

Private Investment in Green Growth and Climate-Related Activities: Bibliography

PREPARED FOR:
G20 DEVELOPMENT WORKING GROUP

JUNE 4, 2012
CLIMATE BUSINESS GROUP



**International
Finance Corporation**
World Bank Group

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The Landscape of Climate Finance (2011, 101 pp)

AUTHOR: Climate Policy Initiative

LINK: <http://climatepolicyinitiative.org/wp-content/uploads/2011/10/The-Landscape-of-Climate-Finance-120120.pdf>

SUMMARY: This paper assesses the current status of the climate finance landscape, mapping the life cycle of finance flows, i.e. the sources of finance, intermediaries involved in distribution, financial instruments, and final uses. At least \$ 97 billion per annum of climate finance is currently being provided to support low-carbon, climate-resilient development activities, not all of which is additional to the finance available prior to the Copenhagen Accord. This includes some developing countries and domestic sources, although to a limited extent.

The amount of private finance is almost three times greater than public finance. Out of the \$97 billion in global climate funding, on average \$55 billion is provided by the private sector, while at least \$21 billion is provided by public budgets. Private funding is in the form of direct equity and debt investments, to which bilateral and multilateral agencies and banks also contribute another \$20 billion by leveraging the public funding they receive. A relatively small share – less than \$3 billion – is provided by carbon markets and voluntary / philanthropic contributions. Public finance is raised through carbon market revenues, carbon taxes, and general tax revenues. The relatively small role of the public sector compared to the private sector is a reminder of the fact that capital investment is crucial for any mitigation and adaptation activities. Many developing countries lack developed capital markets – i.e. a well functioning banking system, a public debt market and/or a public equity market – requiring them to rely, instead, on international capital investments. The poorest countries must rely on development banks.

Most climate finance, \$74-87 billion out of \$97 billion, can be classified as investment or more generally including ownership interests. Around \$56 billion is in the form of market rate loans; of this amount, \$18 billion is through bilateral and multilateral institutions like IFC and EIB while \$38 billion is through the private sector. Another \$18 billion is provided as equity, of which \$16 billion comes from the private sector. Concessional loans (\$13 billion) are typically provided by bilateral and multilateral banks. The remainder of \$8-21 billion of climate finance, is comprised of instruments such as policy incentives, risk management facilities, carbon offset flows and grants. The large investment/ownership finance component is due to the lack, in many developing countries, of developed capital markets required to raise investment capital.

Mitigation activities tend to have more private sector participation, as they offer stronger incentives through established business models. Adaptation, on the other hand, is often a public good and needs to be provided through public sector accounts.

| REVIEW CHECKLIST | COMMENTS |
|---|---|
| Does the report distinguish issues by level of market development/geographic focus (OECD, BRICS, LICs, LMICs etc)? | No |
| Does the report include case studies, and if so, how much detail is provided? | Examples of instruments |
| Is the report framed broadly around sustainable development or more specifically around climate change or some other objective? | Climate finance |
| Is the report based on original research or primarily a compilation of existing information? | Original research and extrapolation of other sources |
| Is the report endorsed by some larger organization or process (e.g., WBCSD) or a product of individual authors? If the latter was it peer reviewed? | No |
| How recently was it prepared? | October 2011 |
| Does the report specify a role for donors? | No |
| Does the report contain material/references relevant to developing the proposed Dialogue Platform on Green Investments? | Identifies relevant issues for engagement |
| Tags | Sources of finance; intermediaries; financial instruments; leverage |



Sizing the Climate Economy (2010, 61 pp)

AUTHOR: Nick Robins, Singh C.,
Clover R., Knight Z., Magness J.

LINK:

<http://www.research.hsbc.com/midas/Res/RDV?ao=20&key=wU4BbdyRmz&n=276049.PDF>

SUMMARY: The report estimates that by 2020 the world's low-carbon energy market will be almost three times larger than it is was in 2010, and discusses why this is the case, what the key opportunities are and where these are located. Using top-down macro estimates and bottom-up revenue modeling, four distinctive scenarios of how policy and markets could evolve over the next 10 years are presented. Demand and supply are modeled under each of the scenarios, and estimates of total market size and capital requirements are provided. The report indicates that the most important tools to date for driving clean energy investments have been – and will remain – mandates and regulations, such as those that require renewable electricity supply and raise end-use energy efficiency standards. In the absence of a carbon price sufficiently high to drive technology substitution, regulation of carbon from industrial facilities and vehicles will be a major tool for change.

| REVIEW CHECKLIST | COMMENTS |
|---|--|
| Does the report distinguish issues by level of market development/geographic focus (OECD, BRICS, LICs, LMICs etc)? | The report's modeling focuses on the EU, US and China, and other players such as Brazil and India are also discussed. |
| Does the report include case studies, and if so, how much detail is provided? | Four scenarios are constructed to estimate the size of the climate economy by 2020, with specific focus on the world's three largest markets: EU, US and China |
| Is the report framed broadly around sustainable development or more specifically around climate change or some other objective? | The report looks specifically at the size of the climate market (renewables, energy efficiency) by 2020. |
| Is the report based on original research or primarily a compilation of existing information? | Original research: Scenarios are constructed based on proprietary methodologies. |
| Is the report endorsed by some larger organization or process (e.g., WBCSD) or a product of individual authors? If the latter was it peer reviewed? | Produced by HSBC Research |
| How recently was it prepared? | September 2010 |
| Does the report specify a role for donors? | No |
| Does the report contain material/references relevant to developing the proposed Dialogue Platform on Green Investments? | The report's estimates on the growth of low carbon markets may be useful to frame the dialogue platform. |
| Tags | Low carbon market development, market size |

World Energy Outlook (2011, 660 pp)

AUTHOR: International Energy Agency

LINK: http://www.worldenergyoutlook.org/docs/weo2011/executive_summary.pdf

SUMMARY: The report contains a wealth of data and analysis relevant to energy markets. It provides forecasts of energy demand and supply to 2035 under different scenarios.

The dynamics of energy markets are increasingly determined by countries outside the OECD, which account for 90% of population growth, 70% of the increase in economic output and 90% of energy demand growth over the period from 2010 to 2035. China consolidates its position as the world's largest energy consumer: in 2035 it consumes nearly 70% more energy than the US, even though per-capita energy consumption in China is still less than half the level in the US. The rates of growth in energy consumption in India, Indonesia, Brazil and the Middle East are even faster than in China.

Global investment in energy supply infrastructure of \$38 trillion (in year-2010 dollars) is required over the period 2011 to 2035. Almost two-thirds of the total investment is in countries outside of the OECD. Oil and gas collectively account for almost \$20 trillion, as both the need for upstream investment and the associated cost rise in the medium and long term. The power sector claims most of the remainder, with over 40% of this being for transmission and distribution networks.

The age of fossil fuels is far from over, but their dominance declines. Demand for all fuels rises, but the share of fossil fuels in global primary energy consumption falls slightly from 81% in 2010 to 75% in 2035; natural gas is the only fossil fuel to increase its share in the global mix over the period to 2035. In the power sector, renewable energy technologies, led by hydropower and wind, account for half of the new capacity installed to meet growing demand.

The dynamics of energy markets are determined more and more by the emerging economies. Over the next 25 years, 90% of the projected growth in global energy demand comes from non-OECD economies; China alone accounts for more than 30%, consolidating its position as the world's largest energy consumer. Emerging economies also dominate the expansion of supply: OPEC oil production grows to reach more than half of the global total in 2035. Non-OECD countries account for more than 70% of global gas production in 2035, focused in the largest existing gas producers, including Russia, the Caspian and Qatar.

The primary energy mix is markedly different depending on the scenario. The report provides three scenarios: New Policies, in which recent government commitments are assumed to be implemented; Current Policies, which assumes no new measures; and 450, which assumes policies to contain temperature rise to 2°C.

The share of energy subsidies going to renewable energy is poised to continue to grow. Global renewable-energy subsidies increased from \$39 billion in 2007 to \$66 billion in 2010, in line with rising production of biofuels and electricity from renewable sources. Despite a projected decline in unit production costs due to cost reductions and rising wholesale prices for electricity and transport fuels, subsidies would need to expand even further to meet existing targets for renewable energy production. In all three scenarios most renewable energy sources need to be subsidized in order to compete in the market.

| REVIEW CHECKLIST | COMMENTS |
|---|--|
| Does the report distinguish issues by level of market development/geographic focus (OECD, BRICS, LICs, LMICs etc)? | Yes, regional energy modeling is key to the report |
| Does the report include case studies, and if so, how much detail is provided? | |
| Is the report framed broadly around sustainable development or more specifically around climate change or some other objective? | Climate is a central issue within the broader focus on the future politics of energy supply and demand |
| Is the report based on original research or primarily a compilation of existing information? | Original modeling within IEA |
| Is the report endorsed by some larger organization or process (e.g., WBCSD) or a product of individual authors? If the latter was it peer reviewed? | IEA |
| How recently was it prepared? | 2011 |
| Does the report specify a role for donors? | No |
| Does the report contain material/references relevant to developing the proposed Dialogue Platform on Green Investments? | |
| Tags | Energy data |

Who's winning the clean energy race? G-20 investment powering forward (2011, 51 pp)

AUTHOR: Pew Charitable Trusts with Bloomberg New Energy Finance

LINK: <http://www.pewenvironment.org/uploadedFiles/PEG/Publications/Report/G-20Report-LOWRes-FINAL.pdf>

SUMMARY: This report presents data on 2010 clean energy finance and investment in the G-20 nations, with some exclusions: public and private investments in research and development totaling about \$35 billion in 2010; and data for G-20 members Russia and Saudi Arabia because clean energy investment in these countries was negligible. Spain, a member of the EU but not an individual member of the G-20, is presented independently in the report in view of the size and relevance of its clean energy sector.

Worldwide, the clean energy sector roared back from flat recessionary levels, increasing 30% above 2009 levels to achieve a record USD 243 billion worth of finance and investment in 2010. There have been notable shifts in global competition as investment moved from established markets in the developed countries to dynamic, emerging markets in the developing world. However, with more than 90% of worldwide investment, the G-20 members continued to dominate the clean energy landscape. Excluding basic research and development, USD 198 billion were invested in 2010 in the G-20's clean energy sector.

| REVIEW CHECKLIST | COMMENTS |
|---|--|
| Does the report distinguish issues by level of market development/geographic focus (OECD, BRICS, LICs, LMICs etc)? | Primarily framed around industrialized economies with low interest rates and sluggish growth |
| Does the report include case studies, and if so, how much detail is provided? | No |
| Is the report framed broadly around sustainable development or more specifically around climate change or some other objective? | Green economy generally with many references to climate and clean energy |
| Is the report based on original research or primarily a compilation of existing information? | Original |
| Is the report endorsed by some larger organization or process (e.g., WBCSD) or a product of individual authors? If the latter was it peer reviewed? | The Grantham Research Institute in Climate Change and the Environment and The Centre for Climate Change Economics and Policy hosted jointly by the University of Leeds and the London School of Economics and Political Science. |
| How recently was it prepared? | 2012 |
| Does the report specify a role for donors? | Considerable emphasis is given to the need for governments to have 'skin in the game' |
| Does the report contain material/references relevant to developing the proposed Dialogue Platform on Green Investments? | Indirectly, insofar as it relates to the macroeconomic rationale for public support of investments in a green economy |
| Tags | Clean energy investment |

REN 21 Renewables 2011 Global Status Report (116 pp)

AUTHOR: Janet Sawin, lead author with several others, REN21 Secretariat staff and Steering Committee members, regional research partners

LINK: http://www.ren21.net/Portals/97/documents/GSR/REN21_GSR2011.pdf

SUMMARY: The report is an annual undertaking and provides an overview of renewable energy worldwide as of early 2011. The report covers both current status and key trends but does not provide forecasts or analysis. Renewable energy grew strongly in 2011, and supplied an estimated 16% of final energy consumption across all sectors – power, heat and transport. It represented about half of new electricity capacity added in 2011, and accounted for about 25% of global electricity supply. The report provides a global market overview and details on the state of the market for different uses (power generation, heating and cooling and transport) and types of renewable energy (e.g., wind, solar, geothermal, biomass, hydro, biodiesel, ethanol...). It discusses industry trends and investment flows, and has useful information about the characteristics and costs of renewable energy technologies, and an estimate of jobs in renewable energy. It also provides a compilation of the policy landscape in several countries, organized by income level. Finally, it discusses rural renewables and off-grid technologies.

In addition to charts, data and figures in the main text, the report contains several reference tables with data on renewable energy capacity by technology, share of electricity from renewables, etc.

| REVIEW CHECKLIST | COMMENTS |
|---|---|
| Does the report distinguish issues by level of market development/geographic focus (OECD, BRICS, LICs, LMICs etc)? | Yes. Renewables policies are described by income level. |
| Does the report include case studies, and if so, how much detail is provided? | The report contains country-specific data, and mentions key industry players by name. Renewable energy policies are discussed with specific country reference. |
| Is the report framed broadly around sustainable development or more specifically around climate change or some other objective? | The report is focused on renewable energy and provides data and a status report, but does not provide analysis or prescriptions. |
| Is the report based on original research or primarily a compilation of existing information? | Compilation of data and trends. |
| Is the report endorsed by some larger organization or process (e.g., WBCSD) or a product of individual authors? If the latter was it peer reviewed? | The report is produced by REN21, which was established in 2005 to convene international multi-stakeholder leadership to enable a rapid global transition to renewable energy. REN21 connects governments, international institutions, nongovernmental organizations, industry associations, and other partnerships and initiatives. |
| How recently was it prepared? | 2011 |
| Does the report specify a role for donors? | Provides data on GEF financing |

| | |
|---|--|
| Does the report contain material/references relevant to developing the proposed Dialogue Platform on Green Investments? | The policy landscape summary could be a useful starting point to engage stakeholders on discussions of renewable energy development. The sections on rural energy provide insights into energy access and inclusive growth issues. |
| Tags | Renewable energy, policy landscape |



Addressing Climate Risk: Financial Institutions In Emerging Markets - *A Best Practices Report* (2009, 47 pp)

Author: RiskMetrics Group & Ceres

Link: http://www.deginvest.de/deg/EN_Home/Download_Center/PDFs_Online-Library/AddressingClimateRisk.pdf

SUMMARY: This report reviews key findings of a climate change risk survey across 154 financial intermediaries (FIs) in emerging markets across the globe, highlighting their best practices in addressing climate risk through their portfolio, corporate governance and risk management systems. This study aims to provide a benchmarking overview of mainly locally-based, regional and national FIs in the early stages of developing climate-related policies and strategies as well as highlight examples of best practices.

This report finds that several FIs in emerging markets have begun to take key first steps to address environmental and climate change issues in their lending and investments. The majority of respondents – 65 percent – have established a specific policy to guide practice on environmental and sustainability issues. This indicates a shift given that climate change may not be at the top of the public or investor agenda in many of these markets, and because smaller, regionally-focused FIs likely have fewer internal resources to establish dedicated teams and policies for managing climate risks. It identifies leading FIs that are beginning to move beyond general environmental policies to integrate climate and environmental issues into core business practice. These institutions are also seeking opportunities to invest in CDM/JI projects, carbon trading markets and burgeoning renewable energy markets.

The report finds that despite encouraging results, it is clear that FIs in emerging markets have a long way to go in implementing strong climate change governance practices. Five survey respondents have conducted an inventory of GHG emissions associated with their operations, and no respondent measures emissions associated with its lending portfolio.

The report proposes the following recommendations for emerging market FIs:

- Elevate climate change as a governance priority for board members and CEOs;
- Start measuring emissions resulting from financing and investment;
- Begin factoring carbon costs into their financing and investment decisions, especially for energy-intensive projects that pose financial risks as carbon-reducing regulations take hold worldwide;
- Set progressively higher targets to shrink the carbon footprint of their lending and investment portfolios, and be more transparent about how they intend to meet these objectives, and
- Discuss disclosure about the financial and material risks posed by climate change as well as their own emissions reduction strategies.

International and national development banks also have an excellent opportunity to contribute to the formation of best practices on managing climate risk in the financial sector. These institutions can act as key partners with emerging market FIs by:

- Developing more robust climate change training offerings in the areas of project risk assessment and technical assistance on low-carbon project design and implementation;
- Expanding training resources on measuring the GHG emissions of investment and lending portfolios;
- Targeting energy efficiency and renewable energy as focus areas for additional credit facility

offerings;

- Integrating adaptation issues, particularly related to sustainable agriculture and water supply, more thoroughly into overall climate risk assessments of emerging markets and due diligence of lending activities;

Requiring emerging market FIs that receive financial support to establish an institution-wide climate change policy and disclose this policy to the public.

| Review Checklist | Comments |
|---|--|
| Does the report distinguish issues by level of market development/geographic focus (OECD, BRICS, LICs, LMICs etc)? | Assesses trends by regions |
| Does the report include case studies, and if so, how much detail is provided? | Company specific examples and case studies are provided |
| Is the report framed broadly around sustainable development or more specifically around climate change or some other objective? | Climate change risks |
| Is the report based on original research or primarily a compilation of existing information? | Original research based on survey results |
| Is the report endorsed by some larger organization or process (e.g., WBCSD) or a product of individual authors? If the latter was it peer reviewed? | Ceres and DEG |
| How recently was it prepared? | 2009 |
| Does the report specify a role for donors? | No. It provides recommendations for international and national development banks |
| Does the report contain material/references relevant to developing the proposed Dialogue Platform on Green Investments? | Yes. Recommendations for financial intermediaries. |
| Tags | Financial sector; managing climate risks; best practices; governance; GHG emissions management; commercial opportunities |

Will Private Finance Support Climate Change Adaptation in Developing Countries? (2011, 35 pp)

AUTHOR: Stockholm Environment Institute

LINK: <http://www.sei-international.org/mediamanager/documents/Publications/SEI-WorkingPaper-Atteridge-WillPrivateFinanceSupportClimateChangeAdaptationInDevelopingCountries-2011.pdf>

SUMMARY: This paper explores what historical patterns of investment reveal about the potential for the private sector to play a significant role in raising and delivering climate finance, specifically for adaptation in developing countries. Both equity and debt finance are heavily concentrated in a relatively small number of countries rather than evenly spread across the developing world. The major share of foreign direct investment (FDI) inflows to developing countries is directed to major emerging economies China, Brazil, Mexico, and India. Least Developed Countries (LDCs) see around 3 per cent of total FDI flows to developing countries. International bank lending follows a similar pattern. Some key sectors in terms of livelihoods and adaptation needs, such as water and agriculture, have either been relatively unattractive to private investment (e.g. water infrastructure in Africa), or seen investment in large-scale export-oriented activities but not in the small-scale production that sustains local populations (agriculture in Africa). Investment flows have instead tended to favor natural resource extraction over tertiary sectors such as health or education. Africa appears to have lower access to debt finance than other regions, as a portion of overall foreign capital, which is problematic since many adaptation measures are probably unsuited to attracting equity investors.

Different types of finance (FDI equity, portfolio equity, FDI loans, bank loans) and different investment entry modes (greenfields, acquisition) result in a different quality of outcome for recipient communities. Such differences matter and must be taken account of within the discussion on climate finance – both for effectiveness and accounting purposes.

| REVIEW CHECKLIST | COMMENTS |
|---|--|
| Does the report distinguish issues by level of market development/geographic focus (OECD, BRICS, LICs, LMICs etc)? | Yes. BRICS, LICs, Africa |
| Does the report include case studies, and if so, how much detail is provided? | No |
| Is the report framed broadly around sustainable development or more specifically around climate change or some other objective? | Climate change adaptation, based on historical development finance |
| Is the report based on original research or primarily a compilation of existing information? | Original research |
| Is the report endorsed by some larger organization or process (e.g., WBCSD) or a product of individual authors? If the latter was it peer reviewed? | No |
| How recently was it prepared? | November 2011 |
| Does the report specify a role for donors? | Public finance more broadly |
| Does the report contain material/references relevant to developing the proposed Dialogue Platform on Green Investments? | Yes – factoring in the adaptation component of the public-private dialogue |
| Tags | Adaptation; FDI; finance flows; equity; debt |

Climate Finance Options Platform (a web portal)

AUTHOR: UNDP and World Bank

LINK: <http://www.climatefinanceoptions.org/cfo/>

SUMMARY: This Platform aims at providing comprehensive guidance on financial options available for climate action in developing countries. It contains information on where to access the wide range of funds available from multilateral and bilateral institution, as well as public and private sources. It provides information on how these funds are governed and on project eligibility. It encourages users to be a resource to share their experiences with investment projects and offer feedback and comments on ongoing projects.

The Knowledge Centre contains several useful resources for project developers, financiers, and climate policy makers and specialists including a library, links to toolkits for project developers and evaluators, a glossary of financial terms and concepts, and links to a wide range of sources for additional information.

| REVIEW CHECKLIST | COMMENTS |
|---|--|
| Does the report distinguish issues by level of market development/geographic focus (OECD, BRICS, LICs, LMICs etc)? | Information is available across the spectrum of market development and geographies |
| Does the report include case studies, and if so, how much detail is provided? | Many case studies can be found at the site |
| Is the report framed broadly around sustainable development or more specifically around climate change or some other objective? | Climate change focus |
| Is the report based on original research or primarily a compilation of existing information? | Compilation |
| Is the report endorsed by some larger organization or process (e.g., WBCSD) or a product of individual authors? If the latter was it peer reviewed? | UNFCCC |
| How recently was it prepared? | Ongoing |
| Does the report specify a role for donors? | |
| Does the report contain material/references relevant to developing the proposed Dialogue Platform on Green Investments? | Could be an input or background to a Dialogue Platform, useful precedent for information dissemination |
| Tags | Guidance; finance options; public and private finance |

Bilateral Finance Institutions and Climate Change: A Mapping of 2009 Climate Financial Flows to Developing Countries (2010, 32 pp)

AUTHOR: UNEP

LINK: <http://www.unep.org/pdf/dtie/BilateralFinanceInstitutionsCC.pdf>

SUMMARY: The report is an effort by the UNEP Climate Change Working Group for Bilateral Finance Institutions (BFIs) to both transparently disclose their climate change financial flows to developing countries, and to demonstrate their future potential as vehicles for the delivery of climate finance. This report builds on a 2009 mapping of the climate portfolios of each of the Working Group members and finds that BFIs channel significant amounts of climate finance for both mitigation and adaptation. The report provides data on total climate financing to developing countries as well as breakdown by mitigation, adaptation, region, sector and financial instrument, in addition to amounts invested in carbon finance.

The report concludes that while it is difficult to demonstrate the total size of the global climate finance pie, the nearly 13 billion USD committed in 2009 by the BFIs for climate finance is significant in absolute terms. Sectorally, mitigation finance continues to flow primarily to the energy and transport sectors, and adaptation finance predominately flows to the water sector. Methodologically, much work needs to be done on the reporting and tracking of climate financial flows. Both the standardization of what constitutes 'climate finance' and the means to track finance through proliferating channels will need to be addressed. The DAC Rio markers and new adaptation marker comprise a point of departure, but will need to be honed, and their relevance to non-ODA climate finance and to non-OECD countries be articulated.

| REVIEW CHECKLIST | COMMENTS |
|---|--|
| Does the report distinguish issues by level of market development/geographic focus (OECD, BRICS, LICs, LMICs etc)? | Finance is reported by region, mitigation v. adaptation, financial instrument, sectoral distribution |
| Does the report include case studies, and if so, how much detail is provided? | No |
| Is the report framed broadly around sustainable development or more specifically around climate change or some other objective? | Climate focus |
| Is the report based on original research or primarily a compilation of existing information? | The financial data reported is provided by the BFIs through a financial survey and interview process. |
| Is the report endorsed by some larger organization or process (e.g., WBCSD) or a product of individual authors? If the latter was it peer reviewed? | This report is an initiative of UNEP's Climate Change Working Group for Bilateral Finance Institutions, comprised of five bilateral finance institutions (AFD, KfW, JICA, NEFCO and EIB) and UNEP. |
| How recently was it prepared? | 2010 |
| Does the report specify a role for donors? | Bilateral and Multilateral financial institution flows are reported |
| Does the report contain material/references relevant to developing the proposed Dialogue Platform on Green Investments? | |
| Tags | Tracking climate finance; mitigation; adaptation; regions; sectors; financial instruments; carbon finance |

2012 Investor Summit on Climate Risk & Energy Solutions - Final Report (2012, 32 pp)

AUTHOR: Ceres, UN Foundation, UN Office for Partnerships

LINK: <http://www.ceres.org/resources/reports/2012-investor-summit-on-climate-risk-energy-solutions-final-report/view>

SUMMARY: The report summarizes the outcomes of the Fifth Investor Summit on Climate Risk & Energy Solutions which gathered more than 450 investors, financial and corporate leaders from around the world. Key messages are:

- Investors cannot wait for governments to take action
- There are growing investment opportunities related to climate change, but also risks to portfolios resulting from climate change
- Companies that integrate ES&G factors into their decision making tend to outperform those that do not; yet many US investors lag behind their international peers in doing so
- Energy efficiency offers enormous opportunities but action is lagging
- Investors need to factor in water-related risks into their investment strategies

In addition, key asset owners in the Investor Network on Climate Risk (INCR) announced their 2012 Investor Action Plan. These leading North American investors will analyze and manage the climate risks in their portfolios; integrate climate risk considerations into procurement and monitoring; invest in low-carbon solutions; stress energy efficiency; assess and manage water risk; encourage companies to improve disclosure and ES&G practice. They joined the Institutional Investors Group on Climate Change (IIGCR, Europe) and the Investor Group on Climate Change (IGCC, Australia & New Zealand) in issuing a statement on Institutional Investors' Expectations of Corporate Climate Risk Management.

While this report does not present research per se, it is a useful summary of the sentiments of the institutional investor community with regard to climate change.

| REVIEW CHECKLIST | COMMENTS |
|---|---|
| Does the report distinguish issues by level of market development/geographic focus (OECD, BRICS, LICs, LMICs etc)? | The various investor groups are OECD; report does not discuss specific issues by geography |
| Does the report include case studies, and if so, how much detail is provided? | No |
| Is the report framed broadly around sustainable development or more specifically around climate change or some other objective? | Report addresses the importance of climate change for investment decisions, both as an opportunity but also as a risk. Also discusses resource scarcity and ES&G issues |
| Is the report based on original research or primarily a compilation of existing information? | Compilation of discussions held at the summit |
| Is the report endorsed by some larger organization or process (e.g., WBCSD) or a product of individual authors? If the latter was it peer reviewed? | Produced by Ceres, UN Foundation, UN Office for Partnerships |
| How recently was it prepared? | April 2012 |
| Does the report specify a role for donors? | No |
| Does the report contain material/references relevant to developing the proposed Dialogue Platform on Green Investments? | Provides insights into the thinking of large institutional investors |
| Tags | Institutional investors; climate risks; climate opportunities; energy efficiency; water |

Institutional Investors' Expectations of Corporate Climate Risk Management (2012, 8 pp)

AUTHOR: Ceres; Investor Network on Climate Change; Institutional Investors Group on Climate Change; Investor Network on Climate Risk

LINK: <http://www.ceres.org/resources/reports/institutional-investors-expectations-of-corporate-climate-risk-management/view>

SUMMARY: The report presents a concern by institutional investors of the short- and long-term risks of climate change, and states that a transition to a low-carbon economy is the best way to create jobs and foster growth. It acknowledges that climate change could result in significant negative consequences for humanity, the global economy and natural systems. It then outlines its expectations of investee companies, as well as its own commitments, to minimize the risk and maximize the opportunities offered by climate change. Finally, it provides guidance to companies on how to address these issues:

- Governance: define board and senior management responsibilities
- Strategy: integrate management climate change risk and opportunities into business strategy
- Goals: make commitments, define performance metrics and quantify goals
- Implementation: make systematic review of opportunities to improve efficiency and reduce emissions
- Emissions inventories: prepare and report comprehensive inventories
- Disclosure: disclose company's views of climate change risks and opportunities
- Public policy: engage with policy makers and stakeholders to mitigate climate change risk and support low carbon investment.

| REVIEW CHECKLIST | COMMENTS |
|---|--|
| Does the report distinguish issues by level of market development/geographic focus (OECD, BRICS, LICs, LMICs etc)? | All three entities are OECD-based. |
| Does the report include case studies, and if so, how much detail is provided? | No. |
| Is the report framed broadly around sustainable development or more specifically around climate change or some other objective? | Focused on climate change but also addresses ES&G concerns |
| Is the report based on original research or primarily a compilation of existing information? | Statement of intent and policy |
| Is the report endorsed by some larger organization or process (e.g., WBCSD) or a product of individual authors? If the latter was it peer reviewed? | Produced by Ceres; Investor Network on Climate Change; Institutional Investors Group on Climate Change; Investor Network on Climate Risk |
| How recently was it prepared? | January 2012 |
| Does the report specify a role for donors? | No |
| Does the report contain material/references relevant to developing the proposed Dialogue Platform on Green Investments? | Provides insights into the thinking of large institutional investors |
| Tags | Institutional investors, climate risks, climate opportunities, policy statement |

Unlocking Finance for Clean Energy – The Need for ‘Investment Grade’ Policy (2009, 8 pp)

Author: Kirsty Hamilton, Chatham House

Link:

http://www.chathamhouse.org/sites/default/files/public/Research/Energy,%20Environment%20and%20Development/1209pp_hamilton.pdf

SUMMARY: The briefing paper targets financing clean energy growth from a commercial perspective based on the experiences of financiers who have unlocked flows; and, thus aided the growth in renewable energy investments for the past 5 years. Important to the theme is the right policy mix that will enable conditions for enhanced investment flows. Policy makers need to provide more transparent and concrete targets that will in turn, allow for capital flows to be invested in the projects that will finance energy and infrastructure investments in the medium to long-term. The author argues that instead of finding the funds to fill the financing gap for clean energy projects, capital funding should be allowed to be created and grow by establishing ‘investment grade’ policies that render the right conditions for long term investment flows.

| Review Checklist | Comments |
|---|---|
| Does the report distinguish issues by level of market development/geographic focus (OECD, BRICS, LICs, LMICs etc)? | Minimally |
| Does the report include case studies, and if so, how much detail is provided? | No |
| Is the report framed broadly around sustainable development or more specifically around climate change or some other objective? | Clean Energy Finance |
| Is the report based on original research or primarily a compilation of existing information? | Original Research, builds on a working series by author on Clean Energy Finance, and is a part of a project on ‘Trade, Finance and Climate Change: Building a Positive Agenda for Developing Countries’ |
| Is the report endorsed by some larger organization or process (e.g., WBCSD) or a product of individual authors? If the latter was it peer reviewed? | Chatham House |
| How recently was it prepared? | December 2009 |
| Does the report specify a role for donors? | Indirectly, largely focuses on creating the right policy mix for investment flows to take place |
| Does the report contain material/references relevant to developing the proposed Dialogue Platform on Green Investments? | Identifies relevant issues for engagement |
| Tags | Clean energy, financing gap, energy security, investment grade energy policy, renewable energy, energy efficiency |

Investing for sustainable development? (2011, 76 pp)

Author: International Institute for Environment and Development

Link: <http://pubs.iied.org/pdfs/16505IIED.pdf>

SUMMARY:

Paper focuses on design, use, implementation and impact of investment principles, with the aim to better understand how market mechanisms can be better designed and implemented to improve their impact on sustainable development. Current impact investment principles, at best, are weak in their commitments to foster sustainable investment growth because they lack concise language which can help managers navigate the criteria process more effectively. Additionally, these investment principles fail to provide guidance and precedent for the implementation process. For example, the paper points out that UNPRI displays lax interpretation; therefore, the private sector has a tougher time in adhering, implementing and monitoring based on the criteria provided by the UNPRI. The paper calls for a common set of investment principles that target commercial incentives, and which therefore allow banks with shareholder boards to participate in the sector. The scenario given compares MDBs with private sector banks, and points out MDBs relative advantage to fund initiatives with low investment returns because the project is expected to also promote sustainable outcomes. The paper identifies a lack of resources in terms of providing the investment community with the appropriate implementation tools. Finally, it concludes by reiterating that the sector needs clear investment principles to overcome barriers to investment principles; as well as, establish real world precedent that will enable more asset managers to enter the space and thus channel more funds into this area.

| Review Checklist | Comments |
|---|--|
| Does the report distinguish issues by level of market development/geographic focus (OECD, BRICS, LICs, LMICs etc)? | Yes |
| Does the report include case studies, and if so, how much detail is provided? | References case studies but does not go into detail within the analysis |
| Is the report framed broadly around sustainable development or more specifically around climate change or some other objective? | Sustainable investment principles |
| Is the report based on original research or primarily a compilation of existing information? | Original research and based on review of existing yet limited literature |
| Is the report endorsed by some larger organization or process (e.g., WBCSD) or a product of individual authors? If the latter was it peer reviewed? | IIED |
| How recently was it prepared? | 2011 |
| Does the report specify a role for donors? | No. The paper describes the role FIs can play in helping shape more concrete language for investment criteria – Collevocchio Declaration |
| Does the report contain material/references relevant to developing the proposed Dialogue Platform on Green Investments? | Provides insight into current investment principles and the need for concise parameters |
| Tags | Impact investing, investment principles, ESG, UNPRI, sustainable development, SRI, Equator Principles |

Climate Change Scenarios – Implications for Strategic Asset Allocation (2011, 132 pp)

AUTHOR: Mercer in collaboration with IFC, Carbon Trust and 14 asset owners

LINK: http://www1.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/ifc+sustainability/publications/publications_report_climatechangesurvey_wci_1319579483875

ALTERNATIVE WEBSITE: <http://www.mercer.com/articles/1406410>

SUMMARY: This report provides the first rigorous assessment of financial risks to pension funds and other large asset managers from climate change and was prepared by Mercer with modeling support from the Grantham Institute on behalf of 14 asset managers, the IFC, and UK Carbon Trust. The report evaluates risk by asset category (real estate, equities, etc) and region based on scenarios developed by Grantham and analyses financial risks to institutional investment portfolios. Finally, pragmatic steps are proposed for institutional investors including reallocation to climate sensitive assets and the adoption of an “early warning” risk management process.

To tackle fundamental shifts in the global economy, the report models climate change risks based on three variables for climate change risk: the rate of development and opportunities for investment into low carbon technologies (Technology), the extent to which changes to the physical environment will affect investments (Impacts) and the implied cost of carbon and emissions levels resulting from global policy developments (Policy).

The “TIP” framework suggests climate policy could contribute as much as 10% to overall portfolio risk; hence uncertainty around climate policy is a significant source of portfolio risk for institutional investors to manage over the next 20 years.

To manage climate change risks, the report recommends institutional investors need to think about diversification across sources of risk rather than across traditional asset classes. Under some scenarios, the best way to manage portfolio climate risk associated whilst retaining similar returns is to increase exposure to those assets which have a higher sensitivity to climate change “TIP” factors. Thus, the interests of institutional investor clients may align with the larger societal interest in addressing climate change by increasing investment in mitigation and adaptation efforts globally.

A follow up survey of investor response published by Mercer in 2012 found that many of the participating firms were acting on the basis of the information provided, e.g., a third have decided to allocate more to climate sensitive assets. (<http://www.mercer.com/articles/1406410>)

| REVIEW CHECKLIST | COMMENTS |
|---|---|
| Does the report distinguish issues by level of market development/geographic focus (OECD, BRICS, LICs, LMICs etc)? | Yes, it develops four different climate change scenarios and analyzes these for the following geographic regions: EU, US, Japan, China/East Asia, Russia and India/South Asia. |
| Does the report include case studies, and if so, how much detail is provided? | No. |
| Is the report framed broadly around sustainable development or more specifically around climate change or some other objective? | Climate change. |
| Is the report based on original research or primarily a compilation of existing information? | Original research supported by Grantham and a technical advisory committee of the participating sponsors. |
| Is the report endorsed by some larger organization or process (e.g., WBCSD) or a product of individual authors? If the latter was it peer reviewed? | <p>This research was led by Mercer and developed with the support and participation of:</p> <ul style="list-style-type: none"> • Two thought leaders: IFC and Carbon Trust • 14 major asset owners: All Pensions Group (Netherlands), Första AP-fonden (Sweden), AustralianSuper fund (Australia), British Columbia Investment Management Corporation (Canada), British Telecom Pension Scheme (United Kingdom), California Public Employees' Retirement System (USA), California State Teachers' Retirement Scheme (USA), Environment Agency Pension Scheme (United Kingdom), Government of Singapore Investment Corporation (Singapore), Maryland State Retirement Agency (USA), Norwegian government Pension Fund (Norway), Ontario Municipal Employees Retirement System (Canada), VicSuper (Australia), and PGM (Netherlands) <p>The Grantham Research Institute on Climate Change and the Environment together with Vivid Economics</p> |
| How recently was it prepared? | February 2011, with an update on investor response in January 2012. |
| Does the report specify a role for donors? | No. |
| Does the report contain material/references relevant to developing the proposed Dialogue Platform on Green Investments? | Yes, insofar as it provides a basis for dialogue with large asset managers. |
| Tags | Climate change, Strategic Asset Allocation, Institutional Investors |

The Role of Pension Funds in financing Green Growth Initiatives (2011, 66 pp)

AUTHOR: D. Croce, C. Kaminker, and F. Stewart (OECD)

LINK: http://www.oecd-ilibrary.org/finance-and-investment/the-role-of-pension-funds-in-financing-green-growth-initiatives_5kg58j1wdjd-en

SUMMARY: Pension funds and other institutional investors managing trillions of dollars could be an important source of financing for green growth. These funds will make some green investments for ethical, legal, or reputational reasons but in general they will have to perform financially about as well as alternative investments. Most pension funds remain focused on lower risk investments which provide a steady, inflation adjusted income stream, and their asset allocation to infrastructure let alone clean energy projects remains low (less than 1%), with green bonds a “drop in the ocean”.

This is partly due to a lack of policy support, but other barriers include a lack of appropriate investment vehicles with the desired risk/return profiles and market liquidity; scale issues; regulatory disincentives; and lack of knowledge, track record and expertise among pension funds about these investments. Governments can help ensure that attractive opportunities and instruments are available.

This paper examines some of the initiatives currently under way around the world to encourage pension funds to help finance green growth. Different financing mechanisms are outlined and suggestions made as to what role governments in general, and pension funds supervisory authorities in particular, can play in supporting such investments. Governments can provide supportive policies; create attractive investment vehicles and foster liquid markets; support investment in green infrastructure; remove investment barriers; provide education and guidance to investors; and improve pension fund governance.

| REVIEW CHECKLIST | COMMENTS |
|---|--|
| Does the report distinguish issues by level of market development/geographic focus (OECD, BRICS, LICs, LMICs etc)? | No. Focus is OECD |
| Does the report include case studies, and if so, how much detail is provided? | Yes. Detailed description of two green investment projects and investment vehicles used. |
| Is the report framed broadly around sustainable development or more specifically around climate change or some other objective? | Climate change and green growth. |
| Is the report based on original research or primarily a compilation of existing information? | Compiles relevant market research, comparing different investment vehicles and projects; and makes policy recommendations. |
| Is the report endorsed by some larger organization or process (e.g., WBCSD) or a product of individual authors? If the latter was it peer reviewed? | OECD Working Paper on Finance, Insurance and Private Pensions |
| How recently was it prepared? | September 2011. |
| Does the report specify a role for donors? | The paper makes suggestions as to what role governments can play in supporting pension funds investment in green growth |
| Does the report contain material/references relevant to developing the proposed Dialogue Platform on Green Investments? | Yes |
| Tags | Pension funds, Green bonds, Infrastructure, Green growth, Institutional investors |

Can Capital Markets Bridge the Climate Change Financing Gap? (2010, 10 pp)

AUTHOR: Parhelion and Standard & Poor's

LINK:

http://www.parhelion.co.uk/pdf/Parhelion_Climate_Financing_Risk_Mapping_Report_2010.pdf

SUMMARY: This report is directed towards policymakers and identifies and prioritizes the risks perceived by investors in financing climate related investments. As the risk-return profile of a project changes through the various phases of the development cycle (feasibility, financing, construction, and operating), different types of investors will have a role to play, offering significant scope to recycle funds.

Institutional investors such as pension funds, sovereign wealth funds, and insurance companies will only invest if they can earn adequate risk-adjusted returns on their capital. The return must be attractive relative to all other investment opportunities. Analysis shows how four main categories of risk: policy risks, capacity risks, transaction risks, and project risks--interact in terms of probability and severity. Investors are most concerned with the apparent mismatch between the long-term nature of capital commitments inherent in climate change financing and the relatively short time frame of climate change regulations. Risk transfer instruments, especially insurance, therefore have an important role to play. Investors are able to deal with the complexity of a climate change financing project--provided it does not add significant costs to a transaction, thereby reducing the project's risk-return characteristics. Lack of a well-trained workforce to implement projects also significantly affects the willingness to invest.

Policymakers should develop an integrated policy creates a high-level framework for climate change finance along with supporting operational infrastructure. This will provide a demand signal to industry to develop the necessary skills and competencies required for the implementation and delivery of climate finance. Investors simply avoid those countries where there is a history of illegitimate policy changes; if a country is not considered a safe place to invest for normal commercial activities, it is also unlikely to attract climate finance. Countries seeking to attract climate finance may need to strengthen their governance and accountability. Investors will more likely get involved in climate change financing if governments and regulators create a regime beyond the normal reach of political interference. The regime should contain clear and predictable long-term targets, measures, and enforcement mechanisms. If a small-scale individual project cannot be aggregated into a large scale investment, it may not be attractive to investors. Such risks could be minimized by harmonizing policy and regulation across borders wherever possible.

| REVIEW CHECKLIST | COMMENTS |
|---|--|
| Does the report distinguish issues by level of market development/geographic focus (OECD, BRICS, LICs, LMICs etc)? | Broadly considers developing countries |
| Does the report include case studies, and if so, how much detail is provided? | 4 examples of innovative financing structures |
| Is the report framed broadly around sustainable development or more specifically around climate change or some other objective? | Climate change |
| Is the report based on original research or primarily a compilation of existing information? | Summarizes the findings of a Climate Finance Roundtable Meeting |
| Is the report endorsed by some larger organization or process (e.g., WBCSD) or a product of individual authors? If the latter was it peer reviewed? | |
| How recently was it prepared? | 2010 |
| Does the report specify a role for donors? | Specifies roles for policy makers |
| Does the report contain material/references relevant to developing the proposed Dialogue Platform on Green Investments? | The material stems from a public-private dialogue so the approach is relevant |
| Tags | Institutional investors; policy risks, capacity risks, transaction risks, project risks; innovative finance structures |



Investment-grade climate change policy: financing the transition to the low-carbon economy (2011, 44 pp)

AUTHOR: Rory Sullivan,
commissioned by IIGCC, INCR,
UNEP FI, IGCC

LINK: <http://www.unepfi.org/fileadmin/documents/Investment-GradeClimateChangePolicy.pdf>

SUMMARY: The report's objectives are: (1) to contribute to policymakers' understanding of the factors that institutional investors consider when investing in areas such as renewable energy and energy efficiency, and (2) to set out what institutional investors see as 'investment-grade' climate change and clean energy policy that would support low carbon, clean energy investment.

Investors consider a range of issues when assessing investment opportunities, including the policy or other support that is in place; whether the investment is financially attractive, both relative to other energy sector-related investments and to investment opportunities outside the energy sector; the expected duration (or longevity) of the policy framework; the maturity of the technologies involved; and whether governments are likely to change policies or incentives in a way that affect existing investments.

These issues, in turn, point to a series of conclusions about what constitutes investment-grade climate change and clean energy policy at the domestic and internal levels.

1. Ensure that relevant policy exists. An integrated policy framework should include:

- Clear short-, medium- and long-term greenhouse gas emission reduction targets, and comprehensive, enforceable legal mechanisms and timelines for delivery
- Comprehensive energy and climate change policies that accelerate the deployment of energy efficiency, cleaner energy, renewable energy, green buildings, clean vehicles and fuels, and low-carbon transportation infrastructure.
- Comprehensive policies directed at reducing greenhouse gas emissions from sources other than energy, for example waste, industrial emissions, fugitives, land-use change, deforestation and agriculture.
- Policies supporting investment in renewable energy generation, including measures that support the access to electricity transmission and distribution infrastructure.
- Financial incentives that shift the risk reward balance in favor of low-carbon assets, including strong and sustained price signals on carbon, well designed carbon markets and appropriate incentives to enable private investment in clean energy. An integral part of this should be the removal of fossil fuel subsidies.

2. Ensure that the policies are well designed. Investment grade climate change and clean energy policy should:

- Provide appropriate incentives to invest. Policy needs to recognize that investing in these areas is not risk free, and needs to allow investors to make appropriate returns relative to the risks faced and the costs, risk and returns of alternative investments.
- Recognize that scale is critical to addressing risk and enabling low-carbon investment to be cost-effective relative to high-carbon investment. Scale allows unit costs to be reduced and allows expertise in new technologies to be gained.
- Be transparent. It should be clear how the policy is designed and implemented (or intended to operate in the case of new legislation).
- Be of appropriate duration. Investors making large investments in infrastructure and power generation need long-term policy certainty. If policy instruments have a shorter time horizon than the timeframe needed to repay invested capital and generate an appropriate investment return or if there is the likelihood that future governments will significantly change the policy framework,

investors will tend to invest elsewhere.

- Avoid retroactivity. Where governments wish to adapt or change policy they should commit to clear, prospective timeframes and set clear criteria for these changes.
 - Seek to harness the power of markets to find the least cost ways to deliver on climate change objectives.
 - Align with wider policy goals, including economic, energy, resources and transport policy objectives.
3. Ensure the effectiveness of the institutions charged with implementing these policies. Relevant regulatory or oversight bodies should have appropriate resources, and have the ability to ensure that climate change and related policies are effectively implemented.

A rules-based international climate change regime is critically important to send appropriate signals to global capital markets. Specifically, investors encourage governments to:

- Continue to work towards a binding international treaty that includes all major emitters and sets short-, mid-, and long-term greenhouse gas emission reduction targets.
- Support the development of robust international carbon markets that provide strong and sustained price signals on carbon
- Support the development of the Green Climate Fund and other comparable funding mechanisms as part of broader efforts to scale up public and private climate-relevant financial flows to developing countries.

The report concludes that investment-grade climate change and clean energy policy can provide substantial economic benefits. Countries that succeed in attracting private capital into low-carbon growth areas will enjoy multiple benefits, including new jobs and businesses, research and technology innovation, more resilient and secure energy systems and, ultimately, more sustainable economies.

| REVIEW CHECKLIST | COMMENTS |
|---|---|
| Does the report distinguish issues by level of market development/geographic focus (OECD, BRICS, LICs, LMICs etc)? | Yes |
| Does the report include case studies, and if so, how much detail is provided? | All G-20: Australia, US, Germany, UK, China, India, South Africa, EU ETS |
| Is the report framed broadly around sustainable development or more specifically around climate change or some other objective? | Focuses on how to attract private investment for climate related activities |
| Is the report based on original research or primarily a compilation of existing information? | |
| Is the report endorsed by some larger organization or process (e.g., WBCSD) or a product of individual authors? If the latter was it peer reviewed? | See sponsoring organizations |
| How recently was it prepared? | September 2011 |
| Does the report specify a role for donors? | |
| Does the report contain material/references relevant to developing the proposed Dialogue Platform on Green Investments? | Very relevant to investment perspective and link to policy environment necessary to leverage substantially increased private investment |
| Tags | Institutional investors; public policy prescriptions; energy sector; international climate change regime |

Mobilizing private finance for low-carbon development (2011, 29 pp)

AUTHOR: Martin Stadelmann, Castro P., Michaelowa A. (all University of Zurich)

LINK: <http://www.climatestrategies.org/research/our-reports/category/71/334.html>

SUMMARY: The public sector will have to leverage several hundreds of USD billions of private investments per year in order to limit temperature rise to 2°C. The report looks at different tools for leveraging funds, ways to account for private funds, and finally whether the ratio of leveraged private funds to leveraging public funds is a good indicator for efficiency. Four types of barriers to investment are identified: incremental costs of technology, risk/access to finance, missing capacity and knowledge, and regulatory barriers. International and domestic public sector tools are available to alleviate these barriers, and need to be applied with financing and other tools to achieve full potential. Leverage (defined as the ratio between mobilized private funding and public funds or carbon market payments) is discussed, and the report argues that the public sector tends to overestimate its leverage ability. The report argues that it is generally questionable if efficiency in leveraging funds, expressed by the leverage factor, is a good indicator for efficiency in reducing greenhouse gases. The report also attempts to estimate investment flows and finds that private financial flows are diverse, and include, apart from North-South investment flows and carbon market payments, investments leveraged by international public sector tools and a variety of voluntary funds. The report also makes the point that the data quality of private climate finance is low, with no clear system for definition and tracking.

| REVIEW CHECKLIST | COMMENTS |
|---|--|
| Does the report distinguish issues by level of market development/geographic focus (OECD, BRICS, LICs, LMICs etc)? | No – data where presented are aggregate |
| Does the report include case studies, and if so, how much detail is provided? | The report refers to two case studies undertaken by the authors separately (Peru and Vietnam) but does not include details. |
| Is the report framed broadly around sustainable development or more specifically around climate change or some other objective? | Report focuses on low carbon development and climate change mitigation. |
| Is the report based on original research or primarily a compilation of existing information? | Original analysis based on published data sources |
| Is the report endorsed by some larger organization or process (e.g., WBCSD) or a product of individual authors? If the latter was it peer reviewed? | Produced by Climate Strategies – a not-for-profit organization supported by national governments, businesses and foundations to provide independent policy and economic research input to European and international climate policy. |
| How recently was it prepared? | September 2011 |
| Does the report specify a role for donors? | The report discusses appropriate uses of public funds and public support for low carbon development |
| Does the report contain material/references relevant to developing the proposed Dialogue Platform on Green Investments? | The barriers discussion and specific public policy responses can be useful to define the dialogue platform agenda. |
| Tags | Low carbon investment, instruments to de-risk and or leverage |

Doing Business 2012 (200 pp)

AUTHOR: The World Bank and IFC **LINK:** <http://www.doingbusiness.org/reports/global-reports/doing-business-2012>

SUMMARY: Doing Business is a regular publication of the WBG, and presents quantitative indicators on business regulation and the protection of property rights that can be compared across 183 countries. It provides a comprehensive picture of the business environment conducive to private sector investment. The fundamental premise of the report is that economic activity requires rules and that regulation needs to be efficient. More efficient regulatory processes go hand in hand with stronger legal institutions and property rights protections. The 2012 report finds that there is a global trend towards business-friendly regulation. The top 20 performers all have a broad, sustained approach to managing business regulation.

| REVIEW CHECKLIST | COMMENTS |
|---|--|
| Does the report distinguish issues by level of market development/geographic focus (OECD, BRICS, LICs, LMICs etc)? | Contains data on 183 countries across the globe |
| Does the report include case studies, and if so, how much detail is provided? | Detailed data provided by country |
| Is the report framed broadly around sustainable development or more specifically around climate change or some other objective? | Neither: report contains information about the ease of doing business in a given country |
| Is the report based on original research or primarily a compilation of existing information? | Original research and data gathering |
| Is the report endorsed by some larger organization or process (e.g., WBCSD) or a product of individual authors? If the latter was it peer reviewed? | World Bank and IFC based on consultations with large network of local experts |
| How recently was it prepared? | 2012 |
| Does the report specify a role for donors? | No |
| Does the report contain material/references relevant to developing the proposed Dialogue Platform on Green Investments? | The report provides information on the investment environment in general; a conducive business environment will be indispensable to attracting private investment. |
| Tags | Enabling environment; business regulation; property rights |

Catalyzing low-carbon growth in developing economies: Public Finance Mechanisms to scale up private sector investment in climate solutions (2009, 28 pp)

AUTHOR: Vivid Economics: John Ward, Sam Fankhauser, Cameron Hepburn, Helen Jackson, Ranjita Rajan

LINK: http://www.unepfi.org/fileadmin/documents/catalysing_lowcarbon_growth.pdf

SUMMARY: The report focuses on the needs of institutional investors and describes 5 barriers and possible responses to promote Public Finance Mechanisms (PFMs) necessary to providing financing for low-carbon growth in developing countries:

- Country risk cover. Insurance against country risk is available at the project level from MIGA and OPIC (and others), but could be expanded and explicitly provided to support low-carbon funds.
- Low-carbon policy risk cover. Although this is not currently a key role of political risk insurers, the risk of policy change is an important constraint to private sector engagement.
- Funds to hedge currency risk. Public finance could support cost-effective hedges for local currencies not otherwise available in the commercial foreign exchange markets
- Improving deal flow. Some publicly-funded bodies undertake early-stage project execution for infrastructure projects (e.g., Infracore and Infracore Ventures). Building on this experience, vehicles specializing in early-stage low carbon projects could be developed. They could be complemented by technical assistance grants for project development.

Public sector taking subordinated equity positions in funds. The public sector could invest directly in low-carbon funds via subordinated or 'first-loss' equity, and receive a return when private sector returns meet a pre-defined threshold.

| REVIEW CHECKLIST | COMMENTS |
|---|--|
| Does the report distinguish issues by level of market development/geographic focus (OECD, BRICS, LICs, LMICs etc)? | The focus is on developing country markets generally |
| Does the report include case studies, and if so, how much detail is provided? | 5 public financing mechanisms are discussed with supporting references to experience, each 1-2 pp |
| Is the report framed broadly around sustainable development or more specifically around climate change or some other objective? | Very specifically targeted to a discussion of PFMs |
| Is the report based on original research or primarily a compilation of existing information? | Analysis based on existing data |
| Is the report endorsed by some larger organization or process (e.g., WBCSD) or a product of individual authors? If the latter was it peer reviewed? | UNEP SEFI, UNEP FI's Climate Change Working Group, IIGCR, ClimateWise, INCR, The P8 Group, PRI, and Dfid |
| How recently was it prepared? | October 2009 |
| Does the report specify a role for donors? | The importance and appropriate role for public subsidy is discussed in each case |
| Does the report contain material/references relevant to developing the proposed Dialogue Platform on Green Investments? | Recommendations with regard to establishing a regular forum to bring users and suppliers of PFMs and how to integrate PFMs into the process) could be useful inputs. |
| Tags | Institutional investors; risk mitigation; instruments to de-risk and or leverage |

REDDy Set Grow: A briefing for financial institutions, Opportunities and roles for financial institutions in forest carbon markets - Part 1 (2011, 41 pp)

AUTHOR: UNEP FI's Biodiversity and Ecosystems and Climate Change Working Groups

LINK: <http://www.unepfi.org/fileadmin/documents/reddysetgrow.pdf>

SUMMARY: Previous research suggests that slowing down, and ultimately even reversing, emissions from forestry activities requires a combination of three distinct approaches: **(i)** withdrawing the current drivers of deforestation, particularly through shifts in the production of agricultural commodities, **(ii)** mobilizing investment into the pro-active protection of standing forests, **(iii)** mobilizing investment into the creation of new, sustainably-managed forests. The focus of this study is on areas **(ii)** and **(iii)**. In these two areas, considerable investment is needed to realize the climate change mitigation potential of forests: roughly USD 17-33 billion per year are needed to halve emissions from deforestation by 2030; UNEP's Green Economy Initiative comes to the conclusion that annual investment in the order of USD 40 billion is needed to both halve global deforestation by 2030 as well as to increase reforestation and afforestation by 140% by 2050 relative to business as usual. Investment is needed both up-front for capacity building and preparatory work as well as on an ongoing basis for implementation, which entails compensation for opportunity costs as well as the costs of forest protection. Investment at this scale is unlikely to come from governments alone. Hence active investment from private sector investors is essential, including financial institutions (FIs) and intermediaries of different kinds, particularly for implementation activities. This will depend on making the protection and enhancement of natural forests, and the creation of new forests, a competitive investment opportunity.

Part 1 addresses the following questions:

- What is the current shape and status of forest carbon markets?
- What are the emerging opportunities for investors and financial institutions?
- What is the experience of financial actors when establishing operations in this space?
- What are the risks and barriers that private actors face?

Key roles that FIs can assume include investing their own funds into forestry projects, forestry project development companies and forest funds or acting as brokers or intermediaries. Debt finance can take the form of lending to forest companies, leveraged funds or individual projects on a non-recourse basis. Insurance and guarantees are a crucial way to manage both conventional investment risk in the forestry sector, as well as such risks which are more specific to forest-carbon endeavors.

In order to be interesting to FIs, forest-based mitigation activities need to contain elements that guarantee:

- Return on investment commensurate with the risk.
- Transparent and efficient procedures for gaining government approval of REDD+ initiatives, projects and activities.
- Clarity on ownership, acquisition and transfer of forest carbon asset rights, including the potential to seek leases, concessions, or other recognized interests or securities in land or forest that are consistent with REDD+ project life periods.
- Investment laws or guarantees granting assurance that REDD+ credits or investments will not be subject to expropriation by host countries.

Decisions on government levies or taxes on REDD+ credits or profits, or any de *minimus* national requirements on benefit sharing.

| REVIEW CHECKLIST | COMMENTS |
|---|--|
| Does the report distinguish issues by level of market development/geographic focus (OECD, BRICS, LICs, LMICs etc)? | Most of the forestry conservation examples are from outside the G-20 but the carbon market incentives are largely from within the G-20 |
| Does the report include case studies, and if so, how much detail is provided? | Many case studies of forestry programs and policies are provided |
| Is the report framed broadly around sustainable development or more specifically around climate change or some other objective? | Forestry conservation for carbon retention and broader sustainable development |
| Is the report based on original research or primarily a compilation of existing information? | |
| Is the report endorsed by some larger organization or process (e.g., WBCSD) or a product of individual authors? If the latter was it peer reviewed? | Sponsoring organizations |
| How recently was it prepared? | 2011 |
| Does the report specify a role for donors? | Carbon market and related capacity building focus |
| Does the report contain material/references relevant to developing the proposed Dialogue Platform on Green Investments? | |
| Tags | REDD+, barriers to investment; investment needs, sources and opportunities |

Financing renewable energy in developing countries: drivers and barriers for private finance in sub-Saharan Africa (2012, 56 pp)

AUTHOR: UNEP FI

LINK: http://www.unepfi.org/fileadmin/documents/Financing_Renewable_Energy_in_subSaharan_Africa_01.pdf

SUMMARY: The report identifies and portrays barriers to the scaling up of private investment and finance for electricity generation from renewable energy sources in the sub-Saharan region. Best practice in tackling these barriers is identified, partly from a literature review but especially from the results of a survey conducted among 36 financial institutions that are UNEP Finance Initiative members and two non-member banks (all survey respondents have experience in the field of energy infrastructure finance). Promising avenues in the areas of local policy reform, incentive mechanisms and international de-risking instruments, as well as lessons learned from the modest but encouraging successes of a few sub-Saharan African countries, are highlighted.

Although electricity access in sub-Saharan Africa is the lowest in the world, the region witnessed considerable growth – 70% in electricity generation (from 73 to 123 TWh) from 1998 to 2008, which translates into an average annual growth rate of 6% for the entire region, albeit with considerable regional variance. Total electricity generation from renewable sources has also grown by 72% from 1998 to 2008 (from 45 to 78 TWh). As a result, 66% of all new electricity generated in sub-Saharan Africa after 1998 has come from renewable sources.

By far most of this growth in renewable energy has essentially meant an increase in hydro-based electricity generation. Other renewable energy technologies, which may often be better suited to many African countries with only scarce hydrological and fossil fuel resources but vast wind, solar and biomass resources, have been largely neglected.

The report identifies three key needed strategies:

1. Create a level playing field: Many factors in developing countries - ranging from the capital-intensity of renewable energy technologies, to the continued provision of subsidies to fossil fuels - make renewable energy generation more costly or more difficult to implement than conventional fossil fuel-based technologies, particularly for large-scale generation.
2. Provide easy market access: The legal and regulatory set-up of a country's renewable energy policies are often burdensome for investors.
3. Mitigate political and regulatory investment risk. Even as renewable energy technologies become increasingly competitive and profitable, and even as access to local electricity grids and markets is increasingly enabled, the set of investment risks encountered in developing countries remain a persistent challenge.

Solutions: It is the international community, in the form of donor countries, development banks, international organizations or development assistance agencies that has the credibility with private sector actors to be able to offer "safety nets" in unsafe local circumstances. In the long term, however, it is only national governments and domestic political systems that can, through the initiation and implementation of more fundamental reform processes in political, economic and societal structures, reduce the fundamental drivers of the relevant risk categories.

The cases portrayed in Chapter 5 – the Multilateral Investment Guarantee Association (MIGA) and the Currency Exchange Fund – are two examples of how the international community has put in place risk mitigation solutions critical to private direct investment in developing countries. While renewable energy and other decarbonization projects can in principle access these generic international instruments, calls have been voiced recently that, in order to reach the required scale in

the deployment of low-carbon technologies in developing countries, an explicit focus on environmental and energy technologies should be considered in the set-up of similar international structure (“Climate-MIGA”; “Climate-CEF”).

| REVIEW CHECKLIST | COMMENTS |
|---|---|
| Does the report distinguish issues by level of market development/geographic focus (OECD, BRICS, LICs, LMICs etc)? | Sub-Saharan Africa focus |
| Does the report include case studies, and if so, how much detail is provided? | Examples of emerging best practices in the region |
| Is the report framed broadly around sustainable development or more specifically around climate change or some other objective? | Investment barriers to renewable energy |
| Is the report based on original research or primarily a compilation of existing information? | Original research |
| Is the report endorsed by some larger organization or process (e.g., WBCSD) or a product of individual authors? If the latter was it peer reviewed? | UNEP FI here refers directly to the members of the UNEP FI African Task Force (ATF) and the UNEP FI Climate Change Working Group (CCWG) plus those UNEP FI member institutions directly involved in the report consultation process |
| How recently was it prepared? | 2011/12 |
| Does the report specify a role for donors? | Yes |
| Does the report contain material/references relevant to developing the proposed Dialogue Platform on Green Investments? | Useful background for discussion of investment barriers in Africa |
| Tags | Barriers to investment, sub-Saharan Africa; public policy prescriptions |

Scaling Up Low-Carbon Infrastructure Investments in Developing Countries (2011, 53 pp)

AUTHOR: World Economic Forum with PwC and in partnership with UN Foundation and IFC (Critical Mass Initiative)

LINK: http://www3.weforum.org/docs/WEF_EI_CriticalMass_Report_2011.pdf

SUMMARY: The Critical Mass Initiative convenes institutional investors, asset managers, development banks, donor agencies, government officials, infrastructure project developers and climate finance experts to co-design financing solutions and thereby help pioneer a new wave of bankable and scalable transactions in low-carbon infrastructure, in developing and emerging economies. “Laboratories” were created to address issues in three specific contexts: India Solar (on a projects level), the South African Renewables Initiative (on a programmatic level) and Energy Efficiency (on a sector level). The work shows that there can be significant value in creating hubs and platforms to host collaborations among public and private sectors, bilateral and multilateral development banks, from which iconic projects and pioneering policy innovations can emerge.

A number of common themes were identified across the three case studies:

- Public policies need to be “investment grade” to attract private capital; robust commercial frameworks are important
- Bilateral and multilateral development agencies have a critical role to play in the public-private low carbon finance architecture
- National governments should design and use public finance mechanisms to leverage private investment, and facilitate private-to-private risk transfers

The report also offers lessons for mainstreaming such initiatives. It suggests inter alia that private financial institutions need to be involved as early as possible in the design stage; close collaboration is needed with national governments; and that the platform must enable work on a multitude of large, replicable live projects and programs, with attention to learning dissemination.

| REVIEW CHECKLIST | COMMENTS |
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| Does the report distinguish issues by level of market development/geographic focus (OECD, BRICS, LICs, LMICs etc)? | The laboratories all concern developing countries at different levels of development. |
| Does the report include case studies, and if so, how much detail is provided? | Three “laboratories” analyze specific issues related to type of investment and level of engagement (project, program, and sector) and contain innovative financing structures that could be employed |
| Is the report framed broadly around sustainable development or more specifically around climate change or some other objective? | Focused on climate change and specific investment types (solar, renewables and energy efficiency) |
| Is the report based on original research or primarily a compilation of existing information? | The report summarizes the findings and analysis of the key participants convened around the Critical Mass Initiative |
| Is the report endorsed by some larger organization or process (e.g., WBCSD) or a product of individual authors? If the latter was it peer reviewed? | Produced by the World Economic Forum, in collaboration with PwC, and in partnership with the UN Foundation and International Finance Corporation, and association with IIGCC and INCR. |

| | |
|---|--|
| How recently was it prepared? | January 2011 |
| Does the report specify a role for donors? | Yes |
| Does the report contain material/references relevant to developing the proposed Dialogue Platform on Green Investments? | The report describes the outcome of one approach to creating a platform and dialogue around issues of common interest to a wide range of stakeholders, with a view to creating investable propositions. As such it could provide interesting lessons and insights. |
| Tags | Private investment, barriers to investment, financing models |



Transition to a Low Carbon Economy: The Role of Banks (2011, 20 pp)

AUTHOR: WWF & Credit Suisse

LINK: http://www.oecd-ilibrary.org/environment/sources-of-finance-investment-policies-and-plant-entry-in-the-renewable-energy-sector_5kg7068011hb-en

SUMMARY: This report assesses the implications for banks of the transition to a low carbon economy and the role that banks can play. Climate change will create significant new types of risk for banks and the companies they do business with e.g. disruption of supply chains; regulatory risks to business models in high carbon sectors etc. Different sectors and industries will be linked in new ways, creating new demands on existing infrastructure. Investments in decarbonization are largely driven or influenced – directly or indirectly – by government action. However, the levels of government incentives, as well as a number of financial, technical and structural barriers prevent investment at scale. These barriers apply differently to different sectors of the low carbon economy. Accelerating the investment effort in decarbonization and lifting these barriers will require a number of stakeholders to act, including banks. The banking revenue pool directly linked to the decarbonization opportunity is expected to grow from USD 4-7 billion in 2010 to USD 25-30 billion by 2020, assuming low carbon investments grow to the levels required for a 2°C pathway.

Four key opportunities for banks to contribute beyond business as usual:

- **Mobilizing new capital sources** by intermediating potential investors and projects via structuring direct placements, creating new types of project bonds to tap the capital markets and launching a new type of securitization product that would help solve some fragmentation issues.
- **New regulatory risk products** - Banks could assess the viability of new regulatory hedging mechanisms, e.g., a bond structured similarly to a cat bond, whose coupon or principal would be linked to a regulatory event.
- **Distribution partnerships to develop energy efficiency markets** – e.g. through energy service companies (ESCOs). Banks and partners would need to develop new product solutions that combine technical advice, the delivery of energy efficiency solutions and standardized financing solutions, possibly supported by performance guarantees.
- **Energy efficiency opportunities for banks' real estate investment portfolios.**

Banks also need to better manage their own risks by systematically reviewing their approach to pricing of climate related risk – both for low and high carbon projects. Banks can respond to reputational risks by 1) Ceasing financing of specific activities or industry segments with the highest carbon impact or 2) setting minimum standards and encouraging best practice among beneficiaries of financial services.

Banks need to work more closely with government to better capture new opportunities/manage risks. This would involve (a) offering governments some technical advice on how to mobilize private investment in low carbon sectors and how to shape policy accordingly, and (b) helping to set up and manage targeted financing mechanisms related to climate change. Banks would first need to identify the priority topics and countries where they would want to engage more actively and to then build the relevant relationships with government as well as conducting research to develop a proprietary view point on the relevant issues.

| REVIEW CHECKLIST | COMMENTS |
|---|--|
| Does the report distinguish issues by level of market development/geographic focus (OECD, BRICS, LICs, LMICs etc)? | Discusses barriers in developing countries |
| Does the report include case studies, and if so, how much detail is provided? | No |
| Is the report framed broadly around sustainable development or more specifically around climate change or some other objective? | Climate change |
| Is the report based on original research or primarily a compilation of existing information? | Original research and existing materials |
| Is the report endorsed by some larger organization or process (e.g., WBCSD) or a product of individual authors? If the latter was it peer reviewed? | |
| How recently was it prepared? | October 2011 |
| Does the report specify a role for donors? | No |
| Does the report contain material/references relevant to developing the proposed Dialogue Platform on Green Investments? | Clear steps on how Banks should engage with public policy makers |
| Tags | Role of Banks; barriers; risk management; collaboration with governments |



Partnering with banks to finance “green” growth (2010, 6 pp)

AUTHOR: AFD

LINK: <http://idbdocs.iadb.org/WSDocs/getDocument.aspx?DOCNUM=367866>
18

SUMMARY: This paper outlines AFD’s strategy to remove obstacles to green investment in developing and emerging markets by partnering with local banks. AFD’s packaged support of green credit lines, dedicated technical support, and a risk sharing facility – ARIZ offer banks access to new markets and allows them to manage their environmental, financial and reputational risks. AFD and banks work together in partnership to identify investment potential, select sectors with the highest potential and define an action plan that aims to reduce the obstacles to investment in the country. Loans granted to customers provide them with incentives (maturity, rate) to invest.

| REVIEW CHECKLIST | COMMENTS |
|---|---|
| Does the report distinguish issues by level of market development/geographic focus (OECD, BRICS, LICs, LMICs etc)? | Targets developing countries and emerging markets. The report identifies specific sectors and investment areas eligible for green credit lines. |
| Does the report include case studies, and if so, how much detail is provided? | 3 detailed case studies are included: Egypt, China and Mauritius |
| Is the report framed broadly around sustainable development or more specifically around climate change or some other objective? | Green investment |
| Is the report based on original research or primarily a compilation of existing information? | Original research based on AFD experience |
| Is the report endorsed by some larger organization or process (e.g., WBCSD) or a product of individual authors? If the latter was it peer reviewed? | |
| How recently was it prepared? | 2010 |
| Does the report specify a role for donors? | It gives an example of donor products working to leverage the banking sector. |
| Does the report contain material/references relevant to developing the proposed Dialogue Platform on Green Investments? | |
| Tags | Green credit lines; opportunities for banks; donor support |

Crossing the Valley of Death (2010, 24 pp)

AUTHOR: Bloomberg New Energy Finance

LINK: <http://www.newenergyfinance.com/WhitePapers/download/29>

SUMMARY: The cost of generating a clean kilowatt-hour is still well above that of generating one from coal or natural gas on an unsubsidized basis, assuming no associated costs for carbon pollution. One of the biggest impediments to further progress is a persistent dearth of capital for potentially lower-cost breakthrough technologies that have advanced out of the laboratory but still require extensive and expensive field testing and trial installations before being deployed at scale. Financing exists for early stage, potentially high-risk/high-return technologies in the form of venture capital. It is available for late stage, potentially low-risk/low-return technologies in the form of project financing. But the technologies that fall somewhere in between face the so-called “Valley of Death”. The first valley appears just after the Technology Creation stage. The second occurs around the Diffusion/Commercialization stage, as companies seek scale-up capital and is more intractable.

This report was commissioned by the nonprofit Clean Energy Group which, together Bloomberg New Energy Finance (BNEF), conducted more than five dozen interviews with industry players across the EU and North America, seeking their input on how to address the quandary. A myriad of ideas emerged, but three were particularly novel and are worthy of further study:

Emerging Technology Reverse Auction Mechanism, in which a public sector body would encourage developers of projects that employ novel technologies, which are deemed to hold special promise, to “bid in” alongside others in a competitive process to win a fixed-price contract under a pre-established utility-level cap.

Efficacy Insurance, whereby clean energy projects regarded as too risky for conventional insurance coverage could benefit from “efficacy insurance” provided by commercial insurers with appropriate levels of technical expertise. They would in turn support for a portion of their risk in the form of publicly guaranteed or funded reinsurance pools.

A Government-backed Commercialization Finance Investment Entity. Such an initiative is currently being considered by the US Congress in the form of the Clean Energy Deployment Administration (CEDA). It would be seeded with federal dollars and operate in a relatively autonomous manner, perhaps leveraged via a “delegated investment authority” partnership with already engaged private sector institutions.

| REVIEW CHECKLIST | COMMENTS |
|---|--|
| Does the report distinguish issues by level of market development/geographic focus (OECD, BRICS, LICs, LMICs etc)? | Primarily defined by financing issues but some reference o experience and policy in China and Brazil |
| Does the report include case studies, and if so, how much detail is provided? | Numerous case studies of public policies |
| Is the report framed broadly around sustainable development or more specifically around climate change or some other objective? | Clean energy focus |
| Is the report based on original research or primarily a compilation of existing information? | Based on detailed interviews with technologists, entrepreneurs, project developers, venture capitalists, institutional investors, bankers, and policymakers. |
| Is the report endorsed by some larger organization or process (e.g., WBCSD) or a product of individual authors? If the latter was it peer reviewed? | BNEF |
| How recently was it prepared? | 2010 |
| Does the report specify a role for donors? | Major focus on role for public subsidy |
| Does the report contain material/references relevant to developing the proposed Dialogue Platform on Green Investments? | The proposals to address the Valley of Death would be useful to consider in designing policies and programs to encourage investment |
| Tags | Clean technology development and deployment; risks; barriers to investment |

Towards a green climate finance framework (2011, 9 pp)

AUTHOR: Michael Liebreich,
Bloomberg New Energy Finance

LINK: www.newenergyfinance.com/WhitePapers/download/46

SUMMARY: Criticizes the concept of a single Green Climate Fund to generate \$100 billion per year and instead proposes a quid-pro-quo approach providing financing for developing country commitments. An Investment Treaty would be required to formalize climate financing on developing country agreement to avoid confiscation and to commit to national climate action plans, with some risks such as currency exchange by a western sovereign guarantee. In return very cheap debt would be available from a Green Climate Finance Framework with a full set of financial instruments, freedom to blend them, and whenever possible funded by the private sector. The GCFF is compared to a certification standard for qualifying projects, making them eligible for a range of facilities. A proposed starting point is to increase concessional lending from MDBs from the approximately \$13.5 billion today to perhaps \$20 billion, in part by shifting lending out of fossil fuel lending. The need is described as too large to be satisfied by any single program or institution and therefore most effectively addressed by “a full range of providers to compete”. A limited role for a central pool may be necessary to address the concern that certain countries or types of projects will not be financed. A potential role for commercial insurers is also described. Projects would obtain public support through a competitive bidding procedure with funds allocated according to maximum impact.

| REVIEW CHECKLIST | COMMENTS |
|---|--|
| Does the report distinguish issues by level of market development/geographic focus (OECD, BRICS, LICs, LMICs etc)? | The focus is on financing for developing country climate needs consistent with the objectives of the Green Climate Fund, although the principles and approach have broader applicability |
| Does the report include case studies, and if so, how much detail is provided? | No; the objective is to outline an approach to large scale financing |
| Is the report framed broadly around sustainable development or more specifically around climate change or some other objective? | Climate change |
| Is the report based on original research or primarily a compilation of existing information? | The proposal has elements advanced by others but is the view of Michael Liebreich and BNEF |
| Is the report endorsed by some larger organization or process (e.g., WBCSD) or a product of individual authors? If the latter was it peer reviewed? | BNEF |
| How recently was it prepared? | 2011, in the context of discussions leading to Durban |
| Does the report specify a role for donors? | Yes, broadly about how to use donor funding most efficiently and effectively |
| Does the report contain material/references relevant to developing the proposed Dialogue Platform on Green Investments? | More a description of a broad vision for a system of international climate financing than a discussion of how to achieve it |
| Tags | Blended finance; managing country risks; Green Climate Finance Framework |

Leveraging private finance for clean energy: A summary of proposed tools for leveraging private sector investment in developing countries (2010, 11 pp)

AUTHOR: Richard Caperton, Center for American Progress **LINK:** http://www.americanprogress.org/issues/2010/11/pdf/gcn_memo.pdf

SUMMARY: This paper proposes 5 financial tools that should be used by government as part of an investment partnership with the private sector to leverage investment in clean energy projects. The tools are in two categories. Loan guarantees, policy insurance, and foreign exchange liquidity facilities are designed to reduce the risk to lenders and are therefore debt-based mechanisms. A pledge fund and low-carbon fund with subordinated equity can help increase equity investment; hence, they are examples of equity-based mechanisms.

- Loan guarantees - Governments agree to underwrite loans to clean energy projects with taxpayers' money to safeguard the private investor against defaults, thereby reducing the cost of borrowing. Estimated leverage ratio 6x-10x.
- Policy insurance - Governments could insure investors against the risk of policy uncertainty. They could do this through standard insurance or by issuing 'put' options that they would buy back if policies changed. Estimated leverage ratio: 10x.
- Foreign exchange liquidity facility - Governments can offer credit to help guard against risks associated with currency exchange fluctuations. Estimates of leverage ratios are hard to make due to a lack of literature in this area.
- Pledge fund - A developed country government-backed fund that would identify and analyze smaller, relatively low-risk clean energy projects and offer to investors that would pledge to invest a set amount of equity capital up front. Estimated leverage ratio: 10x.
- Subordinated equity fund - For higher-risk clean energy projects, a government backed fund would invest a proportion of the equity, but would receive returns last. Estimated leverage ratio: 2x.

No two mechanisms have the same characteristics, indicating that each mechanism is appropriate for a different type of project. International climate fund could determine which mechanism is right for which project, with the ultimate goal of financing cost-effective projects for climate change mitigation and clean energy projects in developing countries. The attraction of using developed country-backed guarantees and incentives for clean energy – either through an international climate fund or otherwise – is twofold. First, the involvement of developed country governments will reduce the cost of the capital and, consequently, second, more deployment of clean energy may be possible, which will lead to a greater degree of 'learning by doing' and hence further reduce technology costs.

| REVIEW CHECKLIST | COMMENTS |
|---|---|
| Does the report distinguish issues by level of market development/geographic focus (OECD, BRICS, LICs, LMICs etc)? | Developing country focus but no distinctions are drawn |
| Does the report include case studies, and if so, how much detail is provided? | Structured example: Insuring feed in tariff policy |
| Is the report framed broadly around sustainable development or more specifically around climate change or some other objective? | Clean energy and climate mitigation |
| Is the report based on original research or primarily a compilation of existing information? | Original research |
| Is the report endorsed by some larger organization or process (e.g., WBCSD) or a product of individual authors? If the latter was it peer reviewed? | Global Climate Network |
| How recently was it prepared? | November 2010 |
| Does the report specify a role for donors? | Yes |
| Does the report contain material/references relevant to developing the proposed Dialogue Platform on Green Investments? | Suggestions for an investment partnership with the private sector |
| Tags | Leverage; clean energy; loan guarantees; policy insurance; foreign exchange liquidity facility; pledge fund; subordinated equity fund |

Investing in Climate Change 2011: The Mega-Trend Continues - Exploring Risk & Return (2011, 142 pp)

AUTHOR: DB Climate Change Advisors, Deutsche Bank Group

LINK: http://www.dbcca.com/dbcca/EN/media/Inv_in_CC_2011_Final.pdf

SUMMARY: The report looks at the key investment drivers in climate change strategies and how they play out at the asset class level in terms of risk and return. Risk is mapped across three primary categories – economic/market risk, technology risk, and climate policy risk, aggregated to produce a composite/price risk.

- **Bonds:** Climate change bonds offer a relatively low risk hedge on future carbon risk. Applying a climate or carbon tilt to a traditional fixed income strategy identifies long or short opportunities likely to be the most impacted by climate effects on markets and companies.
- **Public Markets:** Climate change public equities are relatively high risk and strongly exposed to economic/market risks. Investors can allocate to higher or lower technology and policy risk positions – renewable energy operators are less risky than a PV manufacturer.
- **PE/VC:** these investments focus on early stage development of private companies and are therefore exposed to higher technology and business model risks, which are moderated as companies move into expansion stage of capital requirements. Investors can mitigate risk through sector selection and policy knowledge.
- **Infrastructure:** as an asset class this has relatively low technology risk and offers investors ability to lock in policy after the financial close of an investment.

Policy is the key driver for cleaner energy. Transparent (easily understood and open to all), long-lived (matching investment tenor) and certain (incentives need to be financeable) policies, TLC, provide investors with the framework to mobilize capital. When policies lack TLC, increased risks to investments range across asset classes.

Recognized need for in-depth dialogue on how public and private funds can scale up support to clean energy in developing countries. The Global Energy Transfer Feed in Tariffs (GET FIT) program addresses broad range of barriers, including non-finance challenges to scaling up renewable energy and access in developing countries. This would create new international public-private partnerships with the public partner implementing a robust regulatory environment and funding for the renewable premium, while private sector deploys capital to fund the projects, as well as using concessional and loan guarantee financing in hybrid structures to reduce risks.

| REVIEW CHECKLIST | COMMENTS |
|---|--|
| Does the report distinguish issues by level of market development/geographic focus (OECD, BRICS, LICs, LMICs etc)? | Focuses on countries in the Major Economies Forum |
| Does the report include case studies, and if so, how much detail is provided? | Policies in China, US, Germany, UK and India in detail. GET Fit program. |
| Is the report framed broadly around sustainable development or more specifically around climate change or some other objective? | Climate change investments |
| Is the report based on original research or primarily a compilation of existing information? | Original research |
| Is the report endorsed by some larger organization or process (e.g., WBCSD) or a product of individual authors? If the latter was it peer reviewed? | No |
| How recently was it prepared? | February 2011 |
| Does the report specify a role for donors? | Policymakers |
| Does the report contain material/references relevant to developing the proposed Dialogue Platform on Green Investments? | Yes. Discusses dialogue on public and private funds to scale up renewable energy and energy efficiency in developing countries |
| Tags | Asset classes; policy developments; investor risks; feed in tariffs |

Sustainability Report 2010: Climate change and Sustainable Energy (2010, 12 pp)

AUTHOR: European Bank for Reconstruction & Development

LINK: <http://www.ebrd.com/downloads/research/sustain/sr10ed.pdf>

SUMMARY: This report outlines the Bank's Sustainable Energy Initiative (SEI), which is their strategic vehicle to address the challenge of energy efficiency and climate change. It responds to the specific needs of energy transition in their countries of operations, and supports the global drive to scale up investment into mitigating climate change. The SEI pursues climate investments across all their sectors of operation. SEI investments are increasingly associated with targeted policy dialogue to ensure that projects and strategies will have a lasting impact in supporting the transition of our countries of operations. Sustainable energy investments reached almost €2.2 billion in 2010, up 64% from €1.3 billion in 2009. SEI investments accounted for 24 per cent of the Bank's annual business volume across all sectors of activity.

SEI activities focus on the following sectors and instruments:

- Industrial energy efficiency – energy audits and loans for improvements
- Sustainable energy financing facilities – credit lines to enable local banking sector to engage in financing small and medium scale energy efficiency and renewable energy investment projects
- Cleaner energy production - investment in the power and energy sector, including refurbishment of existing and the construction of new power generation assets.
- Renewable energy - combination of investment, technical cooperation and policy dialogue to address weak institutional and regulatory frameworks, and costs.
- Municipal and environmental infrastructure – energy efficiency gains through upgrading neglected infrastructure, supported by energy audits.
- Carbon Finance – enables private and public companies, and shareholder countries, to purchase carbon credits from emission reduction projects financed by the EBRD or EIB. Countries can also participate in Green Investment Schemes.

Engagement in policy dialogues is an essential element in ensuring that the projects and strategy implemented through the SEI will have a lasting impact in supporting the transition of the countries of operations. Signed Sustainable Energy Action Plans with countries that link sustainable energy policy with EBRD banking operations, aiming to reduce energy intensity and increase the share of renewable energy.

Based on case studies of projects, the evidence has been used to develop a practical toolkit for addressing climate change risk assessment and the integration of adaptation measures as part of project development and appraisal. The toolkit is now being piloted in projects under development.

The report includes results for EBRD's screening of all proposed investments for potential climate change impacts, both positive and negative.

| REVIEW CHECKLIST | COMMENTS |
|---|--|
| Does the report distinguish issues by level of market development/geographic focus (OECD, BRICS, LICs, LMICs etc)? | Europe and Central Asian countries in transition |
| Does the report include case studies, and if so, how much detail is provided? | Examples in limited detail |
| Is the report framed broadly around sustainable development or more specifically around climate change or some other objective? | Sustainable energy and climate change |
| Is the report based on original research or primarily a compilation of existing information? | Compilation of existing information |
| Is the report endorsed by some larger organization or process (e.g., WBCSD) or a product of individual authors? If the latter was it peer reviewed? | No |
| How recently was it prepared? | 2010 |
| Does the report specify a role for donors? | No |
| Does the report contain material/references relevant to developing the proposed Dialogue Platform on Green Investments? | Examples of successful public dialogue |
| Tags | Adaptation; clean energy; bonds; GHG assessment; energy efficiency; renewable energy; instruments to de-risk and leverage investment |

Climate Finance: Engaging the Private Sector (2011, 29 pp)

AUTHOR: Lead Shilpa Patel (IFC), with analytical inputs from EBRD and McKinsey & Co

LINK: <http://climatechange.worldbank.org/content/mobilizing-climate-finance>

SUMMARY: The report was prepared as a background note for “Mobilizing Climate Finance”, a report coordinated by the World Bank Group at the request of G20 Finance Ministers. It explores issues related to the private financing of low carbon investment. It provides an overview of climate related investment in developing countries, clarifies the terminology and discusses the sources of finance for such investment, including the role of public finance and concessional funds. More specifically, the report addresses:

- Current status of investment in climate related activities
- A typology of private sector investment, according to stage of technology development and type of project or investment
- Risks faced by a private investor in emerging markets, how these risks are typically mitigated and how barriers to low carbon investment can exacerbate these risks
- The types of support relevant for the private sector, including the experience of the IFC and the EBRD to discern leverage ratios achieved for different project types.

The level of investment that will be required for a 2°C pathway and the support mechanisms required to mobilize private flows.

| REVIEW CHECKLIST | COMMENTS |
|---|---|
| Does the report distinguish issues by level of market development/geographic focus (OECD, BRICS, LICs, LMICs etc)? | Yes – focuses on emerging markets |
| Does the report include case studies, and if so, how much detail is provided? | Four case studies of successful financing models using different public/private mechanisms |
| Is the report framed broadly around sustainable development or more specifically around climate change or some other objective? | Focused on climate change |
| Is the report based on original research or primarily a compilation of existing information? | Compilation of existing information with material based on MDB implementation experience |
| Is the report endorsed by some larger organization or process (e.g., WBCSD) or a product of individual authors? If the latter was it peer reviewed? | Produced by IFC and forms part of larger report commissioned by the G20 Finance Ministers as a follow up to the previous AGF report |
| How recently was it prepared? | October 2011 |
| Does the report specify a role for donors? | Yes |
| Does the report contain material/references relevant to developing the proposed Dialogue Platform on Green Investments? | Provides a list of risks and barriers typically faced by the private sector, and the public policy and finance responses typically required to overcome them in order to maximize mobilization and investment |
| Tags | Private investment, risks, mitigants, barriers to investment, concessional finance |

Leveraging private investment: the role of public sector climate finance (2011, 8 pp)

AUTHOR: Overseas Development Institute

LINK: <http://www.odi.org.uk/resources/docs/7082.pdf>

SUMMARY: This focuses on how public finance and risk mitigation instruments can remove the barriers to private sector investment and thereby leverage significant amounts of private capital for climate change mitigation. Primary requirement to attract private sector capital into low carbon investments is an appropriate policy framework. National and sub-national governments, therefore, have a crucial role to play in creating 'investment grade' policy regimes with the clarity, stability, predictability and long-term visibility that will attract finance, particularly from overseas. Any focus on leveraging private sector finance needs to pay attention to the balance of the private sector's assets and liabilities, and the underlying policies and regulations by which they are determined. One role for public finance in leveraging private sector finance is, therefore, simply to contribute directly to the incremental cost of low carbon policies, e.g. through feed in tariffs.

A series of both real and perceived risks attach to low carbon projects, particularly in developing countries, which can raise the cost of capital (both debt and equity) to prohibitive levels. There are six categories of risk: political, currency, regulatory and policy, execution, technology, and unfamiliarity. Public climate finance needs to reduce the risks attached to low carbon and climate resilient projects and technologies to leverage the private finance needed for investment. Over time, as policy becomes more certain, technologies are proven and investors become more familiar with the field, some of these risks should be reduced, so reducing the need for financing. Tools to leverage debt include: loan guarantees, policy insurance, and foreign exchange liquidity facilities. Tools to leverage equity include pledge funds and subordinated equity funds. These different tools have different applications to different types of investors, projects and country contexts.

On the investor side, for example, pledge funds or subordinated equity funds are likely to be designed to attract equity investors such as sovereign wealth funds and pension funds, while debt-specific instruments such as loan guarantees and foreign exchange liquidity facilities will be more applicable to banks. Several different kinds of instrument may be required together to bring together the range of investors required to provide the full financing of a project or program.

General discussions of financing needs among investors are no longer very productive and the conversation needs to move on to project and program implementation. Investors need to become involved in the process of financial structuring of specific, real program to overcome the unfamiliarity risk. Need to include 'new' partners in the conversation, such as non-DAC governments, philanthropic players and non-profit actors, to generate common standards and streamlined approaches.

| REVIEW CHECKLIST | COMMENTS |
|---|---|
| Does the report distinguish issues by level of market development/geographic focus (OECD, BRICS, LICs, LMICs etc)? | Developing country focus |
| Does the report include case studies, and if so, how much detail is provided? | CP3 in significant detail, and other examples of initiatives mentioned e.g. CMCI, OPIC, Global Climate Partnership Fund |
| Is the report framed broadly around sustainable development or more specifically around climate change or some other objective? | Climate change |
| Is the report based on original research or primarily a compilation of existing information? | Original analysis drawing on existing publications |
| Is the report endorsed by some larger organization or process (e.g., WBCSD) or a product of individual authors? If the latter was it peer reviewed? | |
| How recently was it prepared? | April 2011 |
| Does the report specify a role for donors? | Yes |
| Does the report contain material/references relevant to developing the proposed Dialogue Platform on Green Investments? | Yes – clear needs on moving beyond broad dialogue to project and program implementation |
| Tags | Leverage tools; risks; role for public finance institutions; debt; equity |

REDDy Set Grow: Private sector suggestions for international climate change negotiators Part 2 (2011, 45 pp)

AUTHOR: UNEP FI's Biodiversity and Ecosystems and Climate Change Working Groups

LINK: <http://www.unepfi.org/fileadmin/documents/reddysetgrowII.pdf>

SUMMARY: This report focuses on issues of funding and implementation of REDD+ activities, and the role of the private sector and private investment. It addresses: **(i)** the views of financial institutions in organized under UNEP FI; **(ii)** the imperative of mobilizing private investment and private sector engagement in the implementation of REDD+ activities (*Section 3.1*), **(iii)** the risks and challenges of private sector involvement in REDD+ and approaches to deal with these (*Section 3.2*) and, **(iv)** the policy scenarios that are most likely to rapidly mobilize capital from the private sector at the required scale while actively addressing the concerns and risks of private sector participation (*Section 5.2*). The report highlights – on the basis of scenario analysis – how any future mechanism should combine different features to increase its effectiveness and efficiency.

A wide variation exists in estimates of the costs of and investment needs for reducing deforestation and forest degradation at the required scale and speed. Estimates range from USD 5-15 billion annually at the lower end to 17-33 billion for a 50 per cent reduction in global deforestation. Investment volumes are expected to be higher in reality, as the estimates used here mainly refer to opportunity costs from other land-use activities, and exclude significant other cost categories. The total amount of public REDD+ funding is estimated to currently stand at approximately USD 7.2 billion, leaving a significant gap.

There are two options to assume the costs associated with exploitation of forests: **(i)** developed-country emitters of greenhouse gases, or **(ii)** developed-country taxpayers. Even if an international public funding vehicle for REDD+ were mandated to mobilize private investment – for example, from institutional investors such as pension funds – the fundamental question of how, or from where, investors would be repaid their capital and any expected return on investment, in the absence of a market for REDD+ credits, remains: from which revenue streams would host governments, municipalities, cooperatives and forest concessionaries in developing countries repay debt and service interests and dividends after the successful implementation of REDD+ activities? The only answer that can be provided at this stage is: from the generation of carbon credits sold on international carbon markets. The only alternative would be a REDD+ financing mechanism entirely built on public grants, financed by developed-country taxpayers. It is known from previous analysis, however, that it is highly unlikely that the amount of Phase 3 REDD+ investment needed could ever come from taxpayers, especially in light of the significant fiscal constraints currently experienced by most donor countries.

Of all possible generic models for a REDD+ financing mechanism, it seems that the nested approach would be best suited to address a number of stakeholder needs while combining promising resource-mobilization potential with environmental integrity. The mere establishment of a stand-alone crediting scheme for REDD+ following the nested approach model, however, will by itself be unlikely to deliver satisfactory results.

As detailed above, the effectiveness of any REDD+ finance mechanism will also depend on the concrete outcomes of a number of negotiation areas under the UNFCCC. Some of these key links are the following:

- **Existing carbon markets and the risk of intensive pressure on carbon prices** – links with the project-based flexible mechanisms (CDM, JI) and International Emissions Trading (IET): a REDD+ crediting mechanism could dramatically increase the supply of carbon credits on the global markets.
- The **emissions-reduction commitments by developed countries**, at this stage of the negotiations, remain weak for many of the largest industrialized countries. The collective level of ambition will have to increase substantially in order to make a REDD+ crediting mechanism work while keeping international carbon prices at sensible levels.
- **Supplementarity** is the principle that, for their compliance with emissions-reduction commitments developed countries should only buy carbon credits ‘imported’ from developing countries in a supplementary way.

| REVIEW CHECKLIST | COMMENTS |
|---|---|
| Does the report distinguish issues by level of market development/geographic focus (OECD, BRICS, LICs, LMICs etc)? | Framed around carbon trading of forestry credits |
| Does the report include case studies, and if so, how much detail is provided? | Policy case studies |
| Is the report framed broadly around sustainable development or more specifically around climate change or some other objective? | Forestry conservation linked to climate change policy |
| Is the report based on original research or primarily a compilation of existing information? | Original research |
| Is the report endorsed by some larger organization or process (e.g., WBCSD) or a product of individual authors? If the latter was it peer reviewed? | Three sponsoring organizations |
| How recently was it prepared? | 2011 |
| Does the report specify a role for donors? | Yes |
| Does the report contain material/references relevant to developing the proposed Dialogue Platform on Green Investments? | |
| Tags | Carbon markets; institutional investors; REDD+ |

Innovative options for financing the development and transfer of technologies (2007, 18 pp)

AUTHOR: UNFCCC

LINK: http://unfccc.int/resource/docs/publications/innovation_eng.pdf

SUMMARY: This is a paper on innovative options for financing the development and transfer of technologies. Access to public and private financing can be improved by introducing financing considerations early in the project development cycle and encouraging dialogue and cooperation at an early stage between project developers and the financial community. Frequently it will be enough to create new combinations or adjustments of existing financial instruments, instead of trying to develop new financial instruments aimed specifically at climate change. The available financial instruments form a financial continuum in which public-sector instruments are generally applicable in the initial development phases of the project development cycle, and private-sector instruments in the latter phases. The continuum begins with public-sector instruments such as pure grants and subsidies, followed by instruments that are a combination of public-sector and private-sector instruments such as concessional loans, supplier credit, and guarantees, and ends with private-sector instruments such as pure commercial loans. Private-sector financing can be improved directly by public finance sharing the risks of climate change projects with private financiers, or indirectly by awareness campaigns, imposing requirements in the form of rules and requirements, or levying taxes and subsidies. Finally it is possible to improve financial access from public-private sources by linking climate change projects to the concept of sustainable development. Some financiers are interested in the 'triple bottom line' of *profits, people* and *planet*, and evaluate projects not just in terms of their financial returns, but also in terms of environmental and social benefits.

Regardless of the type of returns, risk management is essential. A number of techniques and instruments are available to reduce or reallocate a project's risks including, commercial and political risk insurance, guarantees and international arbitration. These considerations need to be matched by action on the ground. Implementation activities can be gradually scaled up while more experience is gained with risks.

| REVIEW CHECKLIST | COMMENTS |
|---|--|
| Does the report distinguish issues by level of market development/geographic focus (OECD, BRICS, LICs, LMICs etc)? | Focus on developing countries |
| Does the report include case studies, and if so, how much detail is provided? | No |
| Is the report framed broadly around sustainable development or more specifically around climate change or some other objective? | Technology transfer |
| Is the report based on original research or primarily a compilation of existing information? | Summary of existing research |
| Is the report endorsed by some larger organization or process (e.g., WBCSD) or a product of individual authors? If the latter was it peer reviewed? | Expert Group on Technology Transfer |
| How recently was it prepared? | 2007 |
| Does the report specify a role for donors? | No |
| Does the report contain material/references relevant to developing the proposed Dialogue Platform on Green Investments? | No |
| Tags | Technology transfer; risks; project cycles |

Mobilizing Climate Finance (2011, 56 pp)

AUTHOR: World Bank Group (coordinator); IMF, OECD, RDBs

LINK: <http://climatechange.worldbank.org/content/mobilizing-climate-finance>

SUMMARY: The report was prepared at the request of G20 Finance Ministers to build upon the UN Secretary-General's High Level Advisory Group on Climate Change Financing to explore scaled up finance for climate change adaptation and mitigation. Its major findings are:

- There is no precise internationally agreed definition of climate finance at present, and the term refers to resources that catalyze low-carbon and climate-resilient development
- Both public and private flows are indispensable elements of climate finance.
- The removal of wasteful subsidies on fossil fuel use can generate public resources necessary to catalyze private investment.
- Comprehensive carbon pricing policies (carbon charge or emission trading with full auctioning of allowances) are widely viewed as a promising option.
- Market-based instruments for international aviation and maritime bunker fuels have been proposed as an innovative source of climate finance
- Policy reforms, institutional development and public outlays can leverage much larger flows of private or multilateral climate finance.
- Carbon offset markets can play an important role in catalyzing low-carbon investment in developing countries but now face major challenges
- Private flows for climate mitigation related investment in developing countries have grown rapidly but remain hampered by market failures and other barriers
- Although there is limited current headroom for MDBs to greatly expand climate financing on their own balance sheets, there are significant opportunities for them to mobilize resources through new pooled financing arrangements
- It is important to determine which options for increased climate financing are most promising for prioritization in the near term and which for development over the medium term

Six background papers (of which the private finance paper is separately described in this bibliography) contain detailed analyses supporting the above conclusions.

| REVIEW CHECKLIST | COMMENTS |
|---|---|
| Does the report distinguish issues by level of market development/geographic focus (OECD, BRICS, LICs, LMICs etc)? | Addresses climate finance issues in both developed (to raise financing in respect of the Copenhagen Accords) and developing countries |
| Does the report include case studies, and if so, how much detail is provided? | Some mention of specific innovative finance, but background papers contain more details |
| Is the report framed broadly around sustainable development or more specifically around climate change or some other objective? | Focused on mobilizing finance for climate change |
| Is the report based on original research or primarily a compilation of existing information? | Compilation of existing information with material based on MDB implementation experience |
| Is the report endorsed by some larger organization or process (e.g., WBCSD) or a product of individual authors? If the latter was it peer reviewed? | Coordinated by the World Bank Group, in partnership with the IMF, OECD and Regional development Banks (AfDB, ADB, EBRD, EIB, IDB). |
| How recently was it prepared? | October 2011 |
| Does the report specify a role for donors? | Yes – discusses bilateral and multilateral finance and the Climate Investment Funds, among others. |
| Does the report contain material/references relevant to developing the proposed Dialogue Platform on Green Investments? | Comprehensive discussion about sources of finance for climate related investment, and the role of public policy |
| Tags | Public investment, private investment, climate finance, sources of finance, barriers to investment |



Weathering the Storm: Public Funding for low-carbon energy in the post-financial crisis era (2010, 26 pp)

AUTHOR: BNEF, UNEP SEFI and Clean Energy Group

LINK: <http://www.newenergyfinance.com/WhitePapers/download/31>

SUMMARY: This report examines the current and future roles of government support for clean energy technologies, given their various stages of development. It concludes: until these technologies are truly cost-competitive on an unsubsidized basis with their dirtier rivals, governments have little choice but to subsidize their progress if the spectre of climate change is to be addressed. This also is the conclusion of the International Energy Agency (see separate entry), which said that governments spent \$312bn in 2009 subsidizing the conventional energy industry but just \$57bn on the clean energy sector.

This report also identifies four specific target technologies where state funding could make a critical difference between whether a new energy technology ultimately succeeds or fails in competing with its conventional energy sector rival: utility-scale power storage and advanced batteries, advanced transport, carbon capture and storage, and advanced biofuels.

The report distinguishes four stages of technology development: 1. Early R&D/Proof of Concept 2. Demonstration & Scale-Up; 3. Commercial Roll-Out and 4. Diffusion & Maturity, lists technologies by these stages, and then discusses the sources of finance and public policies most relevant to each stage. It concludes that government can play a uniquely amplifying effect in each of these four stages.

| REVIEW CHECKLIST | COMMENTS |
|---|---|
| Does the report distinguish issues by level of market development/geographic focus (OECD, BRICS, LICs, LMICs etc)? | Mainly framed around technology development status and financing issues at different stages |
| Does the report include case studies, and if so, how much detail is provided? | Short policy examples are presented from numerous countries including the US, Canada, Ireland, UK, Chile and Mexico |
| Is the report framed broadly around sustainable development or more specifically around climate change or some other objective? | Clean energy finance |
| Is the report based on original research or primarily a compilation of existing information? | BNEF numbers |
| Is the report endorsed by some larger organization or process (e.g., WBCSD) or a product of individual authors? If the latter was it peer reviewed? | UNEP SEFI and Clean Energy Group |
| How recently was it prepared? | 2010 |
| Does the report specify a role for donors? | Major focus on public funding |
| Does the report contain material/references relevant to developing the proposed Dialogue Platform on Green Investments? | Only indirectly |
| Tags | Technology development; sources of finance |

A strategy for restoring confidence and economic growth through green investment and innovation (2012, 32 pp)

AUTHOR: Dimitri Zenghelis

LINK: <http://www2.lse.ac.uk/GranthamInstitute/publications/Policy/docs/PB-Zenghelis-economic-growth-green-investment-innovation.pdf>

SUMMARY: Most advanced economies need to stimulate economic growth to reduce deficits and debt, but growth requires investment, and investment levels have slumped to record lows. The 'paradox of thrift' – saving and cost-cutting in response to economic gloom - is the rational response at the level of an individual business (which also sheds labor), bank (which restricts credit) and household in order to rebuild balance sheets. But when everyone retrenches simultaneously, fear of recession becomes a self-fulfilling prophecy. Governments are currently limited in their ability to offset private saving by extra borrowing, but they do still have the power to restore confidence by using carefully chosen instruments to stimulate private investment.

The most appropriate area for government to target is investment in sectors prone to so-called market failures, missing markets and externalities. This policy brief argues that policies to encourage low-carbon investment offer broad and effective opportunities to restore confidence and to leverage additional, rather than displaced, investment. These policies would generate income for investors and would have credibility in the long term because they address growing externalities and market failures, while tapping into a fast-growing global market for resource efficient activities. Infrastructure – for instance for energy generation, transmission grids and energy efficiency – offers particular opportunities for long-term returns to investors, while also promoting growth. Activities which make use of the rapid development of networked information and communications technologies – the main source of cross-sector productivity gains – offer particular opportunities to stimulate growth-inducing innovation.

The private sector is not heavily investing in green innovation and infrastructure because of a lack of confidence in future returns, due to uncertainties surrounding current energy and environment policy. The report argues that governments should incentivize such investment by themselves taking on elements of policy risk. By backing their own low-carbon policies, governments can stimulate additional net private sector investment, and thereby make a significant contribution to economic growth and employment. The public sector should take on risks it controls, whether through direct co-investment with the private sector or through guarantees.

Low-carbon growth policies alone will not resolve the public debt crisis in advanced economies, but they offer an important part of a credible solution alongside other structural reform measures.

| REVIEW CHECKLIST | COMMENTS |
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| Does the report distinguish issues by level of market development/geographic focus (OECD, BRICS, LICs, LMICs etc)? | Primarily framed around industrialized economies with low interest rates and sluggish growth |
| Does the report include case studies, and if so, how much detail is provided? | |
| Is the report framed broadly around sustainable development or more specifically around climate change or some other objective? | Green economy generally with many references to climate and clean energy |
| Is the report based on original research or primarily a compilation of existing information? | Original |
| Is the report endorsed by some larger organization or process (e.g., WBCSD) or a product of individual authors? If the latter was it peer reviewed? | The Grantham Research Institute in Climate Change and the Environment and The Centre for Climate Change Economics and Policy hosted jointly by the University of Leeds and the London School of Economics and Political Science. |
| How recently was it prepared? | 2012 |
| Does the report specify a role for donors? | Considerable emphasis is given to the need for governments to have 'skin in the game' |
| Does the report contain material/references relevant to developing the proposed Dialogue Platform on Green Investments? | Indirectly, insofar as it relates to the macroeconomic rationale for public support of investments in a green economy |
| Tags | Barriers to investment; risk mitigation; public debt crisis |

Resource Revolution: Meeting the world's energy, materials, food and water needs (2011, 210 pp)

AUTHOR: Dobbs, Richard, J,
Oppenheim, F. Thompson, M.
Brinkman, M. Zornes.

LINK: http://www.mckinsey.com/Features/Resource_revolution

SUMMARY: The report discusses the challenges and opportunities of meeting demand for energy, materials, food, and water, as up to 3 billion consumers join the middle class in the next 20 years. It shows that the resource challenge can be met through a combination of expanding the supply of resources and a step change in the way they are extracted, converted, and used. Such resource productivity improvements, using existing technology, could satisfy nearly 30 percent of demand in 2030. Just 15 areas, from more energy-efficient buildings to improved irrigation, could deliver 75 percent of the potential for higher resource productivity. However, this will not be easy. There are many barriers, including the fact that the capital needed each year to create a resource revolution will rise from roughly \$2 trillion today to more than \$3 trillion, with additional capital requirements to pursue climate change and universal-energy-access agendas. The benefits could be as high as \$3.7 trillion a year, however, if carbon had a price of \$30 per metric ton and if governments removed substantial resource subsidies and taxes.

The report recommends that policy makers should consider action on three fronts: unwinding subsidies that keep prices artificially low and encourage inefficiency; ensuring that enough capital is available and that market failures associated with, for instance, property rights and incentives are corrected; and bolstering society's resilience by creating safety nets to help very poor people deal with change and educating consumers and businesses to heed the reality of future resource constraints.

| REVIEW CHECKLIST | COMMENTS |
|---|--|
| Does the report distinguish issues by level of market development/geographic focus (OECD, BRICS, LICs, LMICs etc)? | Report presents global data; a resource productivity scorecard is based largely on OECD countries |
| Does the report include case studies, and if so, how much detail is provided? | Three scenarios are discussed in detail: expanding resource supply to meet demand; boosting resource productivity; and a climate response case. |
| Is the report framed broadly around sustainable development or more specifically around climate change or some other objective? | Report focuses on the resource productivity that will be required to meet the demands of a growing global population. Environmental factors, including climate change, exacerbate the situation. |
| Is the report based on original research or primarily a compilation of existing information? | Original research building on past McKinsey studies, notably the abatement cost curve, underpinned by several references to existing information. |
| Is the report endorsed by some larger organization or process (e.g., WBCSD) or a product of individual authors? If the latter was it peer reviewed? | Produced by McKinsey Global Institute & McKinsey Sustainability and Resource Productivity Practice. |
| How recently was it prepared? | November 2011 |
| Does the report specify a role for donors? | No. |

| | |
|---|--|
| Does the report contain material/references relevant to developing the proposed Dialogue Platform on Green Investments? | The report makes the case that the resource-intensive growth model of the past is not going to be feasible in the future, given resource constraints, higher prices and volatility. Policy makers will need to address price distortions and subsidies; mitigate other barriers; and build long-term resilience. |
| Tags | Barriers to investment; investment needs, sources and opportunities; resource productivity, low carbon development, cost curve, market failures, efficiency, water, agriculture and food, carbon pricing |



Private Sector Engagement in Adaptation to Climate Change: Approaches to Managing Climate Risks (2011, 56 pp)

AUTHOR: Agrawala, S. et al., OECD **LINK:** http://www.oecd-ilibrary.org/environment/private-sector-engagement-in-adaptation-to-climate-change-approaches-to-managing-climate-risks_5kg221jkf1g7-en

SUMMARY: This paper analyzes the experiences of a set of companies in engaging in adaptation to climate change. While companies' individual actions and motivations are affected by their specific operating contexts, the common themes and factors identified through this analysis are broadly applicable to the private sector. The analysis considered three different tiers of engagement in adaptation: (1) risk awareness, (2) risk assessment and (3) risk management. Companies are found to be generally aware of the risks that climate change poses to their business. Although not all companies which are aware of risks also conduct assessments. Not all companies have undertaken risk management measures or implemented adaptation actions. There are several examples of companies implementing no-regret or synergistic adaptation measures, but larger investments in adaptation going beyond no-regret measures are less common. Additionally, several companies are starting to take advantage of new opportunities for products and services arising due to climate change. These opportunities range from the provision of climate change consulting services to the climate proofing of infrastructure.

The inability to finance adaptation can be a key barrier to adaptation, and companies appear to be more able to adapt if they can offset costs, for example if they are able to pass on the costs of adaptation to consumers or if they receive subsidies to help them defray the costs of adaptation. The presence of in-house capacity and previous experience of the need to address climate variability also facilitates the implementation of adaptation measures. Government support for research, the provision of guidance and tools, dialogues and linkages between research centers and government experts, and knowledge networks between the private sector and academia can support companies' implementation of adaptation. Partnerships between the private sector and governments, scientific organizations and academia may be effective instruments for enabling adaptation.

The uncertainty of future climate impacts and the short-term horizon used in many business planning processes can reduce companies' incentives to adapt. Regulatory environments and government actions can play a key role in stimulating private sector engagement in adaptation.

Case studies indicate that the public private partnerships and developing R&D infrastructures have assisted companies with their decision making through provision of information, and have enabled organizations to pool capacities to better enable risk assessments and management. The public sector has also used regulatory frameworks to encourage the private sector to develop adaptation strategies. Additionally, the public sector can assist private sector decision-making by providing risk-management guidance and tools that are adapted to suit different users' needs.

| REVIEW CHECKLIST | COMMENTS |
|---|--|
| Does the report distinguish issues by level of market development/geographic focus (OECD, BRICS, LICs, LMICs etc)? | Uses experiences in OECD countries as examples |
| Does the report include case studies, and if so, how much detail is provided? | Yes |
| Is the report framed broadly around sustainable development or more specifically around climate change or some other objective? | Climate change adaptation |
| Is the report based on original research or primarily a compilation of existing information? | Original research |
| Is the report endorsed by some larger organization or process (e.g., WBCSD) or a product of individual authors? If the latter was it peer reviewed? | |
| How recently was it prepared? | 2011 |
| Does the report specify a role for donors? | Public policy makers |
| Does the report contain material/references relevant to developing the proposed Dialogue Platform on Green Investments? | Identifies relevant issues for a public-private discussion on adaptation |
| Tags | Adaptation; barriers to investment; public policy prescriptions |

Sources of Finance, Investment Policies and Plant Entry in the Renewable Energy Sector (2011, 46 pp)

AUTHOR: OECD

LINK: http://www.oecd-ilibrary.org/environment/sources-of-finance-investment-policies-and-plant-entry-in-the-renewable-energy-sector_5kg7068011hb-en

SUMMARY: This study looks specifically at OECD public policies promoting investment in renewable power plants, and discusses their impact on plant entry into the market. It examines differing risk/return expectations across stages of the investment continuum (from R&D through to mergers and acquisitions) and the financial structures that are employed at each stage. It is argued that the immaturity of the renewable energy sector increases the difficulties associated with accurately pricing relative risk of investments in “clean” energy, making it more difficult for these technologies to obtain financing at reasonable costs than for fossil fuel technologies. Moreover, in some cases there can be important learning and demonstration effects which will not be realized in the absence of initial support.

The information required by financial institutions to evaluate each potential investment opportunity may be greater for renewable energy projects than alternative uses of that capital. This is a complex area for investment and credit committees of banks to assess given that countries have differing support regimes, varying processes and legal standing for other issues such as awarding grid connections, generation licenses and securing off-take arrangements. Financiers may impose additional costs on generally under-capitalized project developers with limited track records, and have differing risk/return expectations across the stages of the investment continuum (from R&D through to mergers and acquisitions) which may make the various stages more or less attractive commercially. Against this backdrop ‘investment’ policies may be warranted.

Transparency, predictability and longevity of government programs is necessary if investors are to initiate a project in clean energy. Predictability should not be mistaken for permanence. In the case of policies targeting investment in physical capital, it is important to ‘sunset’ many of the policies discussed in this report. With time the financial market will price risk efficiently (assuming policy regimes do not generate shocks continuously) and learning benefits will be exhausted. While there will always be a case for taxing carbon, there will not always be a case for subsidizing investment in different mitigation technologies (including renewable energy).

An inevitable complication in any positive support policy relates to the ‘hazards’ associated with picking (or not picking) winners. It is also important to ensure that incentives of generating firms, financiers and public agencies are properly aligned. There is a strong case to be made for using tax credits rather than grants as a means of support, thus avoiding the dangers of overcompensation and adverse selection.

| REVIEW CHECKLIST | COMMENTS |
|---|--|
| Does the report distinguish issues by level of market development/geographic focus (OECD, BRICS, LICs, LMICs etc)? | OECD |
| Does the report include case studies, and if so, how much detail is provided? | Detailed case studies on Germany, USA and Australia |
| Is the report framed broadly around sustainable development or more specifically around climate change or some other objective? | Renewable energy |
| Is the report based on original research or primarily a compilation of existing information? | Original research |
| Is the report endorsed by some larger organization or process (e.g., WBCSD) or a product of individual authors? If the latter was it peer reviewed? | Peer reviewed by OECD and non-OECD governments and experts |
| How recently was it prepared? | July 2011 |
| Does the report specify a role for donors? | No |
| Does the report contain material/references relevant to developing the proposed Dialogue Platform on Green Investments? | |
| Tags | Renewable energy; public policy; sources of finance |

Towards a Green Investment Policy Framework: The Case of Low-Carbon, Climate-Resilient Infrastructure (2012, 52pp)

Author: J. Corfee-Morlot, V. Marchal, C. Kauffmann, C. Tebar Less, F. Stewart, C. Kennedy, C. Kaminker, G. Ang. (OECD) **Link:** <http://www.oecd.org/dataoecd/53/42/49184842.pdf>

SUMMARY: This report presents an initial survey of understanding of good practice across investment and climate policy arenas and proposes an integrated framework that will help to incentivize and shift private sector investment at scale to low-carbon, climate resilient (LCR) infrastructure. The existence of multiple market failures are slowing and constraining investment in LCR infrastructure today. At least during a transitional period, this justifies the use of public funds to mitigate financial risk, unlock private investment, promote learning, and build institutional and human capacity to bring about transformative change. In the near term, this may be best addressed through transitional government policies and targeted financial mechanisms placed in a broad and coherent green investment policy framework that aims to deliver long term financial viability.

From the perspective of private sector engagement, a green investment policy framework potentially influences three key investment conditions: i) the existence of investment opportunities; ii) the return on investment, including boosting returns and limiting the costs of investment; and iii) the risks faced by investors throughout the life of projects. Policy can play a role to address these barriers and risks to create stronger enabling environments and to improve the risk-adjusted returns for business and industry to better respond to opportunities and challenges presented by infrastructure and climate change. Any such framework will also need to provide public finance and innovative finance mechanisms to accelerate change. The policy instruments also need to be packaged and coordinated within the mix to increase their effectiveness, and tailored to the national contexts to tackle specific investment and infrastructure market barriers of different market segments. The emerging policy framework for green investment provides an initial check-list for action, but its use will need to be sequenced and prioritized depending on country specific and sector specific context. The framework is sufficiently flexible to adapt to those priorities, as well as to be used in different ways depending upon the starting point of the country.

An integrated approach can assist climate and investment policies to work more coherently together to achieve the common goal of LCR development and greener growth. It consists of five elements, notably:

- (1) goal setting and aligning policy goals across and within levels of government;
- (2) reforming policies to enable investment and strengthen market incentives for LCR infrastructure;
- (3) establishing specific financial policies that provide transitional support for new green technologies.

Two other elements complete the framework:

- (4) harnessing and scaling up resources that increase the social returns for private investment (e.g. training and R&D, risk assessment tools);
- (5) establishing practices that promote green business and consumer behavior, such as information and education policies.

The elements of the framework and checklist should provide a means for governments and their advisors to identify gaps and opportunities for priority policy reforms to advance good practice over time.

| Review Checklist | Comments |
|---|--|
| Does the report distinguish issues by level of market development/geographic focus (OECD, BRICS, LICs, LMICs etc)? | Barriers and opportunities for LCR infrastructure investment in different country contexts |
| Does the report include case studies, and if so, how much detail is provided? | No |
| Is the report framed broadly around sustainable development or more specifically around climate change or some other objective? | Climate change and infrastructure |
| Is the report based on original research or primarily a compilation of existing information? | Analysis building on existing research |
| Is the report endorsed by some larger organization or process (e.g., WBCSD) or a product of individual authors? If the latter was it peer reviewed? | OECD |
| How recently was it prepared? | 2012 |
| Does the report specify a role for donors? | Target audience for this report is national policymakers and their advisors, with a particular focus on those countries that are keen to attract private investment to support a transition to LCR development |
| Does the report contain material/references relevant to developing the proposed Dialogue Platform on Green Investments? | Policy frameworks to encourage private investment |
| Tags | Infrastructure; enabling environment; policy instruments; financing mechanisms; barriers to investment; risk analysis |



Towards a Green Economy (2011, 52 pp)

Author: UNEP

Link: http://www.unep.org/greeneconomy/Portals/88/documents/ger/GER_synthesis_en.pdf

SUMMARY: The goal of the report is to debunk misconceptions about the greening of the global economy; and, provides guidance for policy makers to draft enabling policies that will promote public-private partnerships/investments to rectify the misallocation of capital that has funded the “brown economic growth” global economies have experienced thus far. Policy makers are encouraged to aim for a set of required enabling conditions such as national regulations; appropriate policies, subsidies and incentives; international market and legal infrastructure; and trade and aid protocols.

The paper focuses on 10 key economic sectors namely agriculture, buildings, energy (supply), fisheries, forestry, industry, tourism, transport, waste, and water. These are expected to define green economy transition trends, while increasing human well-being and social equity, and reducing environmental risks and further depletion of ecological scarcity. The report further highlights that investment opportunities in renewable energy and resource efficiency are largely important and definitely scalable for the green economy transition. Furthermore, essential to the green growth transition, UNEP suggests, is the differentiation in concept and goal setting between green economic growth and sustainability. Also, the synthesis calls for a fundamental approach to national accounting that requires traditional leading economic indicators such as GDP be reassessed to reflect actual depletion of natural capital; thereby, depreciation of natural assets will be accurately accounted for in the national accounts which in turn will provide a more transparent picture on economic sustainability of the global economy.

| Review Checklist | Comments |
|---|---|
| Does the report distinguish issues by level of market development/geographic focus (OECD, BRICS, LICs, LMICs etc)? | Yes, all countries and regions targeted |
| Does the report include case studies, and if so, how much detail is provided? | Yes, thorough detail of macroeconomic models and cases |
| Is the report framed broadly around sustainable development or more specifically around climate change or some other objective? | Scope is on green economic growth, while also makes the differentiation between green growth and sustainability |
| Is the report based on original research or primarily a compilation of existing information? | Based on the working chapters of the Green Economy Report; and builds upon 2008 Global Green New Deal |
| Is the report endorsed by some larger organization or process (e.g., WBCSD) or a product of individual authors? If the latter was it peer reviewed? | Produced by UNEP |
| How recently was it prepared? | 2011 |
| Does the report specify a role for donors? | Yes |
| Does the report contain material/references relevant to developing the proposed Dialogue Platform on Green Investments? | Calls for policy makers to draft enabling policy tools that will aid investment flows in the medium and long term |
| Tags | Green growth, sustainability, enabling policies, green accounting, innovative financing mechanisms |

Why a Green Economy Matters for the Least Developed Countries (2011, 15 pp)

AUTHOR: UNEP, UNCTAD, UN-OHRLLS

LINK: http://www.unep.org/greeneconomy/Portals/88/documents/research_products/Why%20a%20GE%20Matters%20for%20LDCs-final.pdf

SUMMARY: This report showcases examples of innovative policies and practices, identifying emerging opportunities and challenges for a green economy transition in LDCs.

Clear policies and incentives can stimulate private sector engagement in transformative sectors such as renewable energies. The barriers to expanding the supply of renewable energy are principally a lack of financial incentives and limited access to appropriate technologies. A combination of R&D-push and demand-pull measures are crucial to encourage private investment. Clearly set government targets and policies such as feed-in tariffs are fundamental in giving confidence to private investors seeking to develop renewable energy projects.

Although most green economy activities provide positive returns on investment, external financing is sometimes required to complement public financing and catalyze private investment. The need for external financing is particularly critical for green projects in sectors such as energy and waste management. Public-private partnerships are successfully used in many developing country infrastructure projects. Additionally, there is a rich array of sources of external financing for green projects in such sectors given their potential to reduce greenhouse gas emissions. In other sectors such as organic agriculture and ecotourism which generally rely exclusively on support from the national government and private sources, capacity building support is available, for example to construct commercially viable business models and attract foreign direct investment (FDI). The financial and economic crisis left many LDCs with a fragile fiscal condition, and they will need external sources of finance to achieve a green economy.

| REVIEW CHECKLIST | COMMENTS |
|---|--|
| Does the report distinguish issues by level of market development/geographic focus (OECD, BRICS, LICs, LMICs etc)? | Emphasis is given to LDC issues |
| Does the report include case studies, and if so, how much detail is provided? | Numerous short case studies, most from non-G-20 countries including LDCs |
| Is the report framed broadly around sustainable development or more specifically around climate change or some other objective? | Broadly framed |
| Is the report based on original research or primarily a compilation of existing information? | Compilation |
| Is the report endorsed by some larger organization or process (e.g., WBCSD) or a product of individual authors? If the latter was it peer reviewed? | Three UN agencies |
| How recently was it prepared? | Prepared in 2011 for Rio |
| Does the report specify a role for donors? | Yes |
| Does the report contain material/references relevant to developing the proposed Dialogue Platform on Green Investments? | |
| Tags | Investment needs, sources and opportunities; barriers to investment |

Adapting for a Green Economy (2011, 72 pp)

Author: UN Global Compact, UN Environment Programme, Oxfam and the World Resources Institute

Link: http://www.unglobalcompact.org/docs/issues_doc/Environment/climate/C4C_Report_Adapting_for_Green_Economy.pdf

SUMMARY: Focus is on private sector adaptation to climate change in ways that build the resilience of vulnerable. The authors identify the pivotal need for private sector engagement as well as the profound responsibility of the public sector to address climate change adaptation needs through public investment and policies. The paper should serve as a resource for companies with trade and supply chain operations with a national, regional and global reach. By implementing adaptation practices, the private sector can shape their short and long-term business strategies in the regions they operate. Topics that clearly affect private sector practices such as intense patterns in natural disasters, water scarcity, declining agricultural productivity and poor health are spelled out to remind private sector players that companies depend on local resources, customer and supplier bases in order to operate. The paper suggests that if companies start developing the right mix of climate change adaptation strategies they can gain a competitive advantage; and, a smoother transition to a “green economy” can be experienced. In drafting their strategies companies first need to identify what climate resilience means in terms of their business operations, address how best to navigate potential risks, and how to engage their immediate partners and stakeholders in both minimizing risks and maximizing business opportunities.

The public sector in turn, has a central role in providing the right environment with policies that promote private sector investments in support of climate change initiatives and endorse climate-resilient business practices. At the international level, a common effort by governments should focus on incentivizing business contributions to local site adaptation. Therefore, policymakers need to send a clear message to the investing and business community that their policy and finance commitment is resolute; enact policy tools and develop regulatory frameworks that will enable businesses to draft strategies that focus on adaptation; provide thorough information to the private sector in order to generate growth in investment practices; and engage in public-private partnerships that will set a precedent of implementation practices. Unprecedented levels of cooperation and resource mobilization are therefore needed to address adaptation and resilience needs while at the same time achieving equitable green growth.

| Review Checklist | Comments |
|---|---|
| Does the report distinguish issues by level of market development/geographic focus (OECD, BRICS, LICs, LMICs etc)? | Yes |
| Does the report include case studies, and if so, how much detail is provided? | Yes, the study provides real world case studies often carried out in emerging markets |
| Is the report framed broadly around sustainable development or more specifically around climate change or some other objective? | Private sector financing for climate change adaptation |
| Is the report based on original research or primarily a compilation of existing information? | Original research that draws on results of a 2010 survey of corporate signatories to the United Nations Environment Programme Caring for Climate Initiative and other existing literature |
| Is the report endorsed by some larger organization or process (e.g., WBCSD) or a product of individual authors? If the latter was it peer reviewed? | UN Global Compact, UN Environment Programme, Oxfam and the World Resources Institute |
| How recently was it prepared? | 2011 |
| Does the report specify a role for donors? | Offers suggestions for companies and policy makers to catalyze and scale up private sector action on adaptation |
| Does the report contain material/references relevant to developing the proposed Dialogue Platform on Green Investments? | Discusses both the need for private and public sector thorough and unwavering involvement in addressing adaptation and resilience themes at the national and international levels |
| Tags | Climate change adaptation, private sector financing, green economy, sustainable development, Caring for Climate Initiative |



Green Investing 2011: Reducing the Cost of Financing (2011, 40 pp)

AUTHOR: Anuradha Gurung and Max von Bismarck World Economic Forum, Michael Liebreich, Ethan Zindler, Tyler Tringas BNEF

LINK: <http://www.newenergyfinance.com/WhitePapers/download/37>

SUMMARY: This report focuses on crafting clean energy policies that are both effective in spurring development and efficient in ensuring taxpayers and consumers get best value. It examines the costs associated with generating a clean megawatt-hour of electricity and the role of financing costs. It overlays existing policy prescriptions from around the world and examines those that have proven successful in reducing developers' costs. Finally, it compares these new adjusted local costs of generation with the size of local subsidies to determine whether a "policy premium" of over-payment exists.

Ultimately, there is no one-size-fits-all clean energy policy prescription sure to succeed in every part of the globe. Until clean energy technologies are competitive with dirtier forms of generation on an unsubsidized basis, policy-makers will need to devise programs that are both effective and efficient, and drive sustained long-term growth.

The report also provides data on clean energy investment; an update with respect to public funding mechanisms is provided drawing on US and EU examples covering debt funds, loan guarantees, green bonds, export credits, risk insurance, and energy service company funds.

| REVIEW CHECKLIST | COMMENTS |
|---|---|
| Does the report distinguish issues by level of market development/geographic focus (OECD, BRICS, LICs, LMICs etc)? | The framework is global although examples of policies are given from a range of countries |
| Does the report include case studies, and if so, how much detail is provided? | Policy case studies from the US, Germany, China, and Brazil |
| Is the report framed broadly around sustainable development or more specifically around climate change or some other objective? | Focus is on financing clean energy |
| Is the report based on original research or primarily a compilation of existing information? | Based on data from BNEF |
| Is the report endorsed by some larger organization or process (e.g., WBCSD) or a product of individual authors? If the latter was it peer reviewed? | WEF |
| How recently was it prepared? | 2011 (an annual review prepared by WEF and BNEF) |
| Does the report specify a role for donors? | The importance and role for public subsidy is a central issue |
| Does the report contain material/references relevant to developing the proposed Dialogue Platform on Green Investments? | Financial structuring is the focus |
| Tags | Clean energy investment; financing mechanisms |

The role of public private cooperation in enabling green growth (2011, 4 pp)

AUTHOR: Global Green Growth Institute

LINK: http://www.globalgreengrowthforum.com/fileadmin/user_upload/3GF_2011_Report_01.pdf (pp 42-45)

SUMMARY: This note characterizes green growth and examines the historical precedents of strategies for enabling this. Green growth is best understood as one part of a three-part quest to enlarge the very conception of economic growth --- to create a new economic model that produces faster but also wider, more resilient, and more environmentally sustainable economic progress. The strategies available to government and other actors to more fully exploit green growth's win-win, quantitative-qualitative growth potential are the same techniques market economies have historically employed to promote economic growth more generally, including:

- Compensating for market failures and providing public goods;
- Enhancing competition by reducing information asymmetries and otherwise leveling the playing field;
- Reducing investment uncertainty by creating predictable rules, regulations and macroeconomic conditions;
- Reducing barriers to entry such as prohibitive initial costs or insufficient experience or data; and
- Reducing barriers to economies of scale such as fragmented or inconsistent information or standards.

There is a long history of government policy and public-private cooperation aimed at improving the enabling environment for private investment in industries that have significant potential to generate large productivity gains for the economy as a whole. Far from picking winners and losers, these interventions seek to build the underlying infrastructure of new markets by removing obstacles that distort market signals or deter the entry of a wider range of competitors and investors. They create the playing field, the rules and sometimes the basic inputs necessary to support a major expansion of investment and competition in areas considered to have a broader potential economic and social payoff. Initiatives are being created to encourage the international community to construct a complementary economic architecture – a bottom-up set of results-oriented mechanisms and institutions that create the underlying market infrastructure which can drive faster progress toward green growth by removing some of the risks, uncertainties and market imperfections that impede the engagement of additional private resources and actors into a wider competition for resource-related efficiency gains.

| REVIEW CHECKLIST | COMMENTS |
|---|--|
| Does the report distinguish issues by level of market development/geographic focus (OECD, BRICS, LICs, LMICs etc)? | No |
| Does the report include case studies, and if so, how much detail is provided? | No |
| Is the report framed broadly around sustainable development or more specifically around climate change or some other objective? | Green growth |
| Is the report based on original research or primarily a compilation of existing information? | Unclear |
| Is the report endorsed by some larger organization or process (e.g., WBCSD) or a product of individual authors? If the latter was it peer reviewed? | Green Growth Forum |
| How recently was it prepared? | October 2011 |
| Does the report specify a role for donors? | No |
| Does the report contain material/references relevant to developing the proposed Dialogue Platform on Green Investments? | Focus on public private cooperation |
| Tags | Green growth strategies; public policy prescriptions; enabling environment; public-private cooperation |

Public Private Equity Partnerships: Accelerating the growth of climate related private equity investment (2011, 52 pp)

AUTHOR: IFC

LINK:

http://www1.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/ifc+sustainability/publications/publications_report_publicprivateequity

SUMMARY: This report focuses on the potential for increasing Private Equity/Venture Capital (PE/VC) financing for climate friendly investments that are risky, innovative, and relatively small. Such funds are more patient and flexible, may be uniquely available to smaller firms, and can fill the void between friends and family and access to securities markets. From a very few deals in 2000, climate friendly investment by PE/VC funds has grown to US\$ 20 billion per year in 2010. However, such funds are mostly in developed countries, with more than 50 percent of activity in the United States and United Kingdom. Less than 10 percent of climate friendly deals are in emerging economies, and of these more than 80 percent have occurred in India and China.

A number of barriers stand in the way of PE/VC being available to climate friendly projects in the desired quantities:

- Fund manager formation: New investment areas need new fund managers. However, putting together a new fund is risky, costly, and time-consuming.
- Raising capital: Mitigating climate change requires investments in new sectors, using novel business models and technologies, with little or no track record.
- Deploying capital: Small, innovative climate friendly projects may impose high management expenses on PE/VC funds and thus higher fees.

| REVIEW CHECKLIST | COMMENTS |
|---|---|
| Does the report distinguish issues by level of market development/geographic focus (OECD, BRICS, LICs, LMICs etc)? | The report focuses on how public capital can effectively be deployed to leverage private finance to stimulate the growth of climate friendly private equity investment in emerging markets. |
| Does the report include case studies, and if so, how much detail is provided? | Yes. Case studies illustrate how PE/VC capital can play a key role in investing in climate friendly projects and how public capital can be deployed to accelerate private investments. |
| Is the report framed broadly around sustainable development or more specifically around climate change or some other objective? | The report focuses on climate change finance through public private equity partnership. |
| Is the report based on original research or primarily a compilation of existing information? | Original research. |
| Is the report endorsed by some larger organization or process (e.g., WBCSD) or a product of individual authors? If the latter was it peer reviewed? | It is an IFC study. |
| How recently was it prepared? | November 2011. |
| Does the report specify a role for donors? | Yes. |
| Does the report contain material/references relevant to developing the proposed Dialogue Platform on Green Investments? | Yes. |
| Tags | Private Equity; venture capital; Public Private Partnership |

How Europe's Initiative to Stimulate Infrastructure Project Bond Financing Could Affect Ratings (2011, 8 pp)

AUTHOR: Standard & Poor's

LINK:

[http://www.standardandpoors.com/servlet/BlobServer?blobheadername3=MDT-
Type&blobcol=urldata&blobtable=MungoBlobs&blobheadervalue2=inline%3B+filename%3DFAQHowEuropesInitiativeToStimulateInfrastructure.pdf&blobheadername2=Content-
Disposition&blobheadervalue1=application%2Fpdf&blobkey=id&blobheadername1=content-type&blobwhere=1243906442331&blobheadervalue3=UTF-8](http://www.standardandpoors.com/servlet/BlobServer?blobheadername3=MDT-
Type&blobcol=urldata&blobtable=MungoBlobs&blobheadervalue2=inline%3B+filename%3DFAQHowEuropesInitiativeToStimulateInfrastructure.pdf&blobheadername2=Content-
Disposition&blobheadervalue1=application%2Fpdf&blobkey=id&blobheadername1=content-type&blobwhere=1243906442331&blobheadervalue3=UTF-8)

SUMMARY: Over the next decade, the European Commission (EC) estimates that funding needs for infrastructure development in Europe could total between €1.5 trillion and €2.0 trillion by 2020. With many governments implementing austerity packages, the EC also acknowledges that the capital markets will play an important role in securing this financing. However, investors' appetite for project finance debt has yet to recover after the recent financial crisis. The Europe 2020 Project Bond Initiative aims to attract financing for major infrastructure projects by enhancing the credit rating of the senior debt of project finance companies.

| REVIEW CHECKLIST | COMMENTS |
|---|--|
| Does the report distinguish issues by level of market development/geographic focus (OECD, BRICS, LICs, LMICs etc)? | The report focuses on Europe. |
| Does the report include case studies, and if so, how much detail is provided? | Yes. S&P illustrates their rating practice using realized project finance transactions. |
| Is the report framed broadly around sustainable development or more specifically around climate change or some other objective? | The paper focuses on how public guarantees may affect the credit rating of project finance deals. |
| Is the report based on original research or primarily a compilation of existing information? | The paper is based on S&P's rating practice and criteria. |
| Is the report endorsed by some larger organization or process (e.g., WBCSD) or a product of individual authors? If the latter was it peer reviewed? | No. |
| How recently was it prepared? | May 2011. |
| Does the report specify a role for donors? | No. |
| Does the report contain material/references relevant to developing the proposed Dialogue Platform on Green Investments? | The report may contribute to understanding of the continuing impact of the financial crisis on financing for major infrastructure projects, and also the role of credit ratings agencies as an influence on risk evaluation. |
| Tags | Credit risk rating, Public Private Partnership, Infrastructure |

Public-Private Finance Tools for Energy Efficiency (2011, 2 pp)

AUTHOR: Jenna Goodward, WRI

LINK: http://pdf.wri.org/bottom_line_energy_efficiency_financing.pdf

SUMMARY: Global companies are under increasing pressure to be energy efficient, from New York City to Shanghai. Financing has long been a barrier, but a variety of financing tools can help unlock capital flows. To help governments and business understand how they can leverage energy efficiency investment, we explain five public-private financing mechanisms: on-bill financing; commercial property assessed clean energy (PACE) financing; loan guarantees; sustainable energy utility model; loan reserve funds.

| REVIEW CHECKLIST | COMMENTS |
|---|--|
| Does the report distinguish issues by level of market development/geographic focus (OECD, BRICS, LICs, LMICs etc)? | Examples primarily from the US and Canada, one reference to GEF CHUEE (clean energy financing) program in China |
| Does the report include case studies, and if so, how much detail is provided? | 5 policy approaches briefly described with reference to precedents |
| Is the report framed broadly around sustainable development or more specifically around climate change or some other objective? | Narrowly defined around policies for promoting financing for energy efficiency generally, with some specific reference to the housing sector |
| Is the report based on original research or primarily a compilation of existing information? | A summary presentation with references for more detailed information |
| Is the report endorsed by some larger organization or process (e.g., WBCSD) or a product of individual authors? If the latter was it peer reviewed? | Not indicated but typically WRI papers are at least internally reviewed |
| How recently was it prepared? | June 2011 |
| Does the report specify a role for donors? | Most of the examples given include a role for public subsidy; one example is based on GEF support |
| Does the report contain material/references relevant to developing the proposed Dialogue Platform on Green Investments? | No |
| Tags | Energy efficiency; financing mechanisms; unlocking capital flows |

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2012