SMJV CENTENARY
1915 - 2015

Green Finance

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Abstract

Concept of green finance can be regarded as innovative in the field of Finance. The term describes a broad range of funding for environment-oriented technologies, projects, industries or businesses. The principal objective of this paper is to study what green finance is all about and would verify if this concept is feasible in India for balancing the ecological depreciation due to adjustment of carbon gases in atmosphere. Green finance is a core part of low carbon green growth because it connects the financial industry, environmental improvement and economic growth and all these are essential for country like India to sustain in the long run. Along with this green growth is an economic growth paradigm that simultaneously pursues growth and improvement of environment by driving growth and job creation through R&D in clean energy and green technology, conserving and efficiently using energy and resources and mitigating climate change and environmental degradation. Green Finance is market based investing or lending program that factors environmental impact into risk assessment, or utilizes environmental incentives to drive business decisions. In general, three broad, related drivers and trends are behind the emergence and growth in "green" product and service demand, they are, environmental knowledge and media coverage; environmental awareness and public opinion; and environmental regulation and legislation which needs to be duly taken care off. Through this paper , the authors have tried to explain the concept with detailed exposure to Indian framework. In India, SIDBI has taken various initiatives to promote lending for green and efficient technologies in MSME sector.

Key Words : Green finance, green technology, green finance interface, environmental Incentives

Prologue to green finance

There is no internationally agreed definition of green finance. The term describes a broad range of funding for environment-oriented technologies, projects, industries or businesses. A more narrow definition of green finance refers to environment-oriented financial products or services, such as loans, credit cards, insurances or bonds. Green investing recognizes the value of the environment and its natural capital and seeks to improve human well-being and social equity while reducing environmental risks and improving ecological integrity. Other terms used to describe green finance include "environmentally responsible investment" and "climate change investment".

Green Finance is a market-based investing or lending program that factors environmental impact into risk assessment, or utilizes environmental incentives to drive business decisions. In India, SIDBI has taken several initiatives to promote lending for green and energy efficient technologies in MSME sector. SIDBI has been operating focused lending schemes for promoting investment in clean production and energy efficient technologies or production process under bilateral Lines of credit from Germany and Japan. These focused schemes have two pronged approach, i.e. concessional lending to encourage investment in green or energy efficient technologies and launching of cluster specific information dissemination.

Since the global financial crisis and economic recession, green growth has been drawing global attention as one of the new economic growth engines, which can achieve both environmental protection and economic development. In this respect, green finance is the core instrument to support green growth. In general, green finance is future-oriented, which pursues economic growth, environment protection, and financial industry's development. Particularly, the green finance is one of "targeted financing" since it is focused on green economic activities such as export financing, financing for small and midsize firms, and financing for the IT venture industry. The green finance can be divided into two parts:

- The finance to supporting green growth
- The finance to prevent environmental costs.

Objectives of Green Finance

- Establish and secure funding for green industries and green growth
- Support low carbon green growth by developing new financial products
- Attract private investments to build and sustain green infrastructure

- Streng then corporate disclosure of green management practices and expand financial support for those businesses that apply them
- Set up markets for environmental goods and services, such as carbon markets featuring carbon credits.

Objectives of the paper

1. To understand the concepts of Green financing and its implications in India.
2. To understand the various policy options that can improve the regulatory landscape to over come investment challenges in green financing.
3. To understand through case-let based study, the implications and experience of implementing green finance.

Green technology

Green Technology is the technology to support green growth by conserving energy and resources in various social and economic activities with environment enhancement. i.e. Green House Gas reduction technology that minimizes GHG pollutant emission, energy efficiency technology, clean energy production technology, resource recycling, and eco-friendly technology (including relevant convergence technology)

How it works

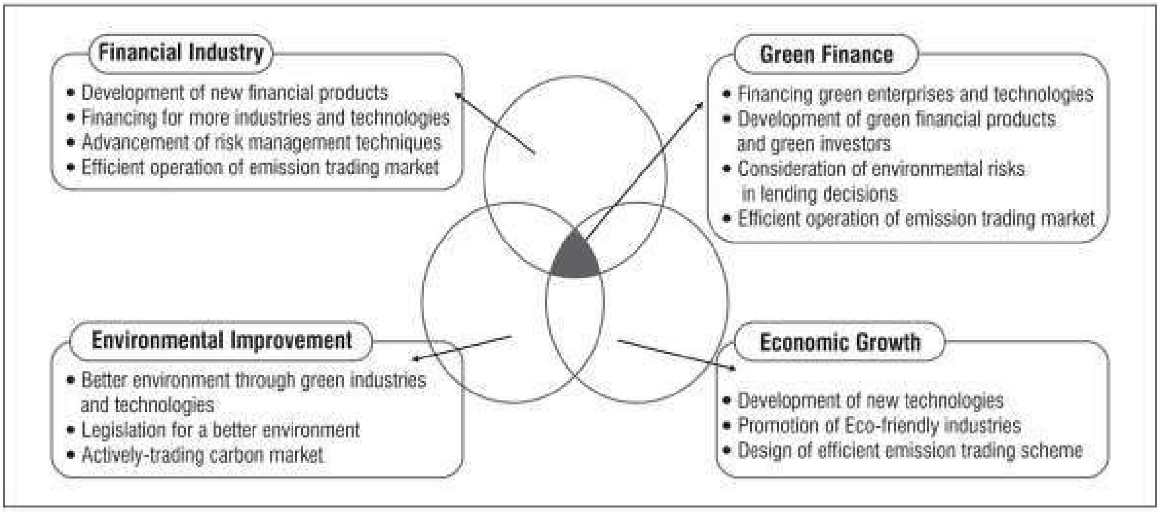
Green industries and technologies are all at different levels of maturity, thus, requiring different levels of funding from different sources of capital. There are generally three sources:

- Domestic public finance
- International public finance &
- Private sector finance

Domestic public finance refers to the direct funding by a government while international public finance refers to funding from international organizations and multilateral development banks; private sector finance consists of both domestic and international funding sources. Green financing can be packaged in different ways through various investment structures.

Green finance is a core part of low carbon green growth because it connects the financial industry, environmental improvement and economic growth (Figure 1): "One missing link between 'knowing' and 'doing' in the transition to green industry is 'green finance'. All green industrial propositions cost money, and many green industry business models are more often than not untested or unconventional. Therefore, traditional finance may find it difficult or commercially unattractive to finance these green industrial propositions."

Figure 1: Green Finance Interface



(Source: Jin Noh Hee, Financial Strategy to Accelerate Innovation for Green Growth, 2010)

Green Financial Products in Developed Countries

Figure 2 : Wide Spectrum of Green Financial Products

(Source: Jin Noh Hee, Financial Strategy to Accelerate Innovation for Green Growth, 2010)

Green finance spans many sectors and products (Figure 2). Three categories for green finance are:

- Infrastructure finance
- Financial assistance for industry or firms
- Financial markets.

Green financing related to climate change includes mitigation and adaptation investments. Many private investors perceive the risks of environmentally sustainable projects as not justified by the expected returns. Public financing mechanisms can tilt this balance in favour of perceived profitability; for example, by offering soft loans or guaranteeing loans from private banks. Public funding can help spur private investment.

Even if public investment is small relative to private funds, it can catalyze corresponding private-sector activities. Direct government financing for green growth can also take place through sustainable public procurement and eco-efficient investment in public buildings and enterprises.

Generally, Government of India can pursue the following objectives through green financing measures:

- Establish and secure funding for green industries and green growth.
- Support low carbon green growth by developing new financial products.
- Attract private investments to build and sustain green infrastructure.
- Strengthen corporate disclosure of green management practices and expand financial support for those businesses that apply them.
- Set up markets for environmental goods and services, such as carbon markets featuring carbon credits.

Strengths of green finance

- **Promotes technology diffusion and eco-efficient infrastructure:** Investment in environmentally sound technologies, such as clean energy may help bring down their costs and expedite wider technology diffusion. Developing countries can avoid the development model of "grow first, clean up later" because a great part of the green investment flows into infrastructure. This situation provides the opportunity for a country to leap ahead to eco-efficient infrastructure. The responsibility then falls on governments to develop infrastructure that will result in better long - term management of resources, which will in turn increase a country's competitiveness and channel private-sector capital into domestic green markets.

• **Creates comparative advantage :** Low carbon green growth may inevitably change from the current voluntary nature to a mandatory strategy in response to the rising pressures emanating from climate change and other environmental and economic crises. Expanding green finance today will mean a comparative advantage once environmental standards become stricter.

• **Adds value:** Businesses, organizations and corporations can add value to their portfolio by enhancing and publicizing their engagement in green finance. Thus they can give their business a green edge and thereby attract more environmentally conscious investors and clients alike.

• **Increases economic prospects :** Governments promoting green finance help buffer their societies against the time when resources become scarce by establishing and promoting domestic markets for alternative resources and technologies. They increase their economic prospects further by dipping into the new markets that possess great potential for employment generation. Because governments are primarily interested in maximizing the welfare of multiple generations, green financing mechanisms are particularly appealing in that they foster projects and developments that bear sustained benefits, especially in the medium and long terms.

Challenges to green finance

• **Present and projected Competitiveness:** Private investment in green growth in developing countries is constrained by both activity-specific and country-specific barriers that adversely affect the attractiveness of such investments, both in terms of investment returns and risk management. Increasing private investment in green growth will depend on the extent to which these investments become attractive relative to other opportunities, both domestically and internationally. Because international investors can look across different countries for opportunities, governments may need to implement a series of public interventions to make green investment opportunities more attractive.

• **Mispricing and no pricing of risks :** The overall investment and policy environment of a country contributes to its effectiveness in attracting private investors. The capital markets in some countries are not effective in pricing green growth-related risks. The extent to which the market misprices these risks or refuses to price them represents a barrier. In general, these risks include those associated with new technologies or processes that are not well understood and those related to the design, stability and transparency of domestic policies.

• **Market distortions and shortcomings :** As long as subsidies for fossil fuels and the failure to internalize environmental externalities continue to distort the market price of energy, investment in green energy will have a hard time yielding attractive returns for investors. Adding to that is the limited number and diversity of green finance products and respective markets in which they can be traded.

• **Competing objectives :** While private investors aim to maximize the risk-adjusted returns for their investments, public green finance providers seek to achieve the highest possible environmental improvement and host-country policymakers are interested in achieving the best development prospects.

• **Limited capital and limited awareness :** Many small and medium-sized businesses are characterized by limited liquidity and access to capital, which hinders their participation in the green financing sector. The prevailing myopic time horizon of business strategies, which ignore benefits of green industries that lie in the far future, is another fundamental hurdle to private investments. Adding to that is the lack of experts who understand the complex relationship between environmental issues and financial markets.

• **Regulatory gaps :** Another barrier to the expansion of green finance is the gap in adequate regulatory and technical infrastructure to measure, assess and analyze green business strategies and financing.

Implementing strategies

Although there is no single best solution for the various situations and projects that demand green financing, there exist a number of interventions and measures that may be appropriate for common constraints and levels of development. In general, when businesses compare enabling environments for trade and investment, they look for: macroeconomic stability, potential for conflict and the degree of good governance, among other factors. Public interventions must address these topics and be applied in a manner that is transparent, long lasting and consistent if they want to stimulate private investment.

The following describes the various policy options that can improve the regulatory landscape to overcome investment challenges:

• **Information-building policy :** Consumers, producers and investors all need to understand the positive economic and environmental effects of low carbon green growth. It is important they realize that this strategy poses an opportunity rather than a burden and that it will most likely transform from a voluntary path to a mandatory one in the long run. To improve the transparency needed for promoting a green financial market, impetus along the lines of corporate social responsibility needs to be expanded, such as the Carbon Disclosure Project or the UN Principles for Responsible Investment. It is also important to adopt stringent verification schemes for green technologies and green businesses to avoid confusion among consumers, to ensure that only those companies benefit from the green industry image that are truly part of it and to provide investors with the necessary information to make prudent investment choices.

- **Environmental regulations :** Environmental regulations include pollution standards and controls, public disclosure of information about environmental impacts, elimination of implicit subsidies for environmentally harmful or unsustainable growth (such as land use controls, building standards, land use planning, protection of natural buffer zones and water management and pricing) and improved sector governance and monitoring.

- **Markets for green finance products and environmental goods and services :** An often-cited example of a green market launched and developed by governments is the carbon market. In many countries so far, an emissions trading scheme was set up first; this included usually the enacting of legislation to govern membership, trading conditions and market surveillance for emissions trading. To ease the transition, governments can introduce pilot projects or voluntary trading schemes first and then slowly move to a mandatory trading system, encompassing lessons learnt from the pilot phase, a legal base shift to "cap and trade" and the diversification of traded products.

- **Public financing:** Because the cost of green investment projects, such as a renewable energy facility, is generally higher than conventional projects, governments should subsidize a portion in order to attract investors. Financing mechanisms include public competitive bidding, public procurement and public loans, grants or funds, like venture capital funds. In 2009, the carbon funds around the world held a total of US$16.1 billion in assets, which meant a 20 per cent increase compared with the previous year.

- **Government support targets only the early stages of development :** Due to the risks associated with the use of new technologies and their relatively weak stance against the well-established brown technologies, which externalize environmental costs and profit from a fitting infrastructure system and well-developed supply chains, green businesses need government support, especially in the initial stages of their development. However, governments should aim to attract and empower other financial institutions to take over their role as active facilitators of green businesses once they enter a mature stage.

Case summary

Country experience : Green Investment Bank in the United Kingdom

In 2010, the UK Government announced that it would create a Green Investment Bank that will invest in the green infrastructure projects that the market currently cannot adequately accommodate due to fear of the perceived associated risks. In March 2011, the UK Government published a report on several structures and models for a Green Investment Bank. The report notes that the UK Government committed 3 billion pounds in 2011 to fund the bank until 2015. The Green Investment Bank will help accelerate additional investment in the green economy by complementing other green policies already set up by the government. Investments will be made in various sectors, such as renewable energy, transport, waste and water. The Green Investment Bank aims to reach a "double bottom line of both achieving significant green impact and making financial return." The institution is still in its preparation phase and will begin operating in April 2012.

(Source: House of Commons, European Scrutiny Committee, Second Report of Session 2010–11, 2010).

Green finance scheme for industries in India

With a focus on promoting green industries as per the government's new policy, the 12th Kerala Budget has set aside Rs 639.40 crore for various industries, which also includes one-time central grant of Rs 23.44 crore.

To encourage environment-friendly industries, the government will launch a Rs 100-crore 'green finance scheme' for which Rs 10 crore has been allotted initially. The Budget also includes plans to develop an international furniture hub to ensure global standards and international participation in the furniture production units operating in the suburbs of Ernakulum. Rs 6.50 crore has been set aside towards this. Thrust will be on developing traditional industries, handicrafts and industrial parks with investment promotion activities.

Further, to set up a caustic soda plant at Travancore Cochin Chemicals Ltd, Rs 10 crore has been allotted in the Budget as initial support. To develop basic infrastructure for Kinfra projects, Rs 148.79 crore has been offered in this fiscal. They include new projects like Mattannur Industrial Park, Ernakulum Green Field Electronic Park, Palakkad Non-Conventional Energy Park, Eco Industrial Park and Global Ayurveda Village, and the development of basic amenities and land banks for industries in Kochi, Kozhikode and Kannur.

(Source: Times of India "Green Finance Scheme for Industries" 25th January 2014)

Suggestions

The green economy is the way of future which is then becomes inevitable for every country to sustain our planet and to mitigate the effect of global warming. Adopting the green finance requires proactive approach in assimilating international best practices in green financing. The Green agenda includes challenges in strengthening managerial capability, creation of awareness on economic values of technologies and benchmarking quality up to global standards. Here, the bank would likely be required to play an active role as a change agent and engage in activities aligned to government's national priorities which have been initiated by SIDBI in India.

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