



SUMMARY

Mobilizing Public and Private Funds for Inclusive Green Growth Investment in Developing Countries

A Stocktaking Report Prepared for
the G20 Development Working Group

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Summary

The G20 countries have increasingly recognized the importance of green growth in recent years, and many countries are demonstrating strong leadership through effective and progressive policies. The focus has so far been on creating new economic opportunities while solving environmental and resource scarcity challenges. However, governments do not act alone—the private sector is a natural partner, providing new technologies, business models and investment opportunities across a variety of sectors to help scale-up transformation. Since the 2008 Pittsburgh G20 Summit, in order to foster these partnerships and leadership by the private sector there has been a surge in related intergovernmental, non-governmental and private sector platforms, to actively promote government policies and public-private partnerships to deliver greater investment in resource-efficient, low-carbon infrastructure and services. Recognizing gaps in the discussion on financing green growth in low income countries, the G20 Los Cabos Communique in 2012 enhanced the focus on inclusive green growth through, inter alia, the creation of a Dialogue Platform on Inclusive Green Investments (DPIGI) as part of the Development Working Group (DWG) program.

As the largest development finance institution dedicated to private sector development, with a strong emphasis on sustainability, International Finance Corporation (IFC) was commissioned to undertake an extensive literature review as a stocktaking exercise on existing mechanisms to mobilize private capital

for inclusive green growth (IGG) investments in developing countries, as preparation for Los Cabos. Following the completion of that work, IFC was asked to expand the stocktaking exercise and provide insights on how the DPIGI could engage new stakeholders such as institutional investors in support of IGG investments. This report presents the findings of this work for review by the DWG. The full report follows this overview. In addition, a series of supporting documents and materials, most of them specifically created or commissioned in support of this work, will be made available as part of the final report produced for consideration at the G20 meeting in St. Petersburg in 2013.

An initial challenge has been the absence of an agreed definition of IGG. IGG can incorporate a wide range of sectors with very diverse investment characteristics and challenges, as well as a wide range of countries at differing levels of development. The importance of green growth for development is being increasingly documented as reflected in several recent reports including *Inclusive Green Growth: The Pathway to Development* (World Bank, 2012), and *Putting Green Growth at the Heart of Development* (OECD, 2013). The working definition used in this paper is intentionally broad and encompasses investments that support economic growth in a clean, resilient and sustainable manner; the inclusive component is focused on base of pyramid (BOP) and low-income countries or such subsets of population within other developing countries. The literature review and supporting research are presented in a manner intended to

allow the reader to pursue those issues associated with IGG of most interest, while also addressing the specific objectives associated with the potential role and form of the DPIGI.

This overview starts with the high-level findings of the expanded literature review. In order to help readers navigate the vast amounts of information reviewed, a software tool has been developed that allows searches by theme, geography, sector, instrument, and other interests. The overview then provides a mapping of financial flows relevant to IGG based on existing information and identifies gaps in our knowledge along sectoral and geographical lines. We next review several case studies of initiatives that offer insights into the larger context of existing efforts to promote IGG, and provide a baseline for possible discussion of strategies for scaling up investment through the DPIGI. These include examples based on new technologies, new business models, and the provision of better information, all with particular reference to inclusive green growth. The penultimate section addresses two aspects of financing: leverage in the context of development bank activity and the lack of institutional finance directed to green growth. Finally, a concluding section outlines issues that may warrant further exploration and discussion by the DPIGI.

Literature Review: What Do We Know?

The updated bibliography of publications relevant to IGG and finance encompasses more than 160 sources, each reviewed for key messages and relevance to the particular interests of the DPIGI. A detailed analysis of these reports including their main findings and a checklist of key features will be included in the supporting documents to be provided with the final report.

It is difficult to summarize the findings of such a large body of material in a few

paragraphs. What emerges from the review is that much is being published in the area of green growth and climate finance, but little of it is based on original research; rather, most of it draws on existing work or “received wisdom.” Lacking consistent definition, review of this literature is also problematic as terms are not used consistently, and data cannot be easily compared across sources. Many reports provide qualitative and/or illustrative discussion of barriers to investment, and provide policy prescriptions. The most interesting elements of the reports from a DPIGI standpoint may well be specific case studies, describing successes (or failures) on the ground.

Nonetheless, most reports reiterate certain common themes. Most reports talk about the need for effective policies—either to create investment-grade environments, or to compensate for market failures; some provide qualitative and/or illustrative discussion of barriers to investment, and provide policy prescriptions. Successful examples of climate-related investment indicate that mandates and regulations have been the most important drivers. Predictability and policy-certainty are also often mentioned. Several reports mention the removal of subsidies, notably on fossil fuels, and the institution of carbon pricing. Many reports also talk about the judicious use of public funding, provided in the form of dynamic subsidies, as a means to leverage private investment. Certainly the review reinforces the recommendations for future work for the DPIGI that are identified in this report.

In order to render this large trove of information more accessible and user-friendly, and to help overcome confusion with respect to terms and the scope of analysis, a sophisticated knowledge management software was used that will allow readers multiple access points to filter the information, thereby increasing the likelihood of being able to narrow the investigation to the sector, geography, technology, or other information being sought. (Examples are

provided in the main report.) Searches will be possible using a topical database organized along relevant categories, key themes, keywords, and questions likely to be of interest to different users. As the DPIGI develops, such a tool could provide intelligent and immediate access to vast amounts of relevant information. A publicly accessible version of this tool will be provided with the final report.

Mapping of Finance Flows: Where are the Gaps?

It is evident that financing of green investment has been growing, with financing levels of about US\$ 350 billion in 2010/2011—the bulk of it private sector funding for renewable energy projects. Global financial flows for adaptation are considerably lower, at US\$12–16 billion, with a significant portion based on North-South flows and primarily from public sources. The dominant source of funding for green investment is domestic or local finance in all regions, and the private sector accounts for the lion's share of total investments. Institutional investors represent a minute portion of these flows.

In order to establish a baseline for assessing financial flows currently being directed toward inclusive green investments, the data available in the literature reviewed were mapped to analyze the reported allocations of finance to green investments in a systematic way. The primary objective of the exercise was to identify private sector investment gaps in sectors, geographies, and technologies with regard to IGG globally. Only 16 publications out of the more than 160 analyzed included substantial data on finance flows appropriate for mapping; however, most reports do not track flows under the rubric of IGG, and much of the data available is under the mantle of climate finance.

Only a handful of publications identify, collect, and report primary sources of data; the

remaining reports include analyses of different subsets of the data and report them in different formats. As a result, any errors, omissions, and inconsistencies in the primary sources are replicated and compounded across other publications. For example, relative to large scale renewable energy projects, the data sources for energy efficiency and adaptation are much less well developed because the relevant investments are often not clearly labeled, and therefore may be embedded in larger financing, and/or are usually not publicly reported. Data on smaller-scale financial flows for IGG to developing countries are especially limited, often inconsistent, and with major gaps. Furthermore, the absence of consistent definitions makes it all the more difficult to disaggregate flows to developing countries and to specific sectors. This constraint, noted in all the reports mapping green finance, makes it particularly challenging to assess private sector contributions to adaptation and other non-mitigation-related investments.

Two areas of financing—the role of development banks and institutional investors—are examined in greater detail, and discussed later in this summary.

Selected Case Studies: What Do They Tell us?

Numerous initiatives related to green investment and the IGG agenda were identified as possible sources for insight into the potential role of the DPIGI. Consistent with the broad scope and diverse strategic approaches to promoting IGG, seven case studies were examined to expand on the insights from the literature, most commissioned for this report—ranging from promoting new technologies and business models to improving information generation and availability. An overriding conclusion is that while financing is almost always a necessary element for success, it is often not the primary barrier to

greater IGG investment. Indeed, the absence of financing is often an indicator of other deficiencies in the enabling environment, such as poor policies, inadequately proven technologies or business models, or lack of consumer awareness and acceptance. The case studies also illustrate the importance of local factors and market considerations; the barriers to clean cookstoves and solar lanterns in one country region may differ from those in a neighboring jurisdiction, which can make replication and scaling up even successful models complicated, resource intensive, and time-consuming. Short summaries of these case studies follow.

This report draws heavily on experiences within the IFC and WBG reflecting the authors' greater access to documents and sources produced by these institutions. While information was sought from other IFIs, the most up to date and well documented material was also often not readily available. A sampling of some of the publicly available literature documenting the experience of other international financial institutions follows and shows that they too have a plethora of IGG-related financial initiatives now underway (See Box 2). The further development of the DPIGI offers an opportunity to engage these institutions and to draw on their experience.

Promoting IGG through New Technologies

One of the most promising strategies for advancing IGG objectives is through new technologies of particular benefit to BOP and lower income populations. In selling to poor populations, financing initial equipment cost is often a critical barrier, even if the new technology replaces a more expensive and intermittent service, as with improved cookstoves that reduce fuel costs, or solar lanterns that replace kerosene lamps.

Clean Cookstoves

Approximately three billion people in South Asia and Sub-Saharan Africa rely on solid

fuels (coal and traditional biomass) for cooking. In order to improve energy access, direct health benefits and reduced indoor air pollution, numerous initiatives have emphasized the provision of efficient cookstoves and clean fuels to poor households. However, despite many projects led by the World Bank and others over the past 20 years, large-scale adoption has yet to materialize due to a variety of context-specific barriers on both the consumer and producer/distributor sides. Financing the working capital needs of producers and distributors is often one challenge, while lack of information, awareness, and cultural barriers dominate for consumers.

Solar Lanterns:

About 600 million people in Africa have no access to electricity, and rely on increasingly expensive, hazardous, and polluting fuel-based sources of energy for their lighting needs. The World Bank Group and other MDBs are working with a new generation of off-grid lighting products or systems that generally comprise an electricity source (most commonly, a solar panel); a modern rechargeable battery; and an LED lamp or lantern. These projects incorporate several types of support: product testing (particularly important, as poor quality products undermine consumer confidence and “poison the market”); market intelligence; access to finance; business development support; and collaboration with governments to identify and address policy barriers.

Developing New Business Models

Another strategy for advancing IGG objectives is through new business models that can address some of the constraints and risk perceptions associated with BOP and lower income populations. Here, too, financing is a critical requirement—but enabling policies, capacity building, and public-private partnerships and dialogue are equally important. Often, such endeavors involve adapting a successful business

model from one context to another, be it from developed country to developing country, or one market segment to another.

Clean Water Services

Access to clean water is one of the most important needs of the poor. However, traditional provision models often fail due to infrastructure degradation resulting from the absence of technical capacity and cost-recovery mechanisms required for long-term sustainability of operations. Many innovative ideas are being explored, but the solutions will require time and care to evaluate and, if successful, to replicate elsewhere. One new business model for off-grid, distributed services, being implemented in rural Kenya by IFC with the Safe Water Network, includes reduced grid infrastructure requirements to substantially lower costs; initial financing for testing and evaluating business models; market testing of services to determine ability and willingness to pay; collaboration with relevant government agencies and NGOs; and engagement with local banks to help meet requirements for commercial lending.

Energy Efficiency

Energy efficiency (EE) investments can be profitable and contribute to green growth in multiple ways, including reduced pollution and resource requirements, as well climate change mitigation. Yet, even when the economic viability is proven, there are barriers to more widespread adoption, particularly in developing countries. The private sector-focused multilateral development banks (MDBs), notably the European Bank for Reconstruction and Development (EBRD), through its Sustainable Energy Initiative and IFC, through its Sustainable Energy Financing program, have made EE into a business line. They package technical assistance and capacity building together with financial support, generally in the form of

credit lines and/or guarantee facilities. This approach has repeatedly proven successful and low-risk and continues to be replicated and scaled up.

For the most part, however, commercial EE lending does not address the needs of the very poor or BOP segments, as they are outside the commercial banking system. Micro-credit programs or targeted publicly-supported programs (as for solar lanterns and cookstoves) have generally stepped in to fill the breach. This may be changing with the advent of cellular phone-based banking, which dramatically reduces transaction costs and barriers for banking in rural areas and for smaller accounts.

Insurance Products and Services

Intrinsic to the concept of IGG is the mitigation of and adaptation to otherwise unavoidable natural disasters. The availability of insurance substantially reduces the near- and long-term economic impacts of natural disasters, while reducing the burden on individuals, as well as on in-country and foreign governmental aid. Insurance is at an earlier stage of evolution in developing countries, with growth rates routinely outstripping GDP growth. There is much potential for further developing this market in multiple ways, including:

- Extending the availability of insurance to manage risks in the developing world.
- Working to promote resilience and adaptation to changing weather and climate extremes through innovative insurance products and services that support green growth.
- Investing in and financing green growth and adaptation projects. Insurers could bring large amounts of new funds to bear on inclusive green growth projects, and have already made a strong start in devoting resources to green projects in the industrialized world.

Providing Better Information

Often, lack of information and awareness hinders the development of products and services adapted to local conditions and needs. Making information more widely available can enable investments, sometimes very cost effectively.

Weather Observation and Early Warning Systems

Reliable, on-time weather information and forecasting are vital to economic activity and disaster preparedness, and early warning systems can avoid the need for more expensive disaster recovery. Lessons from early efforts to promote new weather technologies show that while financing is a critical element, mechanisms to ensure sustainable revenues, systems maintenance, and responsive business and humanitarian applications are also necessary, as are the full support and buy-in of national weather agencies deploying these technologies. Furthermore, attempts to meet developing country needs through technologies commonly used in developed countries usually result in unsustainable networks that perform poorly. An emerging set of lower-cost, highly reliable technologies, building on cellular networks (rapidly growing in most developing countries) has the potential to overcome many of the traditional barriers to weather observation.

Country Risk Indicators

Country-based indicators that help inform investors about the barriers and opportunities for investment are compiled and reported in many forms, e.g., the Global Green Economy Index, published by Yale University, and the Doing Business Report produced by the World Bank Group. These concepts are increasingly being applied to various elements of green growth; e.g., a recent index produced by the Inter-American Development Bank focuses on the climate for renewable energy investment in Latin America. Initial exploratory

work was commissioned for this report to develop and test metrics that will help private investors evaluate climate risks pertinent to specific sectors (e.g., coastal infrastructure) in specific countries.

An IFC study with a port client in Colombia illustrates the potential benefits of this approach. With donor support, the client was given detailed information on potential risks of sea level rise and other probable climatic changes relevant to the financial performance of the port. With this information, the client decided to spend over US\$25 million to make improvements that will enhance the climate resilience of the port—an investment triggered entirely by a small expenditure on making information and awareness available to the company.

Financing Green Growth: How Do We Unlock Private Investment?

The above sections have highlighted a number of interesting initiatives that speak to IGG. The mapping exercise indicates that while the financing of green growth has been increasing, it is nowhere close to the projected need of up to \$275 billion annually in incremental investment in developing countries to 2030 to meet the additional costs associated with stabilizing global temperatures at 2°C (World Development Report 2010). Furthermore, very little is explicitly directed to IGG and BOP initiatives. Strategies to increase financial flows toward green growth recognize the important role that the private sector must play, and the need to find ways to achieve greater “value for money” so that limited public dollars can leverage significant multiple investments from other investors, although leverage is not always an indicator for impact.

Financing by multilateral and national development banks for climate related investments has been steadily growing, as the

institutions make addressing climate change an explicit element of their strategy. They also provide an interesting platform through which to study leverage, particularly as it relates to the private sector. Yet, development bank financing remains a small portion of overall financing needs, and is constrained by the capital base of the institutions. At the same time, institutional investors control many trillions of dollars in assets—a very small portion of which reaches green investment (and an even smaller amount going to developing countries). Unlocking even a small share of these flows could provide a significant boost to the availability of investment resources.

Understanding Leverage: IFC's Experience

Development banks—whether global, regional or national, or multilateral, bilateral, or domestic—can play a significant role in financing green investment and IGG, and in leveraging significant resources from the private sector to do so. This report highlights in depth analysis of leveraging achieved through IFC's climate finance experience, for which detailed information is available for the period 2005–2013. These findings can just as easily be applied to other private sector-focused development banks, as they follow similar funding models. Detailed data on these other banks' activities were not available to permit a comparison, and the report therefore confines itself to reporting on IFC's experience.

Just as there are no standard definitions of climate finance, green investment, or IGG, there is no universally accepted definition of leverage. Furthermore, leverage is only one part of the story, and is not always an indicator of development impact. Most discussions of leverage refer to the ratio of total funding to public funding, although this can be further nuanced by specific reference to private funding, or to climate finance.

An IFC analysis of its climate portfolio reviewed different sectors—renewable energy,

energy efficiency, and other climate-related activity, further disaggregated by project type (such as power generation, industrial energy efficiency, and financing through intermediaries, to name a few). The results reveal that one dollar of IFC financing—itsself raised in capital markets based on significant leveraging of shareholder capital—was leveraged around four times from other investors (essentially private, given its mandate) across the 563 projects examined. Not surprisingly, greater leverage is achieved with well-established technologies. In newer areas, or with less well understood business models, active “selling” of the climate component can help spur investment, and concessional finance can often nudge investment into promising but as yet commercially unproven areas. In all cases, climate-related investment needs a conducive underlying investment environment.

Even though the volume of financing may be small relative to the global need, development banks often play a very important role in demonstrating the viability of investments, thereby opening up markets and paving the way for others to follow.

Institutional Investors: The Challenges and The Opportunities

Institutional investors are a diverse, highly differentiated group, and include public and private pension funds, insurance companies, and sovereign wealth funds—all subject to very different regulatory and management environments. The complexity of the investment system means that institutional investors rely on a chain of service providers. Fund trustees, advisors, asset managers, policy makers and regulators all play important roles in the investment decision. As a result, introducing new asset classes or investment themes takes time to embed in the decision making process.

The governing principle for investment decisions by pension funds is fiduciary duty: acting

in the long-term best interests of the beneficiaries. National and international regulations (such as Basel III and Solvency II) drive investors to act conservatively and seek relatively large, low-risk, liquid, long-term investments that deliver steady, preferably inflation-adjusted income streams that are matched to their liabilities. Portfolios are traditionally built around two main asset classes: bonds and equities.

Investors frame green investing primarily through the broader environment, social, and governance (ESG) lens, focused primarily on protecting their reputation rather than with an explicit sustainability objective. Even though studies have shown that incorporating ESG in the investment process can enhance returns and/or reduce risk, many investors have yet to think about how best to integrate sustainability into investment strategies. Furthermore, investors are cautious of repeating bad experiences; the collapse of solar photovoltaic and wind turbine manufacturers, driven by price declines and retroactive policy changes that include reversal of clean energy subsidies in parts of Europe, has damaged investor confidence.

In-depth interviews with investors undertaken for this report reveal the following main barriers to scaling up green investments:

- Lack of an economic business case: perceived lack of investment opportunities, policy reversals.
- Policy uncertainties: lack of meaningful action on climate.
- Developing country risks: poor governance and inadequate investment processes.
- Lack of track record.
- Liquidity concerns: green infrastructure investments can tie up capital.
- Investment time horizons: financial performance assessed on short-term results.

These barriers appear to apply more acutely to financing originating from OECD-

based investors. However, pension fund assets in non-OECD countries have been growing over the last few years, and while fiduciary duty remains the overriding objective, developing country pension funds are more likely to consider the broader socio-economic context in which they operate. Furthermore, in most developing countries, the majority of retirement assets are linked to social security systems, and managed by government-controlled agencies. National pension plans can be leaders in infrastructure investment. South Africa provides a very interesting case study of how regulatory changes are beginning to raise awareness and drive investment choices; the Pension Funds Act now requires investors to explicitly consider ESG issues in their investment decisions. One advantage of emerging markets is that the pension fund industry is usually at an earlier stage in its evolution, and less set in its ways—thus, more open to new ideas. Sovereign Wealth Funds based in emerging markets are another potential source of IGG financing, particularly with respect to green infrastructure.

A gap analysis was undertaken to gauge the progress of existing green investment related initiatives including industry groups and investment initiatives e.g. Green Growth Action Alliance, toward addressing some of the challenges mentioned above. Forty-eight existing initiatives with a green investment feature were mapped according to four criteria assessing their progress toward influencing the investment process, public policy, direct investment, and industry mindset. These initiatives were further divided into four categories based on their primary type of activity: Movers—those that directly allocate capital and provide a conduit for asset flows; Influencers—those that seek to influence others in the finance system to behave in particular ways; Thinkers—those that provide thought leadership and research; and Tools—those that provide systems support via ratings systems, credit worthiness, and systems to measure risk/return, and were rated by

their assessed progress. Figure 1 is a visual representation of the findings.

As the figure illustrates, most initiatives to date can be categorized as Influencers and Thinkers; very few initiatives have entered into the space where they can be described as Movers engaged in allocating capital and providing a conduit for asset flows. Moreover, it is a relatively narrow subset of investors that is likely to take the lead on the initiatives reviewed. Identifying and encouraging this group of potential leaders within the investment community will therefore be an important objective of the DPIGI. In addition some investors were interviewed and their observations and recommendations relevant to their green investment activity include:

- The need to change the narrative: rather than wait for an ideal investment framework, investors should set out their expectations of the policy community and help make it happen.
- Governments need to price externalities, provide first loss support, and create proper legal frameworks related to governance and policy measures.
- Multilaterals can play an increased role in establishing precedents for investing and opening up markets.

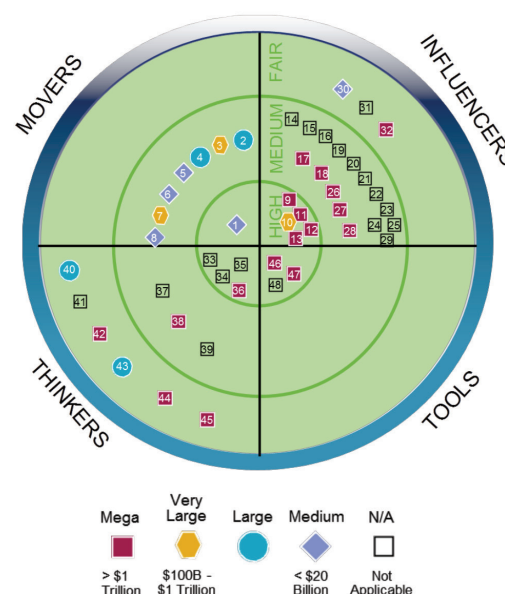
Toward an Agenda for the DPIGI

Issues for possible exploration by the DPIGI are identified throughout the main report, including in each case study. Several areas of general relevance for further exploration and discussion by the DPIGI include:

Exploring Initiatives Most Likely to Address BOP and IGG Issues:

The case studies discussed in the report—new technologies, new business models, and information provision—all have precedents in

FIGURE 1: Investor Initiatives Mapping by Primary Role and Objectives



Source: Mercer, Internal Analysis Produced for IFC (2013)

developed countries but relevance for the developing world, and in particular, the least developed countries.

Scaling Up Existing Activity:

While very inadequate, substantial green investment is currently taking place within existing policy frameworks and without special incentives. This is the case for many development bank activities focused on SMEs and BOP needs, and investments in well-established green technologies through private financing. These activities provide a baseline for short-term opportunities to scale-up.

Tapping the Institutional Investor Community:

The DPIGI has the opportunity to fundamentally change the investor mindset from the perception “green investment loses money” to green investment is seen as the fundamental path to preserving long-term economic growth.

An objective of the DPIGI could be to help identify, validate, and communicate the risks of failing to take into account climate change, food security, and other objectives of inclusive green growth. Through a DPIGI, governments can call for policy and regulatory change; to increase investor support for industry initiatives; and to facilitate the efficient deployment of capital for green investments.

Shifting the Metrics of Financial Return to a Broader Concept of Development Dividends:

As traditionally defined, financial returns omit many broader and longer-term development considerations. An issue for the DPIGI to explore is how the two can be combined to the benefit of all, based on emerging initiatives such as that in South Africa.

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