its client countries across Europe..l and. The EBRD has now shared this concept with Government of Russia and with the Alliance's Working Group on Institutional Investors to gather the group's unique insights on the attractiveness of this model as a scaleable solution. Excitingly, and in terms of replication elsewhere, the Alliance's wider networks are being used to explore how this fund concept could also be applied and tailored to catalyse the growing energy efficiency market in Mexico. Next steps in this set of activities include:

- Agreeing in principle with involved stakeholders on the establishment of energy efficiency EnPC financing funds including participation, level of anticipated contributions and technical assistance needs
- Gaining investor endorsement of the proposed structure and technical assistance subject to detailed due diligence and agreement on terms
- Signing a formal mandate letter confirming stakeholders' intentions and allowing detailed due diligence to proceed and the provision of technical assistance
- Agreeing on the detailed structure of the proposed fund, followed by necessary governance approvals and the obtention of financing
- Developing ongoing support for the preparation and implementation of EnPCs and the operation of the fund
- Socializing a developed fund concept in Mexico with the aim of receiving investment commitments from the public and private sectors
- Identifying a pilot site to test the concept within the Mexican energy efficiency market

5. Innovative models for demand-pull renewable energy in India

What's the Innovation?
Pooled corporate purchasing to create demand (and more attractive financing) for large-scale renewable energy projects

Champions
World Resources Institute, Infosys, Accenture, Wal-Mart Stores, IBM, Wipro, Cognizant, ACC Cement, Confederation of Indian Industry

Background
In India, renewable energy generation is promoted through a combination of state feed-in tariffs, tax incentives, generation-based incentives and capital subsidies. Owing to the strong policy framework and National Solar Mission targets, renewable energy increased from 4% in 2010 to over 12% of India's 200 GW power production capacity in 2012. Grid-connected solar capacity has dramatically increased from 18 to 940 MW in the past few years (Figure 9).

Federal and state governments exercise control on the power sector. The federal government and federal-level regulator rule on matters that impact more than one state. The state electricity regulators are responsible for fixing feed-in tariffs in their respective states and the renewable purchase obligations of power distribution companies. Because of their rapidly declining cost, increasing availability and stable input prices, renewable energy sources offer a strong value proposition for large energy purchasers in India. However, purchasing models, financing mechanisms and improved regulatory frameworks are needed for companies to take full advantage of this opportunity.

Path to a solution
To jump-start the market for renewable power, the World Resources Institute (WRI) created an innovative purchasing cooperative among large energy consumers. The group will pool demand, jointly explore both onsite and offsite renewable energy purchasing options and engage with regulators to facilitate the

“No individual actor can solve the huge global environmental challenges we now face. We need new models of collaboration that bring together the best in business, government and civil society to deliver practical solutions on the ground. The Green Growth Action Alliance is a leading example of this new approach. The World Resources Institute has been delighted to work with the Alliance since its launch, sharing our research and experiences in unlocking private finance and scaling up corporate renewable energy purchasing to achieve critical mass.”

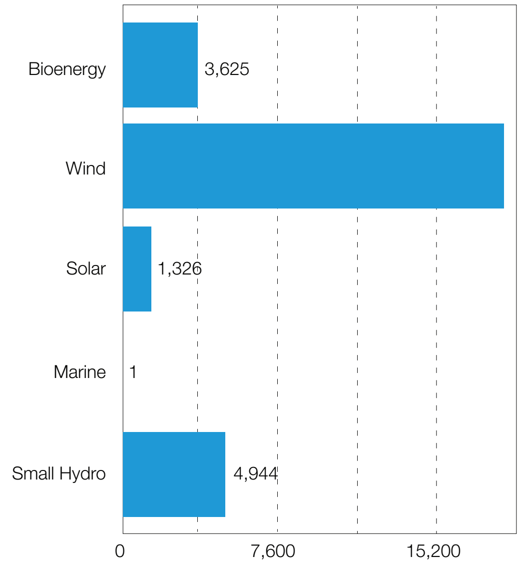
Andrew Steer, President and Chief Executive Officer, World Resources Institute

> "Companies can combine their power of purchasing in innovative ways to create a firm demand for the adoption of renewable energy. This aggregated demand from a buyers group will provide economies of scale, help influence policies and mitigate financing risks. We are pleased to share our experiences creating a pilot in India with the Green Growth Action Alliance and hope that this inspires other companies and regions to follow suit."

Kris Gopalakrishnan, Executive Co-Chairman, Infosys

Figure 9: India's Renewable Energy Generation Capacity, 2012

Source: Bloomberg New Energy Finance (2012)



expansion of renewable energy supplies. The Alliance helped to facilitate connections to several industrial companies in Bangalore that are part of the group and provided links to financial experts. Informed by this work and additional research, WRI and Alliance members are conducting a survey of effective global policy drivers that help industrials increase the use of renewable energy.

The WRI has organized three Green Power Market Development Group (GPMDG) meetings in India and a working group is exploring a joint purchase of between 5-10 MW of rooftop solar photovoltaic (PV) power, aimed at improving the economics through developing new tailored financing mechanisms for PV. Another subgroup is conducting a study of regulatory barriers in the state of Karnataka that currently increase transaction costs and prevent widespread renewable energy purchasing; the goal is to support larger-scale wind farms or solar parks. WRI has found that regulators are eager to hear from industrial purchasers about the barriers they face to greater purchasing of renewables and are willing to explore regulatory fixes that will develop the market. The US Department of Energy is also partnering with the India cooperative and is bringing innovative technologies and low-interest financing ideas.

Next steps

The Alliance was able to assist WRI with this innovative solution by bringing a larger network of corporate renewable energy purchasers to the table to complete the first pilot group in India. Next, Indian companies plan to develop contracts with standard commercial terms for onsite solar and offsite solar and wind projects that reduce transaction costs and make it easier for bidders to respond to requests for proposals from the companies. The WRI is currently conducting site visits with the companies interested in onsite solar PV to verify the potential roof space, and expects to issue a request for proposals to solar developers over the summer, aiming to have power purchase agreements signed by the end of the year. By September, the group will have evaluated the options for offsite renewable energy contracts and will work with subgroup companies to advance solutions. If all goes well, in 2014 the group expects to launch another pilot in the State of Tamil Nadu (Chennai).

In addition, the WRI is interested in replicating this model with a group of corporate purchasers in other countries, such as in Mexico. The Working Group co-chairs Wal-mart Stores and Mexican consumer products company Femsa are leading this effort.

Work Area 3: Provide New Ideas and Public-Private Models to Shape the Green Growth Policy Agenda

In addition to developing proof points to draw in private finance in specific country or sector settings, the members of the Alliance also prioritized additional work areas: addressing the problem of growing trade barriers for green technologies; more actively engaging institutional investors in green infrastructure opportunities; and developing a standardized power purchase agreement for renewable energy. This section briefly summarizes this work to shape the green growth policy agenda.

Green Free Trade Working Group

Members: This working group is led by General Electric and Vestas Wind Systems and consists of leading manufacturers of solar and wind power equipment, along with infrastructure companies, banks and large energy users with an interest in procuring more renewable energy.

The challenge: Tariff and non-tariff barriers, including local content requirements for green goods and services, trade protection measures and non-market-based technology transfer requirements, distort international trade and impede the rapid deployment of green solutions.

Activities: Building from the Sustainable Energy Trade Area concept developed through the World Economic Forum's Global Agenda Councils, the Green Free Trade Working Group built a deeper understanding of green free trade issues within the Alliance and with key policy-makers and other stakeholders. Building on the September 2012 agreement by Asia-Pacific Economic Cooperation (APEC) countries of a list of environmental goods on which they will cut tariffs to 5% or less by 2015,[7] the working group published an Open Letter for Green Free Trade to the international community.[8] The letter, signed by leading clean technology companies from large emerging economies and industrialized countries, asked governments to build on the APEC agreement to develop a truly global initiative to lower the barriers to green free trade.

Next steps: The World Economic Forum is working with the International Centre for Trade and Sustainable Development (ICTSD)[9], an Alliance member, to accelerate the Sustainable Energy Trade Initiative. Through research and analysis, ICTSD strives to inform the debate about trade in the context of sustainable energy goods and services. The ICTSD has created the SETI Alliance, which gathers several members of the Green Growth Action Alliance Green Free Trade Working Group as well as countries and think tanks to support the formulation of policies that address trade obstacles and create robust markets for clean energy technologies.

In 2013, the Forum and the ICTSD will host workshops and use key international events such as the Clean Energy Ministerial, the Global Green Growth Institute Summit in June, the Global Green Growth Forum (3GF) in October and the World Trade Organization's Ninth Ministerial Conference to build further support for the green free trade agenda, as well as to inform possible policy responses that would optimize sustainable development. Further, the OECD will build on work it finished early in 2013 on domestic incentive measures (such as local content requirements) for renewable energy with possible trade implications to explore domestic incentive measures for electric vehicles, batteries and energy efficiency improvements. Progress on this work will be fed back to the Alliance members.

Institutional Investors Working Group

Members: The working group is led by Deutsche Bank, Zurich Insurance Group the IFC and the World Economic Forum. It consists of banks, insurance companies, pension funds, ratings agencies, development finance institutions and international and non-governmental organizations.

The challenge: Institutional investors with trillions in assets under management have expressed interest in green infrastructure assets but, according to the OECD, less than 1% of pension fund assets are currently allocated directly to infrastructure as an entire asset class, such that even less is going to the green infrastructure component. While many potential financial structures have been put forward, proposals fail to provide investors with important risk and return figures. The understanding of risk at the project level is good, but the knowledge of how risks aggregate and diversify in a portfolio of green assets or how different risk mitigation tools reduce risks across projects and portfolios is lacking.

"General Electric has welcomed the creation of the Green Growth Action Alliance and its focus on advancing action-focused solutions to tackle a key global challenge: barriers to green free trade. We look forward to building on the Alliance's momentum to boost green free trade and create jobs and low-carbon growth around the world."

Karan Bhatia, Vice-President and Senior Counsel, Global Government Affairs and Policy, General Electric

“

As an asset owner with a long-term view and a responsible investor, Zurich Insurance Group is actively exploring sustainable and impactful investments worldwide, such as green investments. We have welcomed the results-focused approach of the Green Growth Action Alliance and look forward to advancing funding models and structures that attract other long-term investors to join us in transforming the global economy onto a more sustainable path.

”

Cecilia Reyes, Chief Investment Officer, Zurich Insurance Group

Activities: The Institutional Investors Working Group intends to define financial structures, levels of risk and rating requirements that will be attractive to long-term investors. It began by filling in some of the research gaps on pension fund investment in the sector, building on work by the Climate Policy Initiative[10] and the OECD[11]. It will then perform a systematic review of literature for existing or planned solutions.

In addition to the IFC Climate Catalyst Fund[12] launched at the World Economic Forum Annual Meeting in Davos-Klosters, examples of the types of financial structures that might be developed include the Global Climate Partnership Fund,[13] which was created by the German Ministry of the Environment and KfW. The fund targets developing countries and has commitments of US$ 234 million from investors in its second year of operation. It works in a variety of ways, including placing capital in local financial institutions and making direct investments in renewable energy production and energy savings. Similarly, the Asian Development Bank's Climate Public-Private Partnership (CP3) Fund,[14] launched in 2012 with the support of the UK Government and the IFC, is a new public-private partnership vehicle that allows institutional investors to access opportunities to invest in resource-efficient and low-carbon private equity and infrastructure assets and services in Asia. The CP3 Fund is using public sector seed capital, concessionary finance and risk mitigation techniques to create the conditions under which private sector investors will be attracted to invest capital at scale into emerging Asian markets. The Alliance will bring these and other models to institutional investor groups like the Global Investor Coalition on Climate Change[15] to test and validate financial solutions and structures and begin to launch selected structures to unlock long-term investor financing.

Next steps: To help inform and accelerate high-level discussions on attracting long-term investors for green growth, the Working Group will partner with the Global Investor Coalition on Climate Change to develop a framework with potential solutions for relevant sectors, regions and/or infrastructure projects, and then define the degree of risk mitigation needed to meet investors' risk appetite. It will improve the understanding of risk mitigation's role at the project level (based on project pipeline/country working groups' insights) and at the level of the financial structure (e.g. first-loss absorption; policy risk insurance) and how they interact. It will also map how risks diversify across a portfolio of projects in a single green investment area or in multiple sectors. It will then determine requirements for environmental impact measurement and reporting and shortlist the most promising financial solutions.

The group will then use this input to develop some specific financial structures in collaboration with investors, banks, asset managers and development finance institution partners. For each structure, members will determine the specifications for project selection, risk mitigation, risk retention and financial structuring and prepare dummy investment proposals based on simulated risk/returns, using hypothetical project portfolios. These outputs will then be presented as recommendations for leaders to consider at a series of high-level discussions during 2014, including at the World Economic Forum's Annual Meeting in Davos and at the planned United Nations Secretary-General's Leaders Summit in September 2014.

“

In a turbulent global market, long-term investors are increasingly looking for stable, risk-adjusted returns. The IGCC [Investor Group on Climate Change] looks forward to working with like-minded organizations to identify new ways to invest in sustainable energy and other assets in the years to come.

”

Nathan Fabian, Chief Executive, Investor Group on Climate Change, Australia/New Zealand

“Investors have a key role to play in the transition to a low-carbon economy. To shift the risk/reward balance in favour of low-carbon investments and unlock private capital requires supportive policy and well-designed financial frameworks. The IIGCC [Institutional Investors Group on Climate Change] welcomes initiatives to help further this goal.”

Stephanie Pfeifer, Executive Director, Institutional Investors Group on Climate Change

Working Group on Standardized Renewable Energy Power Purchase Agreement

Members: This working group is led by the US Overseas Private Investment Corporation (OPIC), the World Bank Group and Bank of America Merrill Lynch, and includes energy project developers, host country governments, law firms, NGOs and donor agencies.

The challenge: Despite numerous attempts to provide best practice guidance, currently project paperwork (including power purchase agreements, site leases, requests for proposals, permits, etc.) is mostly drawn up on a per-project basis. Conducting the necessary due diligence for each counterparty, including utilities, financiers, regulators and legal entities, is time-consuming and costly for all parties involved. Identifying a series of common risks and other important requirements and then standardizing these documents (while still allowing for local variations in laws, markets and geographies) could help mitigate a number of transactional expenses and remove one of the key obstacles to renewable energy financing.

Activities: This working group is identifying key principles that make renewable power purchase agreements (PPAs) bankable in emerging markets, using best practice examples from leading banks and Development Finance Institutions (DFIs), to test and implement them in a few markets. A “bankable” power purchase agreement is essentially a long-term offtake agreement with a credit-worthy buyer that provides for an adequate and predictable revenue stream.

Initial discussions have resulted in a proposal to define a set of characteristics that define investment allocations from the point of view of DFIs and international commercial banks. Initial dimensions for consideration include the maturity of the renewable energy market, the total number of financing closures and/or contracts and the size of the electricity market. The working group assumes that a number of building blocks are common across PPAs (e.g. dispatch risks, transmission/interconnection risks, tariffs, foreign currency risks); other issues will be specific to the national setting. After developing a common set of PPA terms, the working group will test the PPA in a country context(s), with the initial expectation of a focus on Kenya and Mongolia. It is likely that this work will develop in stages, initially expanding upon OPIC’s efforts to identify the key features of a bankable PPA, then developing guidance for government and regulators on the progression of favourable structures for transactions involving PPAs, and finally moving to a standardized set of modules that can be combined to create a bankable PPA in emerging markets.

Next steps: The Alliance is using its network to identify law firms and development finance institutions with expertise in the establishment of PPAs in developing countries to help drive the development of the key building blocks. This standard document will be circulated for comments to commercial banks with developing country operations and DFIs. A series of virtual meetings and workshops will then be organized to discuss the results and draft the bankable PPA template. In September-November, Working Group members will identify a country for pilot implementation, with the aim of institutionalizing and adopting the final standarized model with the Alliance’s network of public finance agencies.

“There is no doubt about the need to address global climate change. Bank of America Merrill Lynch has been pleased to participate as active members of the Green Growth Action Alliance and to contribute practical, targeted financing solutions that will unlock private investment for green growth in a number of emerging markets.”

Anne Finucane, Global Strategy and Marketing Officer, Bank of America Merrill Lynch

Work Area 4: Work with Governments, Multilateral Development Banks and Development Finance Institutions to Scale Up, Replicate and Adopt Successful Approaches

"As we work towards a universal climate agreement, we also urgently need new models of public-private collaboration to deliver results for the climate today. The United Nations Framework Convention on Climate Change Secretariat has welcomed its partnership with the World Economic Forum and its members to showcase successful financing models through our Momentum for Change Initiative."

Christiana Figueres, Executive Secretary, United Nations Framework Convention on Climate

Achieving Speed and Scale

The Alliance's work to develop proof points to draw in private investment for green growth has demonstrated that there is significant opportunity to unlock large quantities of private sector investment, using smartly targeted "mobilizing" investment and technical assistance. These—and other—solutions in development by the Alliance and its members now need to be applied to achieve scale, and to help meet the US$ 700 billion in annual investment needed to address climate change in the power, transport, industrial and other sectors.

Strong potential for private sector leveraging exists. For example, a Partial Credit Guarantee instrument developed for the Indian renewable energy market has achieved private finance leverage of over US$ 40 for every dollar of mobilizing finance from the UK Government.[16] The US$ 500 million Catalyst Fund is expected to achieve a leverage ratio of at least US$ 4 in private capital per each US$ 1 in public investment, based on the performance of similar funds from multilateral development banks. The EBRD's Energy Efficiency Layered Fund is also expected to mobilize private finance at similar leverage ratios, and the Agroforestry Partnership Fund is also receiving positive initial reactions from investors.

Other instruments could be equally effective in developing private investment by creating a positive enabling environment for green growth. For example, the floor price mechanism for India's National REC Market is designed to create a stronger price signal to attract private investment at the levels targeted by the National Solar Mission. The insurance mechanism being developed for early-stage geothermal development in Kenya can also unlock private investment by overcoming one of the key investor risks; this mechanism could be applied to similar geothermal markets around the world.

Lessons Learned

To achieve speed and scale, the innovative public-private approach that the Alliance has developed needs to be more widely adopted and shared with development finance institutions, private finance players and long-term investors. Key lessons from the Alliance's first year of operation provide helpful guidance, including:

- **Ensure more active donor and public-private coordination to reduce transaction costs for private finance players**. Better coordination between development finance institutions and the private sector is urgently needed. Further, the presence of multiple donors in the same countries and sectors – often with overlapping and conflicting goals – is extremely difficult for private finance providers to navigate. The Alliance has shown the value of a neutral platform in-country in developing a shared vision to unlock private finance for particular green sectors. This type of coalition has stretched all of the individual actors to provide new and innovative solutions that were not possible working individually.
- **Make unlocking private finance a key performance metric for public finance institutions**. Given the scale of the investment needed and the limited public budgets available, DFIs and multilateral financial institutions must change their thinking. These institutions must begin to shift their focus from financing projects to de-risking and catalysing private investment. Reporting on private sector leveraging to the G20 each year would be a start.
- **Increase the absorptive capacity of host countries for green investment**. Local banks and governments are less versed in newer clean technologies and are even less aware of creative financing mechanisms. Donor and private finance providers need to educate the local finance players and the host country government, showing them the opportunity for increased lending to green sectors and demonstrating the ways and means (including standardized PPAs and documents) to achieve accelerated investment.

The Path Forward

While the financial solutions developed by the Alliance in its first year were developed with the target countries in mind—through the leadership and collaboration of governments, NGOs, investors and financial institutions—they can be replicated and multiplied globally in multiple sectors. No one organization owns these outcomes; the Alliance has shown the value of creating a neutral convening platform to help a diverse group of stakeholders deliver targeted, impactful solutions.

In addition to sharing its approach and the specific financing solutions with international processes like the UN Green Climate Fund and the G20, the Alliance is working to socialize its approach with a growing number of other platforms and initiatives that aim to mobilize private finance for green, climate-friendly growth, including:

- the Global Investor Coalition on Climate Change[17]
- the G20 Development Working Group Dialogue Platform on Inclusive Green Growth[18]
- the World Bank's new Climate Strategy
- the Climate Group's China Green Finance Initiative[19]
- the OECD Project on Institutional Investors and Long-term Investment[20]
- the Global Commons Floor[21]
- the Australian G20 Summit in September 2014
- the United Nations Secretary-General's planned Leaders Summit on Climate Change in September 2014

Further, G20 governments are ramping up their own collaborative efforts on mobilizing private finance. For example, on 11 April, the US Government convened climate ministers and senior finance officials from 14 major donor countries to discuss increasing climate finance in the context of commitments made under the United Nations climate convention The meeting focused on how to use public funds to leverage significant private sector investment in low carbon infrastructure and adaptation in developing countries.

Participants reviewed the barriers to scaling up private flows, considered effective interventions and reviewed new approaches. They discussed how to enhance private sector engagement and improve donor coordination in multilateral and bilateral climate finance. Participants agreed to take stock of these and other coordinated and private sector efforts at a ministerial meeting in the fall.

Moving forward, the Green Growth Action Alliance will evolve into its next phase of developing proof points and tracking progress, moving on from being solely a World Economic Forum initiative. The Alliance will spend the coming months strengthening its strategic relationship with groups like the Global Green Growth Institute, the World Bank Group and many of the platforms and initiatives listed above. The goal is for the Alliance's approach for engaging public and private stakeholders in results-orientated activities to be more formally institutionalized and replicated and to become standard practice for catalysing investment in green growth and for countries' planning processes. The Alliance will continue to support the various pilot projects described in this report, with the aim of moving them from concept to market implementation and adoption; and it will also form a multi-agency public-private Steering Board co-chaired by the IFC and the World Economic Forum to help focus its next set of activities.. Figure 10 outlines the planned milestones and events the Alliance has set out for the months leading up to – and including – the World Economic Forum Annual Meeting 2014 in Davos-Klosters.

"The Global Green Growth Institute is a strong supporter of the Green Growth Action Alliance – an innovative partnership that has successfully designed financing mechanisms to spur investment where most needed: at the national level. We look forward to deepening our relationship with the Alliance in the months to come, to transform the global green investment opportunity one country at a time."

Howard Bamsey, Director-General, Global Green Growth Institute

Figure 10: Green Growth Action Alliance Milestones and Next Steps

Endnotes

1. B20 Seoul Creating Green Jobs report, Working Group IX, G20 Summit in Seoul, South Korea, November 2010.
2. See http://www.weforum.org/reports/green-investment-report-ways-and-means-unlock-private-finance-green-growth.
3. Achieving these investment targets is a necessary step towards meeting more ambitious targets in the longer term; for example, by 2050, investment needs in transport alone will reach US$ 3 trillion per year on average when including reconstruction, upgrade, operational and maintenance costs on roads, rail, bus rapid transit, high speed rail and parking. International Energy Agency, World Energy Outlook 2013.
4. ESCOs (Energy Service Companies) are usually engineering or construction companies.
5. This includes boilers, heating points or heat exchangers, lighting, control systems, internal or external insulation, ventilation systems, appliances and other equipment, etc.
6. This transaction typically involves a third party that purchases the ESCO's share of future receivables, and the use of this money as collateral to allow the ESCO to receive a more favorable refinancing rate.
7. See http://www.ustr.gov/about-us/press-office/fact-sheets/2012/september/apec-environmental-goods.
8. See http://sustainability.thomsonreuters.com/2012/10/09/open-letter-for-green-free-trade/.
9. http://www.ictsd.org/.
10. Climate Policy Initiative, The Challenge of Institutional Investment in Renewable Energy (2013), download at http://climatepolicyinitiative.org/publication/the-challenge-of-institutional-investment-in-renewable-energy/.
11. Christopher Kaminker and Fiona Stewart (2012), The Role of Institutional Investors in Financing Clean Energy, OECD Publishing; Georg Inderst, Christopher Kaminker and Fiona Stewart (2012), Defining and Measuring Green Investments: Implications for Institutional Investors' Asset Allocations, OECD Publishing; Raffaele Della Croce, Christopher Kaminker and Fiona Stewart (2011), The Role of Pension Funds in Financing Green Growth Initiatives, OECD Publishing.
12. See http://www.ifc.org/ifcext/spiwebsite1.nsf/f451ebbe34a9a8ca85256a550073ff10/840fa8c5c9e590fa8525791a005528c4.
13. See http://gcpf.lu/.
14. See http://www.adb.org/printpdf/projects/44158-072/main.
15. See http://globalinvestorcoalition.org/.
16. World Economic Forum, Financing Green Growth in a Resource-constrained World (2012).
17. See www.globalinvestorcoalition.org.
18. See http://www.g20mexico.org/index.php/en/publications/441-el-crecimiento-verde-en-la-agenda-del-desarrollo-del-g20.
19. See http://thecleanrevolution.org/publications/shaping-chinas-climate-finance-policy-1.
20. See http://www.oecd.org/finance/lti.
21. See www.globalcommonsfloor.org.

Green Growth Action Alliance Members

The Green Growth Action Alliance is supporting the scale-up in green growth through the collaboration of more than 50 leading financial institutions, corporations, governments and nongovernmental organizations. By bringing together the knowledge of many different stakeholders, the Alliance aims to work with governments to help them adopt a systematic approach that rewards innovative green sectors through sound policies and improves their access to finance. Alliance members aim to achieve this by: collaborating to identify and deploy public money that can be used to unlock and utilize private-sector investment; identifying innovative financing and de-risking structures; supporting pilot testing of new models; and sharing results with international processes.

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Applied Materials
Bank of America Merrill Lynch
Barclays Capital
Black Sea Trade and Development Bank
Climate Development Knowledge Network
Climate Policy Initiative
Deutsche Bank Group
Environmental Defense Fund
European Bank for Reconstruction and Development
European Investment Bank
FEMSA
GDF Suez
GE Energy
Global Green Growth Forum
Global Green Growth Institute
Grupo Financiero Banorte
Hanwha Group
HSBC
Iberdrola
Infosys
Inter-American Development Bank
International Centre for Trade and Sustainable Development
Japan International Cooperation Agency
KfW Bankengruppe
McKinsey & Company
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Nacional Financiera SNC
Novozymes
Organisation for Economic Co-operation and Development
Overseas Private Investment Corporation
Philips Electronics
Private Sector Center for Sustainable Development Studies
Samsung Electronics Company
Sekunjalo Investments
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Suzlon Energy
Swiss Reinsurance Company
Thomson Reuters
Trina Solar
United Nations Environment Programme Finance Initiative
United Nations Foundation
Vestas Wind Systems
Vnesheconombank
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Green Growth Action Alliance Secretariat, World Economic Forum

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For more information about the Green Growth Action Alliance, visit http://www.weforum.org/issues/climate-change-and-green-growth

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