

JOURNAL OF RESPONSIBLE FINANCE

Knowledge Series on Emerging Trends



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Sustainability-linked financing in India:
An opportunity for long-term, high-quality asset creation

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MESSAGE FROM GIZ

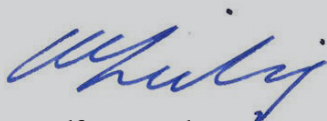
Mobilising and allocating capital effectively is a key function of any financial system. It has a direct bearing on different sectors of economy, affecting business and society at large. It is being increasingly understood that accounting solely for financial bottom lines masks, the true costs and the value created for both, society as well as business. This leaves a whole range of risks and opportunities unidentified—or sub-optimally addressed. Financial institutions are not immune to this logic and reality. In fact, since they are the critical intermediaries in the business-economy eco-system, the impact of ignoring environmental, social and governance factors is multi-fold and affects their competitiveness on the one hand and investment into critical sectors of growth on the other.

While the Indian economy continues to be the fastest growing among major economies of the world, at a pace well above 7 per cent per annum, it also faces persisting constraints of financing the critical sectors of small and medium industry, agriculture, energy and infrastructure. This doesn't bode well for the scale of challenges India faces for its development transformation. Sustainable growth in these sectors is necessary for better livelihoods and better quality of life for one sixth of the world's population.

Through the Journal of Responsible Finance, our endeavour has been to inform you about the latest developments, nationally and internationally, on how financial sector participants are bracing themselves to meet the requirements of sustainable economic expansion, in line with changing country strategies as they evolve to pave the way for a more environmentally and socially just future. International agreements on climate change and sustainable development goals amply signify this. The contributions in the JRF discuss trends, provide market and policy insights and supply information and tools that financial institutions can use for a better understanding of these issues and integration into their practices. JRF thus seeks to strengthen the dialogue on responsible financing for responsible growth.

The authors in this volume argue that sustainability-linked financing provides an opportunity to mobilise additional capital from diverse sources and infuses the liquidity needed to spur economic activity that creates long-term, high-quality assets—material, human and technological. The current volume sets the macro economic and financial contexts and explores pertinent aspects in climate financing with a focus on renewable energy and infrastructure project financing. It also brings readers up to speed with efforts underway in different countries and the role industry and regulatory bodies are playing in promoting responsible financing practices. The next volume proposes to continue the sector analysis and look at sustainable financing in agriculture, urban development, MSMEs and start-ups in India.

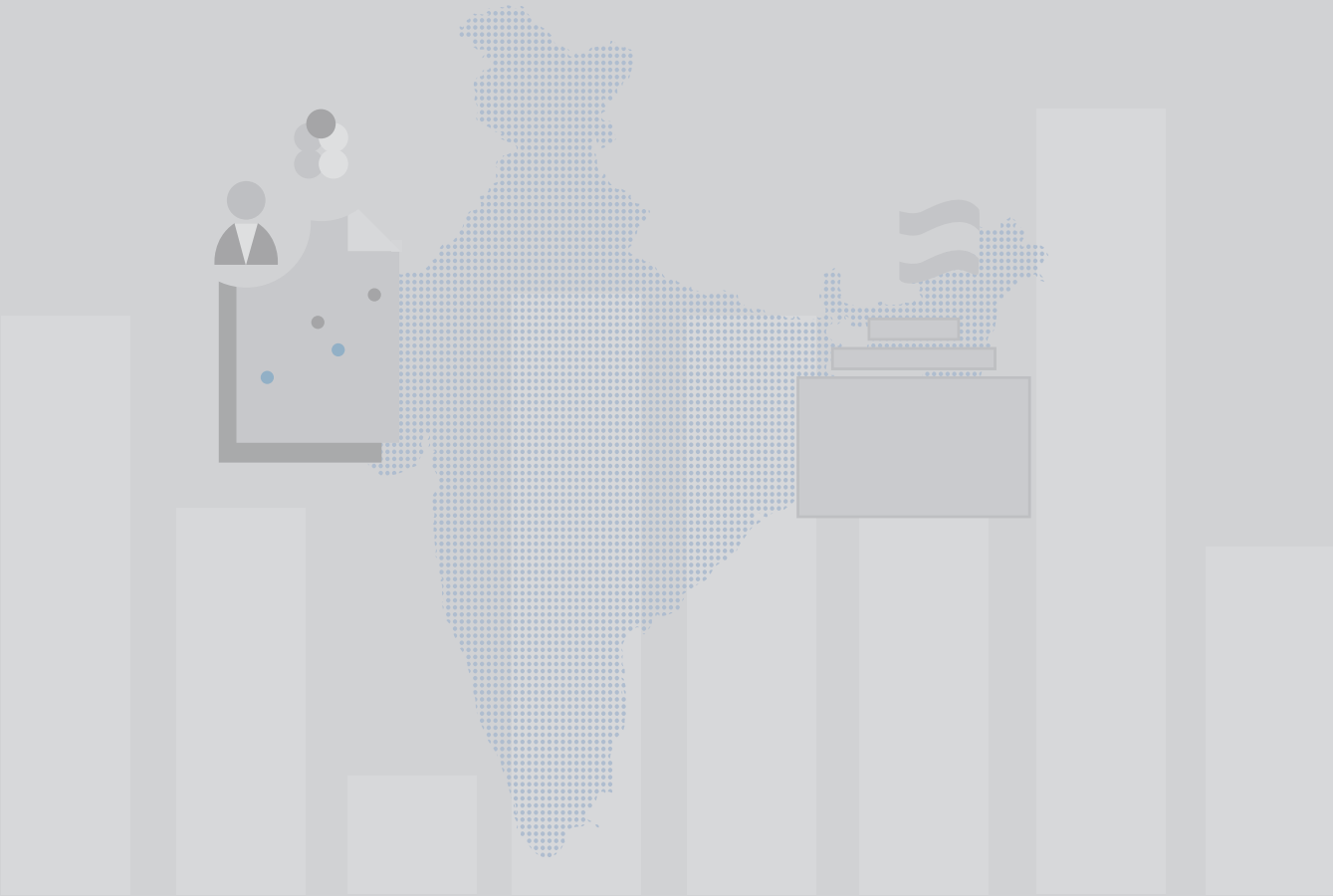
We wish you happy reading and look forward to opportunities to engage on these topics.



Wolfgang Leidig

Director

Private Sector Development. GIZ



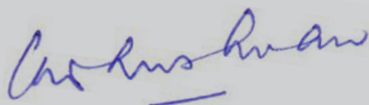
MESSAGE FROM IBA

In recent times, the Indian financial sector has seen a flurry of developments—from making its own systems and processes robust in order to clean up and ward off bad loans to increasing its reach to under-banked customers and sectors. The key underlying issue has been that of greater accountability and performance of financial institutions in light of the requirements of equitable, sustainable and inclusive growth. For the Indian Banks' Association (IBA), it has been an imminent area of action to inform and prepare financial institutions about these challenges and opportunities, and develop a common understanding of the issues for the financial sector to align its operations, lending and investment towards sustainability (alternately clubbed into environmental, social and governance—ESG—factors).

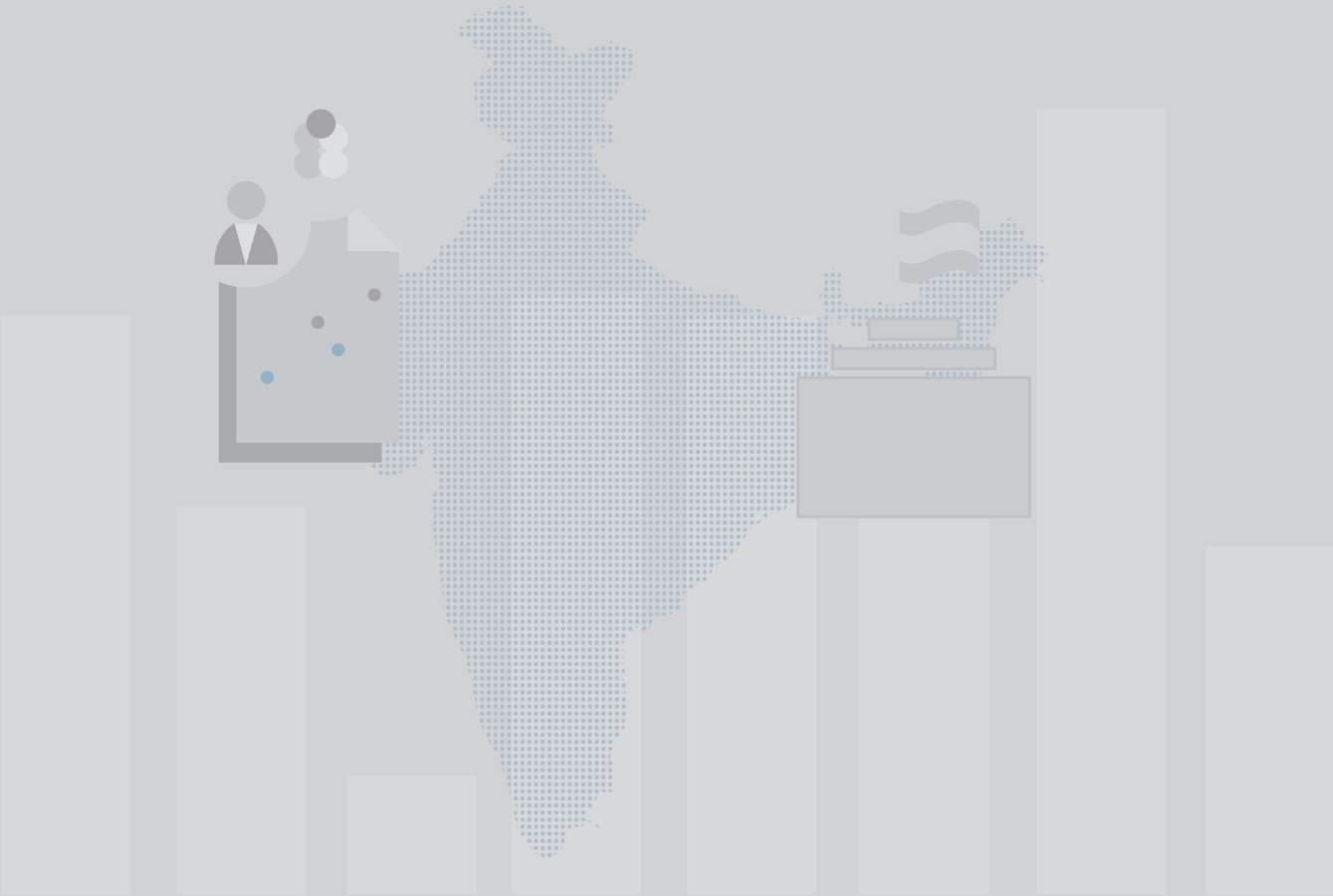
Evidence suggests that violation of ESG factors on part of enterprises adversely affects their revenues and sales and indirectly also has a bearing on their loan repayment capacities. These risks need to be systematically assessed while making credit appraisals. On the opportunity side, the banking sector is perched on an untapped potential for raising and investing capital in many sectors that need a boost in financial assistance. At a time when credit to the industry has ebbed, and growth forecasts are being revised downwards, ESG-filtered lending presents itself as an opportunity rather than a threat. The effort of the Indian Banks' Association has been to develop understanding around risks and opportunities for the financial sector in the form of a systematic framework called the National Voluntary Guidelines for Responsible Financing. Its adoption is hinged on wider dissemination and demonstration. From strengthening risk management systems to green financing, a few banks are showing the way but a scaled up effort requires considerable sensitisation.

We are engaged in this effort with our partner GIZ and SIDBI through trainings on the principles of action enshrined in the Guidelines as well as through knowledge creation on market trends and policy initiatives in India and abroad.

This series presents to the reader how sustainability and finance can come together to boost growth in sectors critical for India's transition to a sustainable, inclusive and stable economy. Its special supplement will give you a snap shot of the National Voluntary Guidelines for Responsible Financing Guidelines. Wish you a happy reading.



K Unnikrishnan
CEO, Indian Banks' Association



1

Financial System for Sustainable Development in India



>> Dr Rathin Roy

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India faces three challenges in completing its development transformation. These are: access to finance, access to technology and access to institutional capacity. The global challenge of environmental sustainability imposes an additional contextual dimension. India is the first country in global history which is expected to complete its development transformation without substantial recourse to fossil fuels. This paper explores ways in which the development of a sustainable financial system in India can help address the first challenge.¹

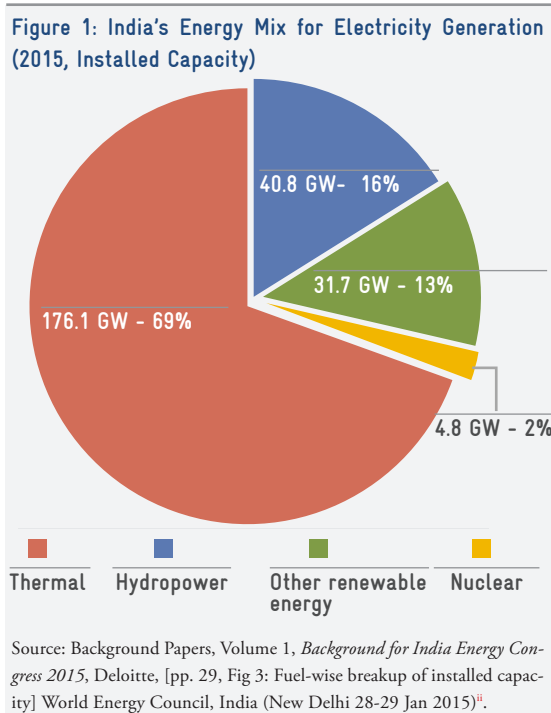
Economic sector imperatives: barriers in access to finance

There are three economic sectors which face particular barriers in access to finance and are vital to India's development transformation.

Energy

India faces the triple imperative of meeting its growing energy needs, extending access and improving the environmental performance of its power sector. Currently, thermal power generation based on coal accounts for close to 70 per cent of installed capacity (Figure 1). A key priority is improving the environ-

mental performance of coal mining, transportation and thermal power generation efficiencies. At the same time, India counts itself among a handful of large economies with over a tenth of total installed capacity as non-hydropower renewable energy, with ambitious plans to extend this further.



¹ Draws extensively from the UNEP Inquiry Report 2016: Delivering a Sustainable Financial System in India, co-authored by me. Author would like to thank Nick Robbins, Vivan Sharan and Meghna Paul for important research inputs. Usual disclaimer applies; <http://unepinquiry.org/publication/inquiry-global-report-the-financial-system-we-need/>

Banks in India have a substantive power sector loan portfolio—currently about 60 per cent of total outstanding credit to the infrastructure sector (and about one fifth of total credit to industry). The fundamental challenge for the sector is the fiscal viability of power purchasers (state distribution boards) that are unable to pay power generators in many states. This is a systemic problem that cannot be overcome without downstream reform, particularly in terms of rationalising power tariffs. Electricity remains heavily cross-subsidised for agricultural and domestic consumers and comes at a heavy premium to industry. As a result of cross-subsidisation and operational inefficiencies, Indian DISCOMs (power distribution companies) have been historically trapped in a vicious cycle of funding operational losses through debt. They had accumulated losses of around INR3.8 trillion with an approximate outstanding debt of INR4.3 trillion (USD58 billion) as of March 2015, an increase of over INR2 trillion since 2011, with interest rates as high as 15 per cent. Financially stressed DISCOMs are unable to supply power at affordable rates or purchase renewable power, which has higher tariffs on average than conventional sources. To mitigate this, the Union Cabinet approved in November 2015 a new scheme moved by the Ministry of Power, *Ujwal DISCOM Assurance Yojna* (UDAY)ⁱⁱⁱ, with the goal of financially reviving and providing a sustainable operating environment for power distribution companies. This is done through: (i) improving operational efficiencies of DISCOMs; (ii) reducing the cost of power; (iii) reducing the interest cost of DISCOMs; and (iv) enforcing financial discipline on DISCOMs through alignment with state finances.

Agriculture and Allied Sectors

The Indian economy has long depended on agriculture. Even today, the sector supports close to 50 per cent of the population, but accounts for only 16.1 per cent of total Gross Value Added (GVA).

The government has taken several measures to improve the credit flow and reduce interest rates on farm loans. For example, to discourage the distress

sale of crops by farmers, the benefit of interest subvention has been provided to small and marginal farmers having *Kisan* Credit cards for an additional six months (post-harvest) against negotiable warehouse receipts (NWRs) at the same rate available to crop loans. The remaining farmers have been granted post-harvest loans against NWRs at commercial rates. Additionally, the Interest Subvention Scheme for short-term production credit (crop loans) started in 2006-07 was extended to private-sector banks in 2013-14.

Although the agricultural credit flow target of INR7 trillion was achieved in 2013-14 (raised to INR9 trillion for the current fiscal), studies conducted by the RBI and the National Bank for Agriculture and Rural Development (NABARD) indicated that crop loans were not reaching the intended beneficiaries and several bank branches had no adequate procedures to monitor the end usage of funds. Also, although the overall credit flow to the agriculture sector has increased under 'Priority Sector Lending' in recent years, the share of long-term credit in agriculture or investment credit declined. Furthermore, approximately 40 per cent of agricultural credit still comes from informal sources, despite an increase in the flow of institutional credit to agriculture in recent years.^{iv}

In order to address some of the sustainability challenges in agriculture, the Indian government has been implementing several policies and missions including the National Food Security Mission, the Mission for Integrated Development of Horticulture, the National Mission for Sustainable Agriculture, *Paramparagat Krishi Vikas Yojana* to promote organic farming practices, and *Pradhan Mantri Krishi Sinchayee Yojana* to promote efficient irrigation practices and the National Mission on Agricultural Extension and Technology. They are also part of India's Intended Nationally Determined Contributions (INDCs)² in context of the 2015 global climate agreement. Annexure 1 outlines the central and state action plans that need support, including initiatives highlighted in India's INDCs.

2 Countries across the globe adopted an historic international climate agreement at the U.N. Framework Convention on Climate Change (UNFCCC) Conference of the Parties (COP21) in Paris in December 2015. In anticipation of this, countries publicly outlined their post-2020 climate actions or INDCs, which largely determine whether the world achieves the long-term goals of the Paris Agreement. UNFCCC Report (2015): India's Intended Nationally Determined Contribution: Working Towards Climate Justice; <http://www4.unfccc.int/submissions/INDC/Published%20Documents/India/1/INDIA%20INDC%20TO%20UNFCCC.pdf>

Micro, Small and Medium Enterprise (MSME) Sector

India's burgeoning MSME sector plays a pivotal role in the country's socio-economic development, contributing more than 35 per cent of GDP in recent years and is of particular importance to the manufacturing sector. MSMEs need equity capital and loans for fixed asset investment and working capital for meeting cash flow gaps. Several policy initiatives have been taken to promote availability of finance to this sector. These include, among others, credit support mechanisms administered by government institutions. Outstanding credit from scheduled commercial banks to MSMEs registered an annualised growth of about 23 per cent from March 2012 to March 2014, compared with 14.1 per cent for overall non-food credit. However, a severe shortage of credit remains: according to the International Finance Corporation, the sector faces a severe capital shortage of

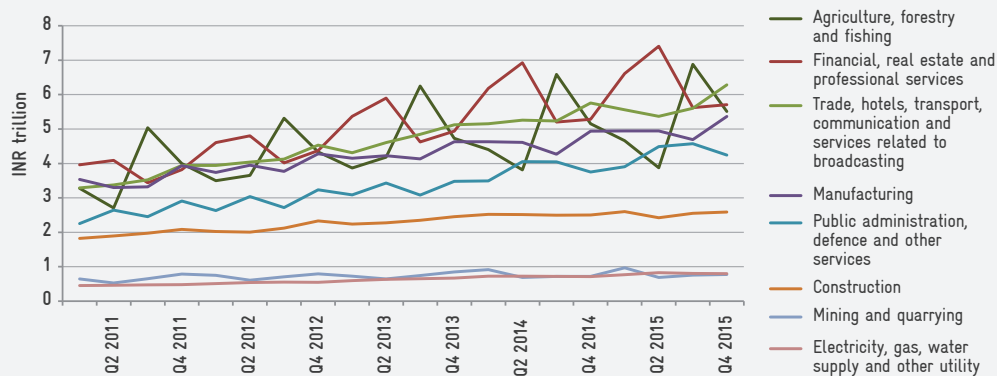
INR32.5 trillion^v. Out of this, the debt shortfall is INR26 trillion, which the organised financial sector will have to provide to ensure that MSMEs are properly capitalised and can continue to grow.

Availability of credit

The far-reaching changes in the Indian economy since the 1990s' liberalisation measures have had a large impact on the financial sector. It is one of the fastest growing sectors of the economy, and has witnessed increasing private sector participation, in the form of banks, insurance companies, mutual funds and venture capital firms (Figure 2). Despite the limited credit disbursement in certain sectors, credit advances are expected to grow exponentially by 2025 to reach USD28.5 trillion.^{vi}

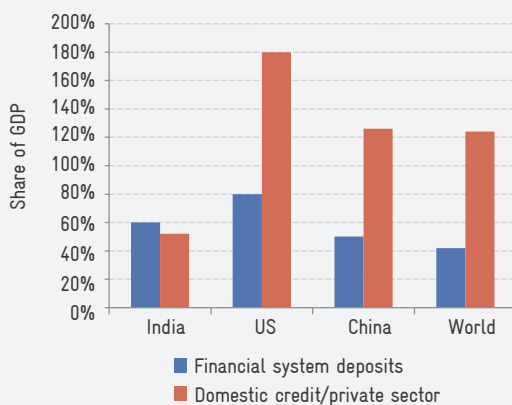
India's banking sector (by size and volume) is not too far behind China's. However, in India, (Figure

Figure 2: Gross Value-added by Sector



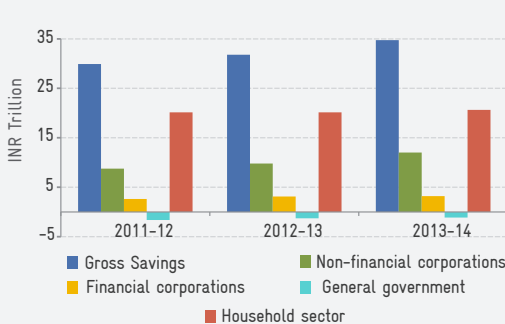
Source 2: RBI Handbook of Statistics Table 164 sheet three NAS 2011-12. Last updated 31 March 2016.^{vii}

Figure 3: Relative Size of the Indian Financial Sector



Source 3: Author estimates

Figure 4: Gross Savings by Sector



Source 4: Sector-Wise Domestic Savings at Current Prices, RBI ^{viii}

3) insurance, pension and mutual fund penetration is low: while India has the largest insurance sector in the world with over 360 million policies, the penetration is only about 4 per cent of GDP.

High levels of gross savings in the household sector (Figure 4) indicate a significant opportunity to create channels for retail investments in small firms as well as critical sectors that are facing a shortage of credit.

What is the Sustainable Development Financing Challenge?

Financing for sustainable development requires the availability of low-cost, long-term finance. In the Indian context, banking regulations and RBI guidelines direct credit to various sectors and influence interest rates, exposure limits, security and other conditions for lending by banks. For example, the system of priority sector lending ties 40 per cent of aggregate bank credit to sectors including agriculture and MSMEs.

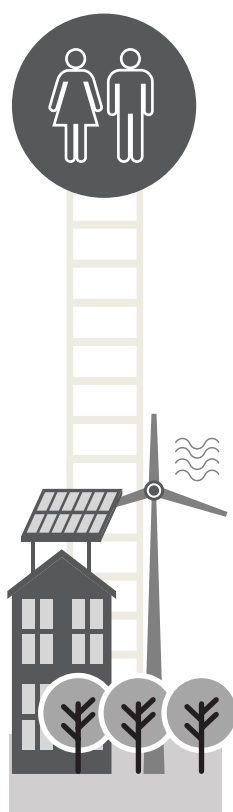
However, this is not enough. Sustainable development financing in India faces barriers, not only in terms of the funds available but also political, regulatory, technological and financial risks that affect the bankability of new projects. Three main challenges relating to the mobilisation of finance are evident in the Indian context:

- First, India does not have substantial access to multilateral finance or grant funding for plugging the fiscal gap in sustainable development-related expenditure. The *Niti Aayog*³ estimated that the country needs to spend close to USD1 trillion every five years on basic infrastructure (over the 12th Five-Year Plan period between 2012 and 2017)^{ix}, whereas the total budget of the central government is closer to USD250 billion and the total size of international climate finance by 2020 will be closer to USD100 billion per year. Moreover, India has graduated from its low-income status and is now a lower middle income country according to World Bank classification, which means that access to concessional lending from the World Bank will decrease.

- The second challenge relates to the participation of the private sector. Again, the example of the infrastructure funding requirement is indicative of the size of the challenge: the government estimated that around half of the USD1 trillion requirement would have to come from the private sector. Similarly, India's public expenditure on health is about 1.4 per cent of its GDP^x and the figure was 3.8 per cent for education^{xi} according to the latest available World Bank statistics. There is a large gap to fill, and private sector participation is currently limited, both because of the limited banking credit available for long-term projects and the lack of institutional capacities to mitigate or manage political risk^{xii}. Private sector participation is also linked to the challenge of structural economic reform—the longer the country delays substantive reforms in sectors ranging from public procurement to tax administration, the bigger the challenge.

- The third challenge is one that the country has begun to respond to: instituting overarching political frameworks for focused bilateral and multilateral cooperation on the sustainable development agenda. Such cooperation where the government leads and the industry follows could become a global template for sustainable development-linked cooperation. For instance, at COP21, the Indian government took the lead in instituting the International Solar Alliance^{xiii}, which aims to bring together developed and developing countries, governments, industries, academics and other relevant institutions. The members of the Alliance will make joint efforts through innovative policies, projects, programmes, capacity building measures and financial instruments to “mobilise more than USD1 trillion of investments that are needed by 2030 for the massive deployment of affordable solar energy”. India will be hosting this initiative at the premises of the National Institute for Solar Energy and will provide around USD30 million to build the secretariat infrastructure. All partners hope that this will help catalyse investments and research in solar energy across the world, with the private sector expected to play a critical part.

3 National Institution for Transforming India, Government of India, replacement of the erstwhile Planning Commission of India



The Momentum for Sustainable Finance

The momentum for sustainable finance seeks to take advantage of the fact that this should help India overcome a major challenge in access to finance. Simply put, this challenge is posed by what is termed by credit rating agencies and long-term investors as “regulatory risk”—posed by what these agents perceive as imperfections in institutional structures within a country that increases the long-term risk of financial investment. Typically, all countries that face an overwhelming majority of long-term projects, whatever their *sui generis* attractiveness or viability, are rated the same as the sovereign risk rating of the country in which they are located⁴. Since the sovereign risk rating is dependent principally on the level of per capita income, India’s rating would not exceed BBB (currently at BBB-) in the medium term. This can mean a three-to-four-hundred basis point difference in the cost of capital compared with AAA rating. Building a sustainable financial system will not solve this problem but can certainly ameliorate it at the margin and in the future, allow emerging economies to collectively argue for a change in the rules of the game by demonstrating that they have done enough to justify such a demand.

Traditional sovereign credit risk analysis has not covered pressures from increasing global natural resource scarcity, environmental degradation and vulnerability to climate change impacts. However, there has been growing concern among global investors over the mounting threat of systemic risks outside of the financial system, notably environmental risk, which can impact multiple financial markets. Preliminary research by UNEP-FI (UN Environment Programme’s Financial Initiative) has sought to build evidence on materiality of environmental risks in credit risk analysis (Box 1^{xiv}).

UN-PRI initiated a *Statement on ESG in credit ratings* this year, signed by leading raters (including Moody’s

Box 1: ESG risk integration in sovereign credit rating

UNEP-FI’s E-RISC (Environmental Risk in Sovereign Credit analysis) focuses on the development of metrics and methods to demonstrate the potential materiality of natural resource and environmental risks in the context of sovereign credit risk analysis, which can affect the underlying value of sovereign bonds. Five countries—Brazil, France, India, Japan and Turkey—were analysed, based on consultations with the participating financial institutions. The first phase of the E-RISC project provided the following preliminary results: First, a 10 per cent variation in commodity prices can lead to changes in a country’s trade balance equivalent to between 0.2 and 0.5 per cent of a nation’s GDP. Second, a 10 per cent reduction in the productive capacity of renewable, biological resources, and assuming that consumption levels remain the same, could lead to a reduction in trade balance equivalent between 1 and over 4 per cent of a nation’s GDP. Given the growing body of scientific evidence on ecosystem degradation and climate change impacts, governments, bondholders and credit rating agencies should take note of these issues in the short to medium term. Results of the E-RISC project show risks related to natural resource constraints and their broader environmental consequences can exhibit significant risks for the five countries studied over both short (0–5 years) to medium-term (5–10 years) time frames. This contradicts the conventional belief that natural resources risks are only relevant in the long term.

Corporation and S&P Global Ratings) and investors, which articulates a common vision to enhance systematic and transparent consideration of ESG factors in the assessment of creditworthiness—both in corporate and sovereign rating contexts.⁵ Further, S&P in 2014 had conducted a study^{xv} of potential climate vulnerability based on a composite measure⁶ and indicated that all of the sovereigns in the Top-20 most vulnerable nations are emerging markets, including India. It also revealed that lower-rated sovereigns tend on average to be more vulnerable, with

4 Sovereign ratings are important not only because some of the largest issuers in the international capital markets are national governments, but also because these assessments affect the ratings assigned to borrowers of the same nationality. Agencies seldom, if ever assign a credit rating to a local municipality, state government, or private company that is higher than that of the issuer’s home country.

5 It states: “For companies, concerns such as stranded assets linked to climate change, labour relations challenges or lack of transparency around accounting practices can cause unexpected losses, expenditure, inefficiencies, litigation, regulatory pressure and reputational impacts. At a sovereign level, risks related to, inter alia, natural resource management, public health standards and corruption can all affect tax revenues, trade balance and foreign investment. The same is true for local governments and special purpose vehicles issuing project bonds. Such events can result in bond price volatility, and increase the risk of defaults.”

6 Comprising i) Share of the population living in coastal areas below five meters of altitude (livelihood and economic production of that population may be at risk should sea levels rise in the course of global warming), ii) Share of agriculture in national GDP (this measures the risk to the sector that is typically most dependent on climatic conditions), and iii) The vulnerability index compiled by Notre Dame University Global Adaptation Index (ND-GAIN), which measures the degree to which a system is susceptible to, and unable to cope with, adverse effects of climate change

the average vulnerability rank of ‘AAA’-rated sovereigns at 18 and that of the ‘B’-rated sovereigns at 84. This indicates that over a long time horizon, climate change could contribute to diverging ratings.

Evidently, the roles of government, financial institutions and private sector are equally important in mobilising finance that enables India to transition onto a more sustainable pathway.

A range of voluntary and legislative actions have highlighted prominent strands of the sustainability imperative in India, particularly related to financial markets and the banking system. The Reserve Bank of India (RBI) issued its first circular on banking and sustainable development in 2007, encouraging adoption of best practices and greater transparency. Since then, important steps have been taken, as outlined in Table 1.

Responsible Banking in India

Responsible banking and finance means capital allocations made from the point of view of preserving stakeholder interests. Apart from all market

participants, non-market participants are also stakeholders—all those affected by the capital allocation directly or indirectly. The high level of savings by Indian households, amounting to close to 60 per cent of gross savings, is both an opportunity and a challenge for policymakers and market participants to allocate this capital efficiently.

Directed lending

The Priority Sector Lending (PSL) norms are a unique feature of Indian banking. These sectors have been identified as agriculture, infrastructure, education, and MSMEs. Many banks fall short on their PSL targets every year and the targets have come under criticism as the banking sector’s Non-Performing Assets (NPAs) have been a challenge, particularly in the priority sectors. However, NPAs in PSL advances have actually increased only marginally across the board, with the exception of private sector banks. It should also be noted that PSL related NPAs as a percentage of total NPAs have reduced in recent years. This is due to a combination of a contraction in PSL growth, and due to relatively higher NPAs in non-PSL assets.

Table 1: ESG-related initiatives in India	
2007	RBI circular on Corporate Social Responsibility, Sustainable Development and Non-Financial Reporting—Role of Banks
2008	Launch of the S&P ESG India Index: comprising 50 Indian companies that meet certain ESG criteria and have been drawn from the largest 500 companies listed on the National Stock Exchange
2011	Release of National Voluntary Guidelines on Social, Environmental and Economic Responsibilities of Business
2012	Market Regulator, SEBI’s mandate for inclusion of Business Responsibility Reports as part of annual reports for top 100 companies listed on Indian stock markets Launch of the S&P BSE CARBONEX: analyses companies from the S&P BSE 100, with the constituent weights modified in accordance with the companies’ relative carbon performance as measured by the level of their GHG emissions and mitigation policies
2013	Launch of the MSCI ESG India Index: a capitalisation-weighted index that lists companies with good ESG performance relative to sector peers
2014	The Companies Act of 2013 mandates 2 per cent of profits towards Corporate Social Responsibility (CSR)*
2015	Inclusion of renewable energy under Priority Sector Lending Mini-Ratna status granted to IREDA** (Indian Renewable Energy Development Authority), enhancing its operational autonomy Indian Banking Association’s National Voluntary Guidelines on Responsible Finance Exim Bank of India issued a five-year USD500 million green bond YES Bank issued the first INR-denominated green bond
2016	SEBI extends mandatory BRR filing to top 500 listed companies SEBI proposed new norms for issuance and listing of green bonds

* The CSR mandate is unlikely to make a significant or sustainable impact, given that the law does not allow CSR programmes to be linked to core business and projects are largely delivered in silos with no provision for data-linked planning and measurement at the aggregated level.

** IREDA provides debt financing for renewable energy and energy efficiency projects. It also offers financing schemes, such as project financing of up to 80 per cent of project costs, equipment financing of up to 75 per cent of equipment costs and other types of medium to long-term debt

Social infrastructure and renewable energy have recently been included under PSL for the banking sector^{xvi}. Both categories pave the way for funding sustainability initiatives. For instance, waste management centres can be counted under social infrastructure as part of sanitation initiatives. The RBI's Internal Working Group to Revisit the Existing Priority Sector Lending Guidelines recommended that given the importance of social infrastructure and its impact on credit absorption, financing certain infrastructure development activities should be treated as a separate category under PSL, subject to a ceiling of INR50 million per borrower. This includes the construction of schools, health care facilities, potable water facilities, and sanitation facilities in Tier II to Tier VI centres with less than 100,000 inhabitants. The RBI followed this recommendation and revised the PSL guidelines to include sanitation in social infrastructure in April 2015. The definition for renewable energy is straightforward. Bank loans to organisations up to INR150 million (USD2.5 million) and individual loans up to INR1 million (USD20,000) for augmentation of installed renewable capacity now qualify as PSL.

PSL-related NPAs as a percentage of total NPAs have reduced in recent years due to a combination of a contraction in PSL growth, and due to relatively higher NPAs in non-PSL assets

In the context of credit targets such as those prescribed by the RBI, the regulations do not mandate lending to any particular sector as the credit decision ultimately lies with the lender: sector-wise exposure limits are not specified under PSL or any other regulation. This means that in practice, the exposure that any banking institution has to a particular sector, for instance renewable energy, depends on its internal risk assessment policies as well. Therefore, as is the case in India, PSL norms for off-grid renewable energy projects have not necessarily resulted in an increased credit flow to the sector, even though loans given to individuals to set up off-grid solar and other

renewable energy solutions for households were allowed to be classified as priority sector in 2012.^{xvii}

Voluntary measures in the financial sector

The Small Industries Development Bank of India (SIDBI) and GIZ have co-developed the National Voluntary Guidelines on Responsible Finance for India's financial institutions. These guidelines aim to integrate the ESG principles into both lending and investment decisions⁷. In light of increasing NPAs in infrastructure projects, these guidelines may serve as a useful tool to improve lending practices and due diligence. In the global context, the Equator Principles are a benchmark for responsible finance. They provide a credit risk management framework for identifying, assessing, and managing environmental and social risk in project finance. The Infrastructure Development Finance Company (IDFC) has been the only Indian bank to have signed these Principles. Some public financial institutions have been very active in taking up sustainable financing initiatives as well (Box 2).

Market instruments: Green Bonds

Green bonds have emerged as one way to raise capital to promote sustainable development-linked infrastructure. They are particularly relevant to Indian sustainability financing requirements given the over-reliance on the banking sector, which suffers from an asset liability mismatch. The proceeds of a green bond offering are earmarked towards financing green projects. International experience has shown that the main challenge for green bonds to work is to get investors to view sustainable development-linked infrastructure projects (and therefore their funding) as investments and not costs, and to provide a steady stream of investable projects.

These two challenges apply to the Indian market as well, but the biggest challenge is an illiquid bond market. Despite this, India will have to discover ways to make green bonds work, especially in the context of developing urban infrastructure for India's Smart Cities Initiative⁸. The measures taken by the RBI and SEBI, the securities regulator, have resulted in some

⁷ Refer special section at the end of this volume

⁸ Urban renewal programme for 100 cities through smart solutions that harness technology for sustainable development; the Central Government support is proposed at INR 480 billion over five years i.e. on an average INR 1 billion per city per year. An equal matching grant is to be contributed by the State or Urban Local Body; <https://india.gov.in/spotlight/smart-cities-mission-step-towards-smart-india>



Box 2: Sustainable financing initiatives by Indian FIs

State Bank of India

- India's largest bank (by a large margin), SBI was the first bank to venture into generation of green power by installing windmills for captive use and provided long-term repayment plans with concessional rate of interests. It has financed more than USD818.33 million worth of projects in wind power.
- SBI focuses on financing alternative energy projects including solar energy; it has financed USD491 million worth of solar energy projects which include financing industrial units. The repayment window for such projects has been at a long period of about 15-20 years.
- SBI also finances pollution control projects. For example in Tirupur, Chennai, a highly polluted area due to huge garment manufacturing industries, SBI helped in setting up common effluent treatment plants.
- SBI has been extending project loans on concessionary interest rates to reduce greenhouse gas (GHG) emissions by adopting efficient manufacturing practices through acquisition of latest technology. It has been providing consultancy services in CDM (Clean Development Mechanism) registration process. SBI is also a signatory to the Carbon Disclosure Project (CDP), a reporting based initiative of over 550 institutional investors.

Small Industries Development Bank of India

- SIDBI has funded various energy efficiency initiatives in the MSME sector through lines of credit in the form of loans and partial credit guarantees. These credit lines are targeted towards training programmes, knowledge sharing on new technologies, process changes and purchase of equipment to ensure energy savings and emission reduction etc.
- SIDBI provides loans of up to seven years at a 75:25 debt equity ratio for existing MSME units. Equipment is screened as per its identified Energy-Saving Equipment List for energy efficiency and loans have first charge of the assets financed along with other collateral as deemed necessary. For strengthening the competitiveness of MSMEs in the global market, SIDBI introduced the "Sustainable Finance Scheme" during 2012-2013 to broaden the scope of finance through its own fund.
- SIDBI has also renewed its membership of "The Montreal Group" (TMG), Canada, as one of the founder members. TMG is an association of eight development banks engaged in financing and development of MSMEs.

progress in the issuance of corporate bonds as well as in secondary market trading.

2014-15^{xviii}. Yet, the bond market in India is much smaller than in other Asian economies (Table 2).

Table 2: Size of Local Currency Corporate Bond Market

% of GDP	Q2 2014	Q3 2015
China	17.8	18.8
Hong Kong, China	29.3	29.0
Indonesia	2.2	2.2
Korea, Republic of	74.0	76.4
Malaysia	41.3	41.5
Philippines	5.6	5.8
Singapore	30.6	32.4
Thailand	16.7	17.4
Japan	16.9	16.2

Source: Asia Bond Monitor, September 2015

According to the RBI, the total corporate bond issuance has increased by around 155 per cent from INR2.7 trillion in 2010-11 to INR 4.8 trillion in 2014-15 (approximating 4 per cent of GDP) and the number of issuances has increased by almost 77 per cent from 4,280 in 2010-11 to 10,941 in

Recognising the potential for growth from a low base, YES Bank, a private bank, issued the first green bond in February 2015. Its INR10 billion (USD161.5 million) bond is for financing renewable energy projects. The Export Import Bank of India has also raised money through a larger USD500 million green bond from international investors. This bond will finance renewable energy and low-carbon transport projects. The investment areas funded by the international green bond market seem to be aligned with India's priority investment areas and retail participation by Indian investors should be encouraged through advocacy and awareness campaigns.

In order to help meet financing requirements of USD2.5 trillion for climate change actions in India by 2030, SEBI has proposed new norms for issuance and listing of green bonds in 2016^{xix}, which may also include the details of expected environmental impact of such projects. The issuance, listing and disclosure requirements as prescribed under existing regulations for debt securities will continue to be applicable, like

any regular corporate bond issuance. However, for designating an issuance of corporate bonds as green bonds, in addition to the compliance with the requirements under the existing regulations, an issuer will have to disclose in the offer document certain additional information about the green bonds, based on Green Bond Principles^{xx}.

In the Indian context, developing a market for green bonds will also address the larger financial challenge. Indian bond markets are not deep and listings of Indian bonds on global financial markets tend to face exchange rate risk which hinders investors' appetite. The rupee is a relatively volatile currency, which makes the cost of hedging against the foreign exchange risk high, estimated at around 8 per cent for a 10-year bond by USAID PACE-D programme for green bonds in India. This takes away the cost advantage for foreign currency financing in India.⁹ Recent instances of "masala" bonds seek to address this issue by fostering a market for rupee-denominated bonds with some exchange rate risk coverage. Looking ahead, the adoption of inflation targeting—combined with a series of demonstrably successful measures by the RBI to lower volatility in the exchange markets—means that India is able to calibrate its exchange rate depreciation in line with stable current account deficit. With low inflation and real returns close to 4 per cent, bonds become attractive to international investors looking for predictable medium- to long-term returns. Green bonds offer the required regulatory comfort to such investors as they secure international certification that a project financed by such bonds both confers to investor mandate and sustainability scrutiny.

Responsible investing in equity markets

ESG-related ratings for India are an example of how investors increasingly use sustainability-related indices to guide investment decisions in equity markets. A few ESG indices created to provide investors with an instrument to incorporate sustainability performance into their investment decisions have been op-

erating in India with mixed success. The S&P ESG India Index comprises of 50 Indian companies that meet certain ESG criteria and have been drawn from the largest 500 companies listed on the NSE. The MSCI India ESG Index is a capitalisation-weighted index that lists companies with good ESG performance relative to sector peers. The S&P BSE CAR-BONEX analyses companies from the S&P BSE 100, with the constituent weights modified in accordance with the companies' relative carbon performance as measured by the level of their GHG emissions and mitigation policies.

Reporting requirements of stock exchanges are also creating triggers for sustainability-linked financing. Valuations for companies have traditionally focused on short-term performance indicators such as quarterly earnings. However, indices and ratings that focus on evaluating sustainability performance aim to deconstruct long-term metrics such as the efficiency of energy use and the robustness of corporate governance practices. Therefore, the sustainability valuation of companies is useful for investors with long-term horizons. It can be argued that most retail investors have long-term horizons by default as they look to the financial markets for preserving and increasing the value of cash assets over time.

Table 3 highlights the prominence of issues such as energy efficiency measures and carbon emissions mitigation in the factors considered by asset managers for making investment decisions. Funds are managed using a wider set of investment criteria than ESG indices, and no structured products are based on the existing ESG indices, but ESG criteria can add to the robustness of risk assessment. Tools such as PRISM (Portfolio Risk, Impact, and Sustainability Measurement¹⁰) are used by impact investors who are focused on sustainability targets. Between 2000 and 2011, the total capital committed through such impact funds grew from USD1.17 million to USD250 million^{xxi}.

9 The Partnership to Advance Clean Energy—Deployment Technical Assistance Program (PACE-D), a US-India bilateral initiative, is also being leveraged to create expertise to help India raise green funds. PACE-D is funded by the USAID. In their recent issue paper on risk assessment of issuance of green bonds for Indian entities, they point out certain challenges for the issuance of Green Bonds in the international markets. These include high currency hedging costs; poor sovereign ratings (currently at BBB-); and low tenure (currently, Green Bond tenures are mainly concentrated between 3-10 years, with only some issuances reaching or exceeding 15 years tenure). <http://www.pace-d.com/wp-content/uploads/2015/02/Issue-paper-Green-Bonds-Report-Reprinted-Feb-2015.pdf>

10 PRISM is an assessment and reporting platform developed with the goal of driving transparency and accountability in measuring social impact and hence strengthening the impact investing industry; <http://prismforimpact.com/about-prism/>

Table 3: Factors Considered by Indian Asset Managers in Investment Decisions

Indicators	Per cent of responses	
	Mutual Fund Managers	Private Equity Managers
Risk profile of the company	26.9	20.0
Capital gains generated	16.4	26.7
Companies taking measures to reduce carbon footprint	10.4	6.7
Energy-efficient companies	9.0	6.7
Companies with high retention rate of employees	14.9	13.3
Companies with least legal disputes	19.4	13.3
Other	3.0	13.3
Total	100.0	100.0

Source: *Proceedings of the International Symposium on Emerging Trends in Social Science Research (IS15Chennai Symposium)*

While initiatives ranging from reporting standards to ESG indices are not new to the Indian market, the fact that less than 10 per cent of asset managers use the available data indicates a gap between the demand and supply of such information. The supply of sustainability-related data points needs to be linked to a more robust approach to risk management through a combination of investor advocacy, greater awareness, better products and policies to bring coherence to existing initiatives.

Public Finance

Indian public finance does not have an explicit objective of promoting sustainability. However, certain instruments of taxation and public expenditure are used to improve sustainability by enhancing allocative efficiency of public spending. Three examples in this context are the introduction of sustainability concerns in the horizontal devolution of the divisible pool of taxes made by the Fourteenth Finance Com-

mission¹¹ (FFC), the taxes on coal and the Biodiversity Finance Initiative (BIOFIN).

The FFC sought to encourage the greening of the Indian economy by treating forest cover in a given state as an index of delivery of ecological services. Recognising that this imposed an opportunity cost on states that maintain their forest cover, they assigned a 7.5 per cent weight in the horizontal devolution formula for the area under forest cover in a given state^{xxii}.

The Indian government increased its coal cess from INR50 per tonne to INR100 in 2014, INR200 in 2015, and finally INR 400 per tonne in 2016. The proceeds from the cess are used to finance clean energy initiatives, and were estimated to contribute INR130 billion to the NCEF¹² in 2015-16 when the cess was increased to INR200. In addition, India has decreased subsidies and increased taxes in the form of excise duty on petrol and diesel, even as global oil prices have collapsed. For example, the basic excise duty rate on aviation turbine fuel has increased from 8 per cent to 14 per cent. This has acted as an implicit carbon tax. Both these fiscal measures, combined with India's ambitious renewable energy initiatives, are substantive steps in the direction of sustainable development.

The UNDP is implementing the Biodiversity Finance Initiative (BIOFIN), a global multi-country project that provides tools and the methodological framework for measuring expenditure on biodiversity, which the countries may choose to use in their efforts to mobilise resources required for achieving the global and national biodiversity targets¹³. The Ministry of Environment, Forests and Climate Change (MoEFCC) is a participant in the BIOFIN project, and has emphasised that BIOFIN implementation in India would be completely country-driven, taking into account the activities already undertaken for developing national biodiversity tar-

¹¹ Established under the Indian Constitution and tasked to define the financial relations between the centre and the state, the FFC submitted its report in February 2015; <http://www.finmin.nic.in/tfc/tfc.asp>

¹² With the value of this fund going up further with the latest hike, the entire budget allocation for Ministry of New and Renewable Energy for this year—INR 50 billion—is proposed to come from NCEF. Half the plan outlay for Environment Ministry, about INR 10 billion, is also proposed to be met through this fund. <http://indianexpress.com/article/india/india-news-india/union-budget-2016-17-coal-cess-doubled-to-fund-ministries-green-drives/>

¹³ Since its launch in 2012, 19 countries are implementing the initiative and many more are expected to join soon. The BIOFIN project is significant as available evidence and the decisions adopted by Parties to the Convention on Biological Diversity (CBD) indicate that a significant gap remains in finance for biodiversity management, for countries to drastically scale up their efforts and achieve the 20 Aichi Targets defined in the CBD's Strategic Plan for 2011-2020. <http://www.biodiversityfinance.net/>



gets and assessing the funding for biodiversity in the country. The UNDP has allocated USD1 million for piloting BIOFIN initiative in India^{xxiii}. The Ministry is currently assessing how much finance has flowed in from various national banking and financial institutions towards biodiversity conservation within the country and is also mapping out how much companies have spent towards biodiversity conservation under their CSR (corporate social responsibility) budgets.

The above examples indicate that Indian public finance is not indifferent to sustainability concerns. However, there is no space for any additional allocation of public resources directed specifically to sustainability; the effort, therefore, must be to endogenously and simultaneously improve both productivity and sustainability in delivery of public services and to off-set any cost disadvantages incurred in protecting the commons as in the case of forest cover.

Conclusion

The INDCs for India (Annexure 1) appear to have been designed bureaucratically and projected as public sector initiatives. However, this is neither accurate nor desirable. The role and scope of public finance in addressing sustainability challenges is a limited, at best catalytic, one. The opportunity presented by the elision of the actions needed to secure sustainable finance and the challenge of securing long-term finance for India's development transformation is best secured by delivering a sustainable financial system for India in which the private sector plays a key role. This article has discussed different initiatives in this context. The role of the government would be to a) foster development of an adequate financial system that encourages sustainable finance; and b) remove regulatory and policy barriers that may inhibit the flow of such finance to India. In this context, subsidies, interest subventions etc. would be of limited value. Further, privileging sustainable finance products by government fiat—for example, by making green bonds a permissible priority sector asset—would not be desirable.

Evidently, there is considerable action on the ground in India in equity, bond and bank markets, with respect to sustainable finance. It is also clear that these actions can potentially contribute significantly to alleviating India's challenges in securing sustainable finance. Here, the role of the State could be helpful in many ways. For example, as green bonds serve the purpose of bringing long-term investments to India, it makes sense to remove the withholding tax on external commercial borrowings from green bonds. Government could also use its access to the Green Climate Fund¹⁴ to provide exchange rate risk guarantees to international credit enhancement. Indian insurance and pension fund organisations could be permitted to invest in non-AAA green bonds.

The role and scope of public finance in addressing sustainability challenges is a limited, at best catalytic, one. The most important initiative that the government could take would be to mainstream sustainability into the draft Indian Financial Code (IFC). The draft IFC has a provision mandating that any measure for market infrastructure or directed lending should be reviewed in terms of its costs to society as a whole.

An important institutional reform would be to use the financial strength and capability of keystone financial institutions such as the Indian Renewable Energy Development Agency (IREDA) to increase the bank book size. IREDA was presented with the *Mini-Ratna* (Category 1) status by the Department of Public Enterprises under the Union Ministry of Heavy Industries and Public Enterprises, allowing it to make capital expenditure on new products, approve modernisation measures and purchase equipment without the approval of the government up to a limit of INR5 billion. A larger financial capabil-

¹⁴ The Green Climate Fund has been designated as an operating entity of the financial mechanism of the UNFCCC to assist developing countries in adaptation and mitigation practices to counter climate change. It will support projects, programmes, policies and other activities in developing countries and is governed by the GCF Board.

ity mandate would allow the deployment of international funding through the Green Climate Fund (GCF)¹⁵. Additionally, strengthening swap and hedging capabilities of the IREDA with government support and building in products for take-out, guarantees and loan life extension would garner additional lines of finance to provide low-cost, long-tenor financing in both foreign and Indian currency.

The most important initiative that the government could take would be to mainstream sustainability into the draft Indian Financial Code (IFC). The draft IFC has a provision mandating that any measure for market infrastructure or directed lending should be reviewed in terms of its costs to society as a whole. This includes claims by firms with respect to environmental sustainability standards met (or often not met) by their products. This should curb lending to environmentally harmful sectors, and perhaps encourage lending to greener sectors. The IFC contains provisions for the regulation of financial products aiming at protecting consumers. The IFC also envisages regulations with respect to capital controls as these regulations currently do not include future cross border flows of capital that finance 'dumping' of environmentally undesirable investments. The opportunity now exists to make sustainable finance a critical dimension of the final version of the Code.

Sustainable finance in India thus has an exciting future. The way forward is to deepen private financial markets and make existing institutions capable of delivering increasing amounts of sustainable finance for the long term investment required for India's development and transformation. This is particularly important for the energy sector. In the case of agriculture and small industry, preferential financial regulations will suffice. The challenge is to build a framework that demonstrates in these sectors that long term investments are typically sustainability enhancing investments. In the case of energy what is required is not preferential treatment but addressing the regulatory risk constraint. This is best addressed by putting in place an IFC that mainstreams sustainability and by leveraging existing sustainable finance to attract domestic and foreign investment in that sector. Sustainable finance will therefore be an additional lever to secure the resources to maintain high levels of growth and sustainability. For the first country that is to complete its development transformation without substantial recourse to fossil fuels, sustainable finance presents an opportunity not a threat.

For the first country that is to complete its development transformation without substantial recourse to fossil fuels, sustainable finance presents an opportunity not a threat.

¹⁵ NABARD is accredited as National Implementing Entity in 10th Board meeting of GCF held on 9th July 2015 and is eligible to submit projects of outlays larger than USD 250 million. <https://www.nabard.org/English/GreenClimateFund.aspx>

Annexure 1: Intended Nationally Determined Contributions and Related Initiatives

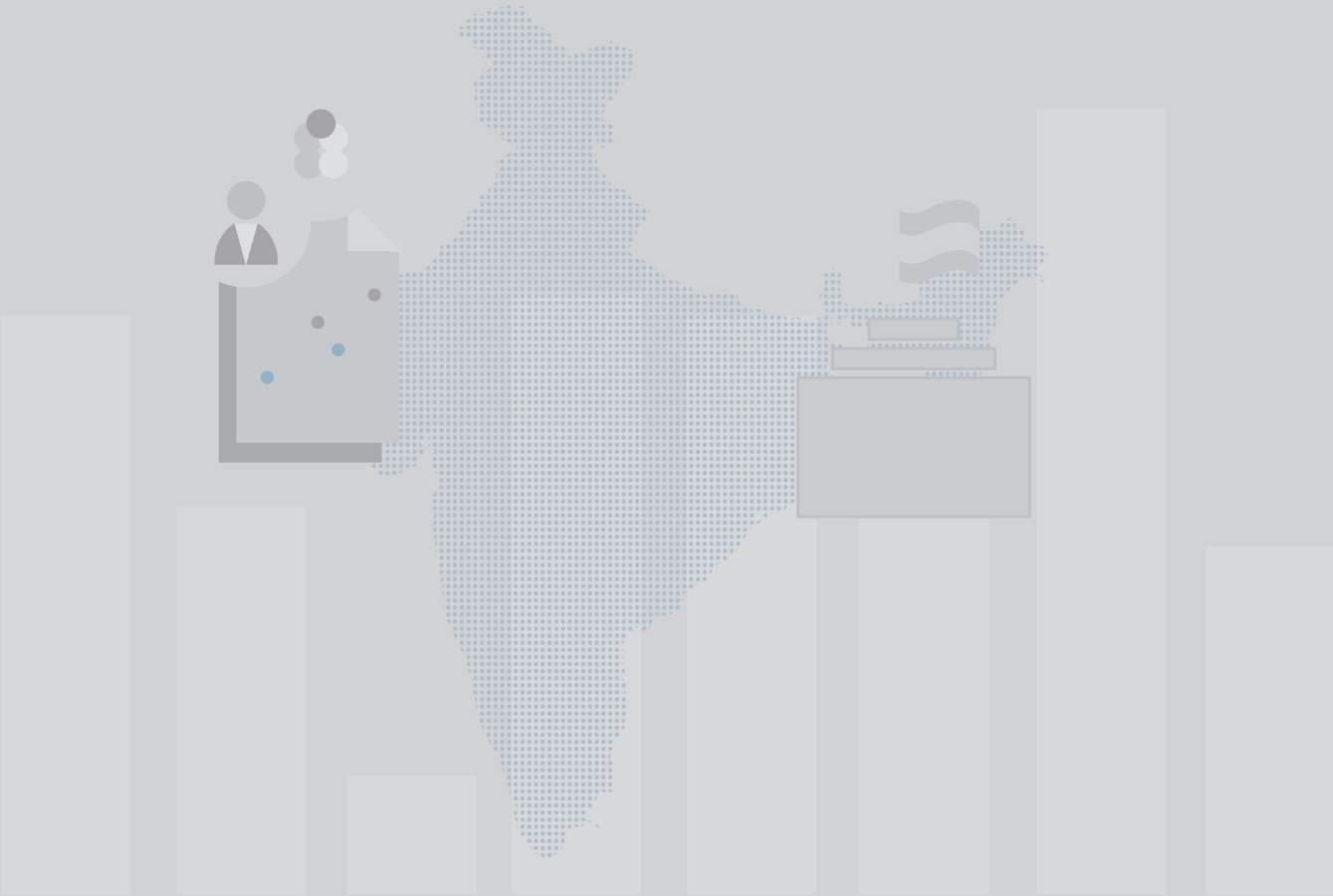
Initiative	Description
National Action Plan on Climate Change (NAPCC)	Comprehensive national climate change policy that addresses eight priorities for sustainable development with climate change co-benefits. The project is expected to cost a total of USD38 billion
National Solar Mission (NSM)	Comprehensive policy aimed at incentivising solar power generation. The NSM is being scaled up from its initial target of 20 GW solar capacity addition to 100 GW. The initiative is expected to require a total outlay of USD100 billion.
National Mission on Enhanced Energy Efficiency (NMEEE)	Covers a variety of policies and initiatives, including PAT, ZWS Compact Fluorescent Lamp Programme and the operationalisation of the Partial Risk Guarantee Fund/Venture Capital Fund for Energy Efficiency. An estimated outlay of USD28.74 billion for the 12th Five-Year Plan is required.
	Perform Achieve and Trade (PAT): A market-based efficiency trading mechanism, at present covering 478 plants in eight energy-intensive sectors. Under the PAT programme, the respective industries have achieved a 4 to 5 per cent decline in their specific energy consumption in 2015 compared with 2012.
	Zero Effect, Zero Defect (ZED): ZED is a policy initiative aimed at rating MSME industries on quality control and certification for energy efficiency, enhanced resource efficiency, pollution control, usage of renewable energy, and waste management. It is currently envisaged to cover about one million MSMEs.
Smart Cities	100 smart cities are planned with the object of developing new generation cities, which will provide core infrastructure and a decent quality of life to their citizens in a clean and sustainable environment. The total expected outlay over five years is INR480 billion or USD7.3 billion.
Atal Mission for Rejuvenation and Urban Transformation (AMRUT)	AMRUT is a new urban renewal mission launched for 500 cities with a focus on ensuring basic infrastructure services including water supply, sewerage, and the development of green spaces and parks. The total expected outlay over five years is INR500 billion or USD7.6 billion.
Solid Waste Management (SWM)	The government has invested significantly in SWM projects as grants-in-aid to states for SWM through PPP. An estimated USD397 million has already been allocated.
Swachh Bharat Mission	The mission has the objective of making the country clean and litter-free in more than 4,000 towns, covering a population of 306 million people.
Dedicated Freight Corridors (DFCs)	The first phase of DFC implementation will see two corridors, Mumbai-Delhi and Ludhiana-Dankuni, being constructed. The project is expected to reduce emissions by about 457 million tonne CO ₂ equivalent over a 30-year period.
Mass Rapid Transport System (MRTS)	Around 236 km of metro rail is operational in the country, with an additional 550 km under construction. The Delhi metro, which has become India's first MRTS project to earn carbon credits, has the potential to reduce emission by about 0.57 million tonne of CO ₂ equivalent annually.
Green Highways (Plantation and Maintenance) Policy	The policy aims to develop a 140,000km tree-line with plantations along both sides of national highways, with 1 per cent of total civil cost of projects set aside to implement this.
National Electricity Mobility Mission Plan 2020 (NEMMP)	This initiative promotes hybrid and electrical mobility through a combination of policies aimed at gradually ensuring a vehicle population of about 6-7 million electric/hybrid vehicles in India by the year 2020. The project will require an estimated cumulative outlay of INR140 billion or around USD2.1 billion.
Faster Adoption and Manufacturing of Hybrid and Electric Vehicles in India (FAME)	FAME is a scheme formulated as part of the NEMMP to promote faster adoption and manufacturing of hybrid and electric automobiles.
Fuel Efficiency Programmes	The government has introduced several fuel efficiency initiatives, such as the Vehicle Fuel Efficiency Programme which finalises the first passenger vehicle efficiency standards, potentially keeping 50 million tonne of CO ₂ out of the atmosphere. Other initiatives include the National Policy on Biofuels, aimed at achieving a 20 per cent blending of biofuels, both for biodiesel and bioethanol.
Green India Mission	As of 2015, the Perspective Plans and Annual Plan of Operations submitted by four states—Mizoram, Manipur, Jharkhand and Kerala—had been approved for the development of forests and their fringe areas. The cumulative outlay amounts to an estimated USD6.9 billion, while USD1.97 billion has already been allocated.
Abatement of Pollution	Initiatives include the Continuous Emission Monitoring System (CEMS), Common Effluent Treatment Plants (CETPs), Fly Ash Utilisation Policy, Implementation of the National Air Quality Index and amendments to the Municipal Solid Waste Management Rules.

Initiative	Description
Citizens and Private Sector Contribution to Combating Climate Change	In addition to the initiatives being carried out by the government of India, the private sector has also embarked on a number of voluntary and mandated actions.
	Companies Act: The Companies Act of 2013 directs companies earning a certain level of profits to spend 2 per cent of annual profit on CSR activities.
	New Ventures India: It is an initiative to support cleantech entrepreneurs in developing their business plans and access to finance and markets.
	SME Cluster Programmes for Energy Efficiency: It currently covers more than 150 clusters all over the country and has resulted in substantial improvement in sustainability parameters.
National Mission on Sustainable Agriculture (NMSA)	NMSA aims at enhancing food security and protection of resources such as land, water, biodiversity and genetics, with an estimated outlay of USD16.34 billion for the 12th Five-Year Plan, while USD1.97 billion have already been allocated.
Other agricultural initiatives	Other agricultural initiatives include the National Initiative on Climate Resilient Agriculture (NICRA), the introduction of Soil Health Cards and the National Agroforestry Policy (NAP).
National Water Mission	The progress includes the preparation of state-specific action plans on climate change under way; a pilot study of basin-wise water done for two basins (Godavari and Brahmani-Baitarani), with studies extended to all the basins; and an MoU that has been signed between the Ministry of Water Resources and the Asian Development Bank (ADB) for technical assistance with the objective of undertaking research for identifying and testing flood mitigation and flood management strategies. An outlay of USD13.78 billion was required for the 12th Five-Year Plan.
National Mission for Clean Ganga	Aims to regenerate the river along its length of more than 2,500 km through diverse activities.
Initiatives for Coastal Regions	Initiatives for the mitigation of climate change on coastal regions include the Integrated Coastal Zone Management project (ICZM), the Mangroves for the Future (MFF) project, and the implementation of the Island Protection Zone (IPZ).
National Mission for Sustaining the Himalayan Ecosystem (NMSHE)	The objective is to develop national capacity to assess the health of the Himalayan ecosystem and to assist progressive policy formulation at the level of the states and relevant sub-regions. USD226.9 million was the required outlay for the 12th Five-Year Plan, while USD83 million had been approved.
National Mission on Sustainable Habitat (NMSH)	An estimated USD143.72 million was required for the 12th Five-Year Plan. Notable progress achieved under this mission: NMSH standards developed for six sub-sectors, namely solid waste management, water and sanitation, storm water drainage, urban planning, energy efficiency, and urban transport for integration in developmental activities in the state. Energy Conservation Building Code 2007 made mandatory for new as well as old buildings and incorporated in the Central Public Works Department (CPWD) general specifications for electrical works in 2013. Green Building norms made mandatory for the CPWD since 2009 and incorporated in the CPWD Works Manual 2012.
National Mission on Strategic Knowledge for Climate Change (NMSKCC)	Seeks to build a dynamic knowledge system that would inform and support national policy and action in addressing climate change challenges while not compromising on the nation's growth goals. An outlay of USD378.2 million is required for the 12th Five-Year Plan period.
National Clean Energy Fund (NCEF)	Created from a coal cess of INR50 per tonne (about USD1), which was gradually increased to INR400 per tonne in the Union Budget of 2016-17. As of 10 March 2016, approximately USD5.3 billion has been approved for clean energy projects since the financial year 2011-12.
National Adaptation Fund	The objective of the fund is to assist states and union territories that are particularly vulnerable to the adverse effects of climate change in meeting the cost of adaptation. USD55.6 billion has been allocated for the various projects.
State Action Plans on Climate Change (SAPCC)	As a follow up to the NAPCC, SAPCCs were introduced to identify state-specific priorities and strategies to combat climate change at subnational levels. As of April 2014, 26 states/union territories had prepared their SAPCCs. A new central-sector scheme titled Climate Change Action Programme has also been approved during the 12th Five-Year Plan. The objective of the scheme is to build and support capacity at central and the state levels for assessing climate change impact and formulating and implementing adequate response measures. Thus far, USD13.62 billion has been allocated for the initiative.



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2

Financing the Transition

How to harness the financial system for sustainable development: emerging international practice



>> Nick Robins

Nick Robins is co-director of the UNEP Inquiry into the Design of a Sustainable Financial System. His focus has been on national initiatives in Brazil, the EU, France, India, Italy and the UK, action in key sectors such as banking, insurance and institutional investment and on systemic approaches to climate finance. He was earlier Head of the Climate Change Centre of Excellence at HSBC in London, where he produced investment research on clean tech, climate vulnerability, green stimulus and stranded assets. As head of SRI funds at Henderson Global Investors, Nick published the first ever carbon audit of an investment fund (2005) and co-designed the Industries of the Future fund. He is an adviser to the Climate Bonds Initiative and the Carbon Tracker Initiative. Nick has authored several books on sustainable development, including *Sustainable Investing: the Art of Long-Term Performance* (co-edited with Cary Krosinsky) in 2008.

Harnessing the financial system for sustainable development

Harnessing the USD 300 trillion global financial system is essential if countries are to make a rapid and orderly transition to a prosperous, inclusive and sustainable economy.ⁱ In essence, the task is to develop a financial system that is ‘fit for purpose’ for this transition. This is clearly a major challenge—but sustainable finance is an increasingly dynamic arena, with high-level policy agreements now being matched by changes in both financial practice and financial policy. For the first time, green and sustainable finance issues are being included on the agendas of mainstream financial policymakers within the G20 and the Financial Stability Board (FSB)¹.

The 2015 global report of the UNEP Inquiry, *The Financial System We Need*, highlighted a ‘quiet revo-

lution’, as financial rule-makers and institutions include environmental and social factors into the capital allocation process.ⁱⁱ The Inquiry’s findings were based on a set of country partnerships and in India, UNEP worked with leading industry association FICCI in a process of research and dialogue chaired by Naina Lal Kidwai, former President, FICCI. The final report of the India process was produced with the support of Rathin Roy, Director of National Institute of Public Finance and Policy (NIPFP). For a perspective on India’s priorities, see Roy’s article in this volume. This article focuses on the current international momentum and examines progress across the 5Rs of sustainable finance: capital reallocation; risk & resilience; responsibility; reporting; and roadmaps.

What is striking is how market innovation, national leadership and international cooperation are now combining to create the conditions that could mobilise the trillions needed for sustainable development.

The growing momentum for system change

Private financial institutions along with central banks, financial regulators and market standard setters are increasingly taking steps to align the financial system with long-term sustainable development. This is being driven by the growing acknowledgment of the value of sustainability factors for efficient capital allocation to the real economy, the delivery of risk-adjusted returns, the management of emerging threats and the strengthening of economic governance. In the world of institutional investment, for example, the amount of assets now managed by institutions committed to ‘responsible investment’ has grown almost tenfold since 2006 to USD59 trillionⁱⁱⁱ. Importantly, 62.2 per cent of meta-analyses conducted by academics find a positive correlation between performance on environmental, social and governance (ESG) factors and corporate financial returns.¹

This agenda moved to the next level in 2015 when governments around the world reached three major agreements, which set out their vision for the coming decades: the financing for development package, a new set of 17 sustainable development goals (SDGs) and the Paris Agreement on climate change.

- **Financing for Development:** The Financing for Development conference (Addis Ababa) focused on steps to increase domestic and international resource mobilisation for developing countries in terms of public and private capital. One of its conclusions was to “strengthen regulatory frameworks to better align private sector incentives with public goals, including incentivising the private sector to adopt sustainable practices, and foster long-term quality investment” both from domestic and international institutions^{iv}.
- **Sustainable Development Goals:** The centrepiece of the 2030 Agenda for Sustainable Development, the 17 SDGs bring together an interlocking set of economic, social and environmental objectives, matched by 169 targets^v

for the next 15 years. For the financial system, the SDGs set out a high-level roadmap for generating ‘shared value’—shifting capital away from damaging ‘business as usual’ trends and towards an end to poverty, increased prosperity with social inclusion and environmental regeneration^{vi}.

- **Paris Climate Agreement:** The Paris Agreement agreed to “making financial flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development”^{vii}. The agreement means aligning capital with the long-term goal of keeping global warming “well below 2°C above pre-industrial levels”, with the aspiration to “limit temperature increase to 1.5°C”. It also gave a higher profile to financing adaptation to growing climate shocks.

To deploy capital at the scale and speed required, a number of interlocking elements have to be in place:

First, policy action is needed in the real economy to remove market failures such as unpriced pollution and resources. Progress has been made to internalise externalities into market prices and better match macro-economic and sectoral policies with the need to regenerate natural capital, for example in agriculture, energy, housing, industry transport, water and waste. But serious market failures remain worldwide—and without effective pricing of scarce natural capital, the risk-adjusted returns for sustainable finance are likely to be inadequate to attract sufficient capital.

Second, the effective deployment of public finance is needed to provide public goods and stimulate private action. Public finance is essential to deliver collective goods that the market cannot provide—and also to stimulate private action through incentives and subsidies. International flows of capital are particularly important for developing countries. Here, industrialised countries have renewed their commitment to mobilise USD100 billion per year by 2020 in climate finance for developing countries, involving a combination of public and

¹ The academic paper *ESG and financial performance: aggregated evidence from more than 2,000 empirical studies* and published by the Journal of Sustainable Finance & Investment can be found here; <http://www.tandfonline.com/doi/full/10.1080/20430795.2015.1118917>. The ESG white paper published by Deutsche Asset & Wealth Management and the University of Hamburg, including a Foreword from PRI managing director Fiona Reynolds, can be found here: https://institutional.deutscheawm.com/globalResearch/investment_strategy_3540.jsp

private finance. In 2015, for example, multilateral development banks alone delivered USD25 billion in direct climate finance, leveraging a further USD51 billion in private capital^{viii}.

Third, action is also needed *within* the financial system to remove market and institutional barriers that can prevent the efficient allocation of capital to sustainable development. These can include misaligned incentives, short-termism, inadequate risk management, insufficient transparency and poor stewardship. Action within the system is particularly important to address a number of critical financing challenges, including:

- **Capital Intensity:** Sustainable development often involves replacing the exploitation of natural capital with human expertise and clean technologies. From a financial perspective, this can mean higher up-front capital costs for investments in buildings, energy and transport, matched by much lower operating costs, ultimately resulting in improved life cycle costings. As a result, finding ways of reducing the cost of capital is a critical task.
- **Speed & Scale:** Current levels of sustainable finance also need to be considerably increased over a short period to meet key time-bound targets. For example, to keep global warming below the 2°C target agreed in Paris, “a sharp ramp up in investment into lower- and zero-carbon energy sources will be required over the next decade”, according to Bloomberg New Energy Finance (BNEF)^{ix}. Global clean energy investment would need to climb almost four-fold from USD1.2 trillion between 2010-14 to USD4.4 trillion between 2021 and 2025, according to BNEF.
- **Extending the Time Horizon:** Delivering these short-term priorities over the next decade requires taking a strategic view, particularly for long-lived buildings and infrastructure. However, financial markets and financial policy can suffer from a ‘tragedy of horizon’ in the words of Bank of England Governor Mark Carney,² discounting future risks in today’s decisions, risking irreversible damage.

The 5Rs of Sustainable Financial System Reform

The UNEP Inquiry has focused on the third of these priority areas—the actions that need to be made within the financial system, notably by rule-makers such as financial ministries, central banks, regulators and standard setters. We have identified more than 200 measures that have been taken to align financial system rules across 60 jurisdictions. Looking across this emerging practice, five common themes have emerged which cut across the key sectors of the financial system—banking, capital markets, institutional investors and insurance. These can be described as the 5Rs: reallocation; risk management; responsibility; reporting; and roadmaps.

1. Capital Reallocation

Estimates suggest that USD5-7 trillion a year is needed to implement the SDGs globally.^x Financing a sustainable economy will require the efficient reallocation of capital to critical priorities including improving access to finance (e.g. small and medium enterprises), raising capital for sustainable infrastructure (e.g. energy, housing, transport, urban design), and financing critical areas of clean tech innovation (e.g. agriculture, mobility, power). Two main areas of practice are worth highlighting here:

- **Policy Directed Lending:** A number of developing countries have introduced requirements to steer bank lending to development priorities. These measures are being updated in the context of sustainable development. In Bangladesh, for example, from 2016, banks will need to allocate 5 per cent of lending to green finance, including energy efficiency, renewables and waste management. This requirement is supported by preferential refinancing facilities and the treatment of green loans as high quality assets in terms of CAMELS (Capital Adequacy, Asset quality, Management quality, Earnings, Liquidity and Sensitivity to market risk). India’s longstanding Priority Sector Lending requirements have also recently been extended to incorporate decentralised renewables.

² Carney termed climate change as the tragedy of the horizon in a recent speech, saying “The catastrophic impacts of climate change will be felt beyond the traditional horizons of most actors—imposing a cost on future generations that the current generation has no direct incentive to fix.” <http://www.bankofengland.co.uk/publications/Pages/speeches/2015/844.aspx>

- **Capital Markets Development:** Increasing focus is being placed on mobilising long-term capital from institutional investors through debt and equity capital markets. The rapid growth of green bonds illustrates how public enterprise and market innovation can combine to mobilise capital for sustainable development. Kicked off almost 10 years ago by leading development finance organisations such as the European Investment Bank (EIB), the International Finance Corporation (IFC) and the World Bank, the market has expanded rapidly on the back of market-based principles and standards, strong investor demand and the introduction of regulatory frameworks in countries such as China and India.^{xi} Total issuance of bonds with proceeds explicitly ring-fenced for green investment reached USD42.9 billion in 2015—with a further USD34.6 billion issued in the first half of 2016.^{xii} In spite of this rapid growth, green bonds remain a very small part of the debt capital markets—where the issue of how sustainability factors influence credit worthiness is rising up the agenda under the theme of risk.

2. Risk & Resilience

The degradation of natural capital can generate risks for financial assets and institutions—and potentially for the financial system as a whole. Environmental risks have been managed by financial institutions for many years. But there is a growing realisation that traditional approaches are insufficient in the face of accelerating environmental threats. The Bank of England has identified three types of environmental risks for financial institutions and the system as a whole:

- **Physical risks:** direct threats to finance from natural hazards, such as extreme events, pollution, soil erosion, water stress and climate change.
- **Transition risks:** indirect threats generated by responses to environmental degradation, including new regulations, shifting market demand, technological innovation and changing societal expectations.
- **Liability risks:** indirect threats created by litigation against financial institutions for banking, insuring or investing in activities that create environmental harm.^{xiii}

The Advisory Scientific Committee of the European Systemic Risk Board has also explored the implications of the low-carbon transition for the financial system—highlighting the value of using scenarios to explore the vulnerability of institutions and the system as a whole to an abrupt repricing of assets.^{xiv} In France, the government plans to incorporate climate factors into the stress tests used to assess the resilience of the banking sector.

After risk analysis lies the critical issue of building resilience to environmental factors into financial decision-making—not least to protect vulnerable communities from declining flows of ecosystem services as well as extreme events. In its role as risk manager, risk carrier and investor, insurance lies at the heart of a sustainable financial system.^{xv} Insurance regulators and supervisors are also starting to take action to manage the environmental and social dimensions of their mandates, particularly focusing on access to insurance and responding to climate change. A new Sustainable Insurance Forum is being set up with the support of UNEP to enable insurance supervisors to share experience and develop common approaches.

Credit rating agencies, including Moody's and Standard & Poor's have committed to integrating environmental, social and governance factors into their assessment of the creditworthiness of bonds^{xvi}. This is clearly critical to deliver more accurate risk pricing. However, integration is not sufficient—with precautionary action needed to anticipate potentially negative implications, particularly in developing countries. Research has shown that environmental shocks could result in downgrades of sovereign bond ratings of vulnerable developing countries. This could bring serious financial implications—including a higher cost of capital for government borrowing—unless preventive action is taken to invest in measures to strengthen resilience to threats such as climate change and food price spikes.^{xvii}

3. Responsibility

Growing numbers of financial institutions are adopting shared principles that guide the integration of environmental, social and governance (ESG) factors. Policymakers are often supporting this process through clarification of how core responsibilities

link to sustainability factors (notably fiduciary duty for investors, corporate governance for enterprises). Work to align financial responsibility with sustainable development has gone furthest in the investment sector.

There is increasing consensus that consideration of sustainability is now part of the fiduciary duty and other obligations of institutional investors. An international review of the practical links between fiduciary duty and sustainability concluded in 2015 that “a failure to consider long-term drivers of investment value including environmental, social and governance issues in investment practice is a failure of fiduciary duty”.^{xviii} In a recent global investor survey, over 65 per cent of respondents agreed that acting on the Sustainable Development Goals was aligned with their fiduciary duties.³

In October 2015, the US Department of Labour became the latest investment regulator to acknowledge that “environmental, social and governance factors may have a direct relationship to the value of an investment” and that when they do “these factors are proper components of the fiduciary’s analysis.”^{xix} In another example of the mutual signalling between the market and policy, a new statement was launched in June 2016 by leading institutional investors making clear that investors must “take account of environmental, social and governance (ESG) issues and support the stability and resilience of the financial system”—and asking for policy clarity at the national and international levels.^{xx}

4. Reporting

Enhanced reporting is a foundational element for the establishment of sustainable financial systems—enabling consumers to pick the right financial products, investors to make informed choices and regulators to assess the threat to the resilience of the financial system from sustainability-related disruption.^{xxi} The financial system also relies on information flows to enable the efficient allocation of capital and to ensure accountability.

Research shows that environmental shocks could result in downgrades of sovereign ratings of vulnerable developing countries. This could bring serious financial implications including higher cost of capital for government borrowing. Preventive action would be to invest in measures to build resilience to threats such as climate change and food price spikes.

Building on a plethora of market initiatives and voluntary codes on reporting, more than a third of policy and regulatory measures taken to build more sustainable financial systems are in the area of disclosure, both for corporations and financial institutions. One of the most ambitious examples of reporting requirements for financial institutions is contained in Article 173 of the French Energy Transition law, which came into effect in 2016. Existing measures for investors to disclose their approach to managing ESG factors were extended to require an explanation of how climate change factors are taken into account and what role they are playing in the energy transition. A number of European countries are also introducing labelling programmes for financial products to improve transparency for consumers.

Internationally, the Financial Stability Board (FSB) has established a new Task Force on Climate-related Disclosures. This Task Force marks a new departure—its first dedicated focus on the financial implications of an environmental issue. It combines the authority of a leading international financial policy institution with private sector expertise with a mandate to develop “voluntary, consistent climate-related financial risk disclosures for use by companies in providing information to investors, lenders, insurers, and other stakeholders.”^{xxii} Launched in December 2015, the Task Force’s first report set out its scope



³ Responses to a survey from investment managers and asset owners across the globe, with USD5.9trillion in assets under management, and interviews with 12 other stakeholders. Research conducted for a forthcoming 2016 PRI and ShareAction publication, *Transforming our World through Investment*.

and objectives. This report made clear that “enhanced disclosures on climate-related risks that are used by investors, creditors, and underwriters can improve market pricing and transparency and thereby reduce the potential of large, abrupt corrections in asset values that can destabilise financial markets.”^{xxiii}

The Task Force has outlined a set of fundamental principles for effective disclosure—that it is relevant, specific, complete, clear, balanced, consistent over time, comparable, reliable and timely. Importantly, the scope of disclosure should include both quantitative and qualitative information, as well as historical and forward-looking statements. The back-loaded nature of many climate impacts means that a focus on future risks is key, and one striking result from the consultation undertaken by the Task Force on its first report was that “96 per cent of respondents see scenario analysis as a key component of disclosure.”^{xxiv} Over 200 responses were submitted, highlighting a range of technical (e.g. comparability), policy (e.g. inconsistency of standards) and behavioural (e.g. short-termism) barriers to disclosure. The Task Force is scheduled to deliver its Phase 2 report to the FSB and for public consultation in December 2016.

5. Roadmaps

At the heart of the Agenda 2030 process is the development of ‘integrated national financing frameworks’.^{xxv} As part of the implementation of the Paris Agreement, the Intended Nationally Determined Contributions (INDCs) submitted in 2015 need to be turned into actual plans, each with a major financial dimension. Dialogue at the national level is critical both to identify real priorities and design roadmaps that fit country needs and circumstances. Most countries have elements of a sustainable financial system in place but these are often disjointed and lack strategic focus.

However, over the past two years, a number of countries have taken a strategic approach to harnessing the financial system. Examples include:

- **China:** The People’s Bank of China established a Green Finance Task Force, co-convened with the UNEP Inquiry, which delivered a 14-point strategy. Green finance has been made part of

the country’s 13th Five Year Plan and specific measures have been introduced to expand the green bond market, with USD8 billion issued in the first quarter of 2016.

- **France:** Building on the 2013 White Paper on Financing the Ecological Transition, France passed its Energy Transition Law in 2015. This takes a comprehensive approach to mobilising finance, with actions in the real economy and financial system. New provisions will improve disclosure, stimulate product innovation and start the process of climate stress testing in the banking sector.
- **Indonesia:** In 2014, the country’s financial services regulator, OJK (Otoritas Jasa Keuangan), launched a Roadmap for Sustainable Finance, setting out key steps in the banking and capital markets sectors through to 2019. Key goals include increasing the supply of sustainable finance and improving risk management and disclosure.
- **Sweden:** In its 2015 Budget, the government made clear that the financial sector should contribute to sustainable development. This strategic commitment is now being cascaded through a number of measures, including action by the Financial Services Authority and the AP system of pension funds.
- **The UK:** On the back of growing market demand and action by the Bank of England on climate risk, in January 2015, the City of London launched its Green Finance Initiative. The initiative is supported by the government, including the Treasury, but is private sector-led. The focus is on improving the role of London as a green finance centre.

Strategic developments are underway in India too, with an initial focus on renewable energy (see Box). The UNEP Inquiry’s report on India, produced in partnership with FICCI and NIPFP, concluded that “the pace of Indian innovation in sustainable finance has accelerated, involving both a range of voluntary market-led initiatives as well as policy actions.”^{xxvi} Following the release of the report, India’s Minister of State for Finance, Jayant Sinha, noted “fully sup-



India—Financial innovations to mobilise capital for sustainable energy

India has among the most ambitious renewable energy targets in the world—designed to deliver economic development, energy access and environmental objectives.^{xxvii} To complement traditional clean energy policies,^{xxviii} India has taken three innovative measures to mobilise private capital:

- **Voluntary financing pledges:** The Ministry of New and Renewable Energy agreed financing pledges with India's banks amounting to 76.5GW of renewable energy.^{xxix}
- **Extending Priority Sector Lending (PSL):** The Reserve Bank of India has included decentralised renewables within its set of priority sectors for bank lending.^{xxx} Early indications suggest that financing for renewable energy assets under PSL has steadily increased.
- **Introducing Green Bond requirements:** The Securities and Exchange Board of India introduced green bond requirements in January 2016 to help fulfil India's commitment under the Paris Agreement by developing new financing channels that could reduce the cost of capital and establish uniform disclosure, thereby facilitating green investment.^{xxxi}

Initiatives such as the International Solar Alliance, which India launched in 2015, could also be a mechanism for sharing experience on new ways of raising capital for clean energy.

port the call for a national green finance strategy to scale up these initiatives".⁴ More details can be found in Rathin Roy's article in this volume.

Importantly, these nationally-led initiatives are leading to efforts to improve international cooperation, for example, within the G20. The G20 brings together the world's leading economies to promote strong, sustainable and balanced growth and is a key forum for setting the rules that govern the global financial system. This year green finance was incorporated for first time into the G20 agenda. As part of

China's presidency in 2016, a Green Finance Study Group was established to "*develop options on how to enhance the ability of the financial system to mobilise private capital for green investment.*"^{xxxii}

All these initiatives have diverse starting points. What they share is a new focus on combining market innovation, policy frameworks and international cooperation to generate the momentum that will shift the trillions needed for sustainable development. Much of this practice is new, but the foundations are being laid for a strategic shift.

Various initiatives with diverse starting points, now share a new focus on combining market innovation, policy frameworks and international cooperation to generate the momentum that will shift the trillions needed for sustainable development. Much of this practice is new, but the foundations are being laid for a strategic shift.

⁴ <http://unepinquiry.org/news/new-report-shows-how-india-can-scale-up-sustainable-finance/>



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3

Financing India's Renewable Energy Targets



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As a part of the Paris climate agreement,¹ India has committed to ambitious action on climate change, pledging that renewable energy will be 40 per cent of the country's expected electricity generation capacity in 2030, along with a 35 per cent reduction in carbon intensity by 2030 from 2005 levels. In addition, India is facing rapidly growing electricity demand, and as a result the government has set ambitious targets for generating more electricity from renewable energy—175 GW of renewable energy by 2022.

Scaling up finance for renewable energy will be crucial to meeting these targets, and public-private

collaboration will be essential to raising the finance needed. While the right domestic policies will be key to facilitating finance, greatly scaling up investment from the private sector will be the only way to mobilise the full amount of capital needed to meet India's renewable energy targets.

Upcoming analysis from Climate Policy Initiative (CPI)² shows that an investment of USD 189 billion would be required for India to meet the 2022 renewable energy targets. Our analysis looked at different classes of investors, and determined that investors—a comprehensive set, including government, private

1 The Agreement within the framework of the United Nations Framework Convention on Climate Change (UNFCCC) established targets for greenhouse gas emissions mitigation, adaptation and finance starting in the year 2020. The agreement was negotiated by representatives of 195 countries at the 21st Conference of the Parties of the UNFCCC (COP 21) in Paris and adopted on 12 December 2015.

2 CPI's mission is to help nations grow while addressing increasingly scarce resources and climate risk. This is a complex challenge in which policy plays a crucial role; <http://climatepolicyinitiative.org/>

sector, financiers, and retail investors—have the potential to invest USD 411 billion, but under current conditions, they will likely only invest USD 166 billion, falling short of the amount required.

This is due to the fact that potential investors face several barriers to investment. If these barriers are appropriately managed via the right policy solutions and investment vehicles, then it might be possible to raise the finance required to achieve India's renewable energy targets.

More financing at better terms is essential to achieving India's renewable energy targets

Conditions for renewable energy finance can vary depending on the technology employed, the developer, geography, or the requirements of the investors themselves. The most important distinction is between investors in the debt markets and those in the equity markets.

Generally speaking, debt investors are more conservative, accepting lower returns in exchange for lower risk. As such, their primary concern is that downsides are limited; that is, that the project does not fail. Equity investors are willing to take more risk in exchange for higher returns, and therefore focus equally on risk and the prospects of a project performing even better than expected.

Under most circumstances, a project would be least expensive when funded by a mix of debt and equity, either at the project level, or secured at the corporate level. Renewable energy financing can become costly when either debt or equity investors demand too high a return or when either is simply unavailable.

Achieving an additional renewable energy capacity of around 136 GW in the next six years will require investments to the tune of USD189 billion with relatively cheap cost of capital. However, there are two key challenges around financing: a shortage of available finance, and financing at unattractive terms. The latter, in particular, is a significant issue for debt finance.

Upcoming CPI analysis shows that the expected investment of USD 166 billion, would fall short by 12 per cent of the amount required by 2022. Even in

an optimistic scenario, expected equity investment is USD 40 billion, 41 per cent lower than requirement; and expected debt investment is USD126 billion, 5 per cent lower than the requirement, with domestic banks providing 88 per cent of the total debt requirement. However, in a realistic scenario, banks' ability to finance debt may reduce to 64 per cent, resulting in a shortfall of 23 per cent in debt financing.

Domestic banks restrict lending flows to renewable energy projects, which limits the availability of debt. Our analysis reveals that less than one third of public sector banks lend to renewable energy projects. The situation is worse for private sector banks where less than one fifth lend to such projects (CPI, 2012).ⁱ

Banks cite a high perception of risk in renewable energy projects as the major reason for not lending. Even among banks that do lend, the amount is restricted. At present, the renewable energy sector is coupled with the power sector, and the commercial banks' gross credit limit for power sector lending is approximately 5 per cent out of the total lending capacity. Between 2005 and 2011, due to large capacity additions, primarily of coal-based power projects, commercial banks in India almost reached their lending limits for the power sector, potentially leaving limited funds for renewable power projects. In addition, inferior terms of domestic debt—high cost (more than 12 per cent), short tenor (around 10 years), and variable interest rates—increase the cost of renewable energy in India by 24-32 per cent compared with the US, as shown in Figure 1 (CPI, 2012). In comparison, in the US, debt costs 5-7 per cent interest rate per year and is available for higher than 15 year tenors. The effect of higher rates and longer tenors is relatively straightforward, given the impact on the cost of capital. Further, variable interest rates can add approximately 4-7 per cent to the cost of renewable projects since long-term PPAs without built-in adjustments for interest-rate variation result in a high degree of uncertainty around equity cash flows for the developer, who may then demand a higher equity return (G. Shramali *et al*, 2013).ⁱⁱ

As is typical for rapidly developing countries, growth in India comes with a need for investment in new infrastructure, which creates competition to raise debt,

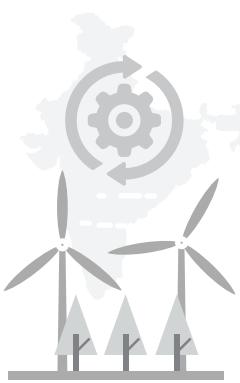
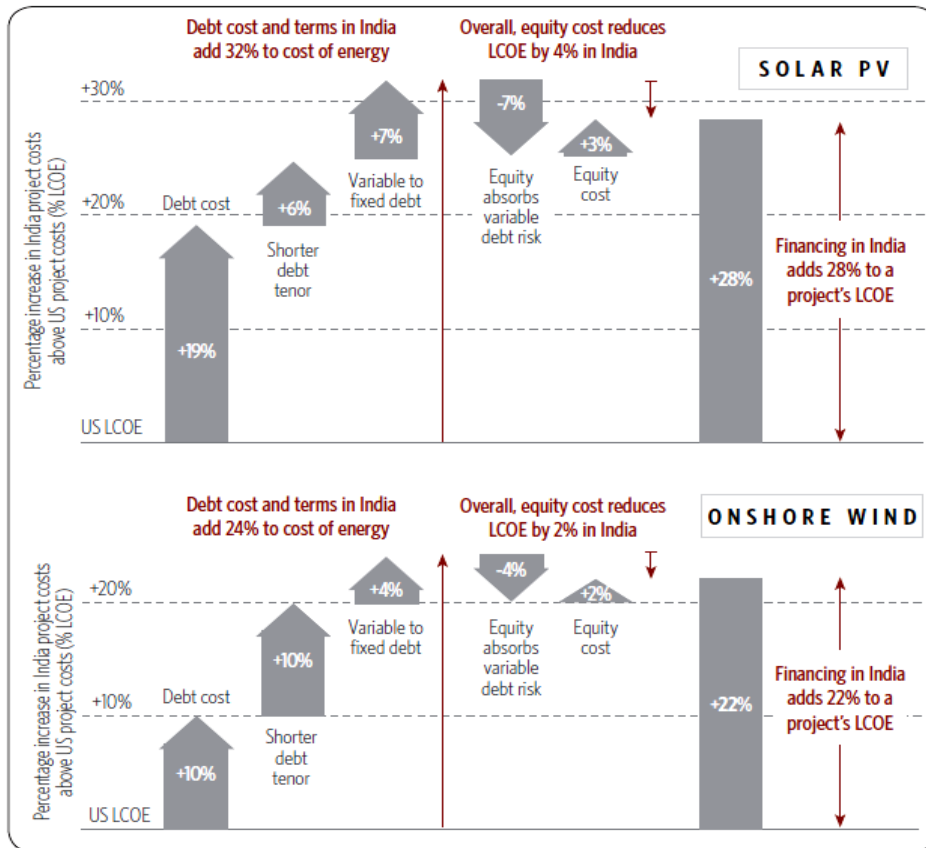


Figure 1: The impact of debt and equity costs and terms in India on overall financing costs compared with a U.S. baseline

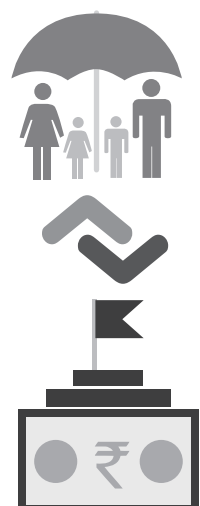


as well as general inflationary pressures that need to be controlled through higher interest rates. As a result, benchmark interest rates in India are significantly higher than in developed countries. Furthermore, uncertainty around the Indian government’s future borrowing needs and the value of the rupee create a longer-term uncertainty that constrains the development of longer-term debt markets.

On the other hand, the flow of foreign debt is constrained due to interest rate ceilings imposed by the government on foreign loans. The ECB³ interest rate (all-in-cost ceiling) is capped at six-month LIBOR + 300 bps for three to five year loans and six-month LIBOR⁴ + 500bps for loans longer than five years. CPI’s analysis indicates the ceiling for typical renewable project loans to be approximately 11.8 per cent (CPI, 2012). For many investors, these conditions may be so stringent as to make investing in

Indian renewable energy unattractive. For example, the lender would need to add 5.5 per cent for a currency hedge/swap from USD to INR and 2 per cent for a term swap to convert the short-term LIBOR loan to a longer term one. Adding the impact of tax on payments, the foreign lender would need 12.1 per cent to make the loan attractive, as against ECB ceiling of 11.8 per cent. This calculation also shows that foreign loans, though cheaper at source, are as expensive as domestic loans, once currency and term swap costs are added.

Limited availability of finance thus requires collective effort on part of both the public and private sectors to mobilise the requisite amount of financing for renewable energy development in India. This is important in the context that government has differentiated but equally important development priorities.



3 An external commercial borrowing (ECB) is an instrument used in India to facilitate the access to foreign money by Indian corporations and PSUs.
 4 LIBOR—the London Inter Bank Offer Rate—is used as a benchmark rate to which a cap of 300 bps or basis points (or 3 per cent) is added

Innovative financial instruments can help drive more private finance to India's renewable energy targets by addressing key investment barriers

There is a need for privately-sponsored investment vehicles that can offer more attractive terms of financing, and are a better match with investors' needs, in order to scale up investment for renewable energy and other green infrastructure.

In response to this need, CPI launched the **India Innovation Lab for Green Finance** in November 2015. The India Lab brings together experts from government, financial institutions, renewable energy, and infrastructure development to identify, develop, and accelerate innovative investment vehicles. Since its launch, the India Lab has received the endorsement of the Ministry of New and Renewable Energy.

In February 2016, after receiving 61 crowdsourced ideas for instruments, the India Lab selected four instruments to move forward for further analysis and design development. The four instruments are:

Loans4SME

India's banking system has traditionally relied on collateral and past track records as key factors in lending decisions. Small and medium enterprises (SMEs) in India often don't meet these requirements, and are thus challenged by limited options for lending sources. Loans4SME offers a solution that could expand the source of domestic debt capital for SMEs beyond banks, to include high net worth individuals, family

investment offices and corporate treasuries. Loans4SME will launch a curated peer-to-peer lending marketplace (Figure 2) that will connect SMEs with debt providers.

The platform will first assess each company via a credit scoring model to ensure that the companies only take on liabilities they can comfortably repay. Once the company lists its credit requirements on the platform, the implementer of Loans4SME will work with both the borrowers and the lenders to structure and close the transaction.

This could address a significant part of the debt finance requirement of USD 132 billion for renewable energy.ⁱⁱⁱ Based on the India Lab's analysis, peer-to-peer lending has the potential to mobilise around USD 44 billion in debt financing for SMEs in renewable energy and energy efficiency by 2022, and USD 2.15 billion of private capital in 2016-2017 alone. Similar peer-to-peer lending models can be extended to other requirements of the SME sector such as, waste water management projects, increasing use of cleaner technologies.

P50 Risk Solutions

One key financing barrier for utility-scale renewable energy is the uncertainty of revenue forecasts. Because the availability of the natural resources can vary, it can be challenging to accurately forecast expected revenue generation. This uncertainty causes lenders to act conservatively, which limits investment and increases the cost of capital.

Figure 2: Peer to Peer Lending Platform

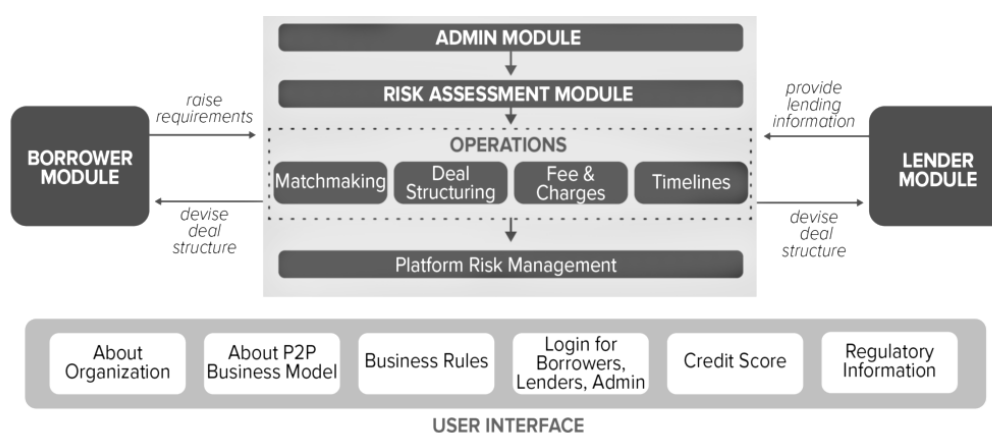
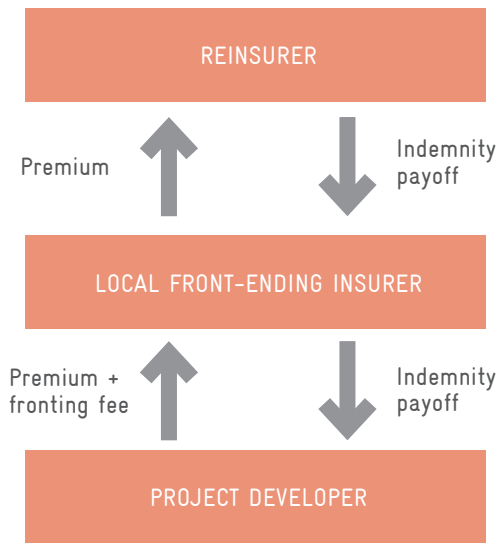


Figure 3: P50 Risk Solutions



P50 Risk Solutions (Figure 3) is a facility which will transfer revenue risk from banks to insurers via a minimum revenue guarantee, allowing projects to be financed on the basis of revenue certainty rather than revenue forecasts. It does so by providing a guarantee mechanism to the project developer whereby it gets compensated to an agreed minimum income level. This increases the level (and reduces the volatility) of the projected revenue with the possible impact of increasing the project debt-equity ratio, reducing the cost of debt, relaxing banks’ conservative lending

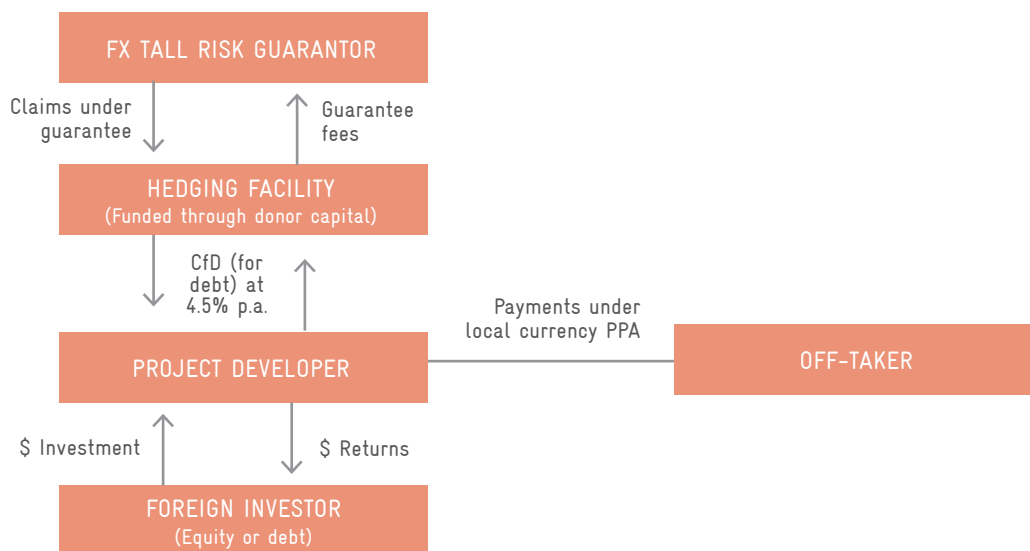
practices and introducing new sources of institutional debt and equity capital.

In theory, the P50 Risk Solutions instrument could be applied to any utility-scale wind, solar and hydro power generation project, and for any risk which banks take account of when financing projects that are dependent upon weather risk. However, we found that the product is more suitable for the wind power sector due to resource variability risk. If implemented at scale, the P50 Risk Solutions facility has the potential to reach a maximum size of INR 37 billion per year up to 2022, and could have a transformational effect on the wind power sector by supporting addition of about 591 MW of new capacity.⁵

FX Hedging Facility

This facility aims to attract more, and cheaper, foreign investment for renewable energy by managing a key barrier: currency risk. In financing a renewable energy project by foreign capital (in USD), the mismatch in the currency of obligations and currency of revenue, exposes the investors/project to the risk of devaluation in the latter over time, resulting in reduced investments in the country due to the higher perception of risk—necessitating the use of a currency hedge to protect against these devaluations. The FX Hedging Facility (Figure 4) is a customisable cur-

Figure 4



⁵ A formidable risk in the renewable energy sector is weather variability, especially for wind energy. Weather variability translates to revenue variability, which has a direct effect on the ability of projects to meet their debt obligations. Banks take a conservative approach to this risk, and this limits the availability and cost of capital for renewables. P50 is designed so that the insurance hedges the ideal energy generating potential of the wind farm, defined as the wind speed applied to the power curve of the turbine, excluding any losses. If the hedged level exceeds the annual cumulative potential, the insurer makes an indemnity payoff to make up for the difference. There is a predetermined maximum cap on this indemnity payoff.

rency hedging product that lowers currency hedging costs by targeting a particular tranche of currency risk, thereby allowing allocation of risks to suitable parties and eliminating the credit risk premium otherwise charged in a commercial currency swap.

The Facility involves structuring of a foreign exchange (FX) tail risk guarantee, which has the potential to spur foreign equity investment to renewable energy in India, and in turn reduce the cost of currency hedging by 22 per cent and has the potential to mobilize USD 28 of foreign debt investment per dollar of donor grant. It provides the following benefits in comparison with a commercial cross currency swap:

- **Elimination of the counterparty credit risk premium:** In a commercial swap, developers typically pay a premium due to their less than perfect credit risk. In our facility, the transaction structure and the upfront availability of the guarantee fee can eliminate counterparty credit risk and reduce the cost of hedging by up to 100 basis points (bps).
- **Elimination of the liquidity risk premium:** In a longer tenor commercial swap, developers typically pay a premium due to the market illiquidity. In our facility, the presence of a donor capital eliminates liquidity risk and can reduce the cost of hedging by up to 60 bps.
- **Targeted subsidy:** The cost of the subsidy, or the guarantee fee, to provide the FX Hedging Facility to a typical foreign debt service payment was calculated as 83 bps, which translates to a leverage of approximately USD 28 dollars for every dollar of public money. Breaking the currency risk into different components provides an opportunity to development finance institutions and donor agencies for targeted risk reduction instead of partially subsidising the overall currency risk. This leads to a more efficient use of public grants as it covers only the targeted extreme currency depreciation.

Rooftop Solar Private Sector Financing Facility

In India, rooftop solar developers are facing two key financing challenges: availability and cost of debt.

This is due to a banking system that is unsure of the credit quality of rooftop solar systems deals, and thus reluctant to lend. In addition, most rooftop solar systems are too small to attract significant investor attention.

The Rooftop Solar Private Sector Financing Facility addresses these barriers by structuring a large number of small projects together so that the aggregate deal size is large enough and of sufficient credit quality to attract more attention from investors. In addition, the facility could demonstrate the commercial viability of the sector, enabling it to issue asset backed securities (ABS) to institutional investors. This securitisation will help reduce the cost of capital compared to conventional financing and drive capital flows through expansion of investor base. The Facility has the potential to add around 500MW of rooftop solar capacity by 2022.

Government-sponsored financial instruments to address currency risk and off-taker risk could also drive more foreign investment, a significant potential source of more finance for renewable energy

In addition to the financial instruments developed under the India Lab, we have developed tailored government-sponsored solutions to help address the key barriers of currency risk (CPI, 2015)^{iv} and off-taker risk (CPI, 2016)^v, in order to drive more foreign investment.

An (alternate) FX hedging facility

This facility is an alternate version of the FX Hedging Facility developed with the India Lab. Foreign debt can increase debt available for renewable energy and can also provide a cheaper source of capital. However, when a renewable energy project is financed by a foreign loan, it requires a currency hedge to protect against the risk of devaluation. Market-based currency hedging in India is expensive, adding approximately seven percentage points to the cost of debt. This makes fully-hedged foreign debt nearly as expensive as domestic debt.

Reducing the cost of foreign debt by reducing the currency hedging cost can mobilise foreign capital

and spur investments in renewable energy by reducing the cost of capital. This would then reduce the delivered cost of renewable energy, making renewable energy more competitive with electricity generated from fossil fuels (CPI, 2012), as well as reduce the government cost of support (CPI, 2014)^{vi}.

The Indian government has shown interest in providing a government-sponsored exchange rate hedging facility. However, the design of the facility would be a large undertaking that has to be carefully considered, given that currency movements can be uncertain and volatile. In providing currency hedging for renewable projects, the government might consider the following questions: What are the expected costs and risks of providing such hedging? How can the government cover unexpected and extreme movements in foreign exchange rates?

We provide insights into these questions by examining a government-sponsored foreign exchange rate hedging facility. Under this facility, the government can provide project developers or off-takers a currency hedging solution through a standalone fund that covers debt payments for underlying USD loans.

Our analysis reveals that the expected cost to provide a 10-year currency hedge via the FX hedging facility is approximately 3.5 percentage points per year, 50 per cent below market rates. At the current capital cost of solar energy, this amounts to 16 per cent of the underlying loan amount. The FX hedging facility would reduce the cost of renewable energy by reducing the cost of debt and, therefore, the cost of capital through a reduction in the cost of debt and an increase in the debt to equity ratio. This would then reduce the total cost of support—the total subsidies required—for renewable energy (CPI, 2014).⁶

The implications for the cost of renewable energy as well as for the cost of support for the government are as follows: If the expected cost of the FX hedging facility is borne by the government, the cost of debt for the developer can be reduced by 7 percentage points, the cost of renewable energy by 19 per cent, and the cost of government support by 54 per cent. If the ex-

pected cost of the FX hedging facility is passed onto the developer, the cost of debt can be reduced by 3.5 percentage points, the cost of renewable energy by 9 per cent, and the cost of government support by 33 per cent.

However, the government should be aware of the risk exposure of the FX hedging facility. Our results show that there are ways for the government to manage the risks to which the FX hedging facility is exposed. One way to protect against the risk of unexpected and extreme movements in foreign exchange rates, and to ensure that the FX hedging facility does not default, is a capital buffer, or a reserve. Based on our statistical model, for example, for the FX hedging facility to achieve India's current sovereign rating of BBB-, the cumulative capital buffer requirement for 10 years would be INR 14.26 million/MW, or almost 30 per cent of the underlying loan amount.

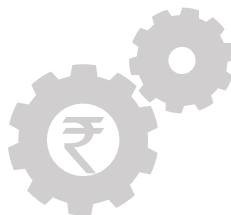
A payment security mechanism

An off-take agreement is a power purchase agreement between a producer and buyer (or off-taker) of power that guarantees that the buyer will purchase a certain amount of electricity. This makes it easier for the producer to secure financing. Off-taker risk is the risk that the buyer/off-taker will not fulfil its contractual obligations. Off-taker risk is a key contributor to the overall credit risk of a power project.

In India, public sector electricity distribution companies (DISCOMs) are the primary off-takers of electricity. However, DISCOMs are in a poor financial state, which is a major concern among foreign investors. State-level DISCOMs, with debt of INR 3.04 trillion and accumulated losses of INR 2.52 trillion, are on the brink of financial collapse. Investors perceive DISCOMs to be at risk of failing to make payments on time. Delayed payments are still a major contributor to off-taker risk.

One solution to mitigate off-taker risk is a government-sponsored standalone fund, called a payment security mechanism that would provide assurance that the payments under power purchase agreements are made on time. In India, there is precedent in the

⁶ This includes: the feed-in tariff (FIT) premium embedded in a renewable energy power purchase agreement; other subsidies such as an interest subsidy; and changes in taxes.



government providing financial support for payment security mechanisms to support power procurement, and a few payment security mechanisms already exist for the government's major solar power initiative, called the Jawaharlal Nehru National Solar Mission (JNNSM), by central public enterprises such as the NTPC Vidyut Vyapar Nigam as well as the Solar Energy Corporation of India.

However, despite these payment security mechanisms, there has not been much interest from foreign investors. This is likely due to two reasons. First, our analysis indicates that current payment security mechanisms appear to be inadequate in covering the risk of delayed payments. But more importantly, and underlying the first reason, even an examination of the adequacy of these mechanisms is not easily possible, because the frameworks for these mechanisms are not publicly available. These two reasons—perception of inadequacy and lack of transparency—may have deterred investor interest.

In order to attract more interest from foreign investors, and therefore better use existing government funds, a more transparent framework for developing payment security mechanisms is required, which can demonstrate adequate risk coverage. As a starting point, CPI developed a potential framework and applied it to an existing payment security mechanism in order to assess its adequacy in risk coverage.

We applied our framework to retrospectively estimate the size of an existing payment security mechanism involving a central solar power aggregator, which buys power from multiple generators and sells power to multiple off-takers deployed under JNNSM Phase 2, Batch 1^{vii}. For the supported capacity of this central aggregator, which was 750MW, we estimated the size of the payment security mechanism using our framework to be INR 4160 million or INR 5.55 million/MW. This is less than 10 per cent of capital costs of the solar power deployed (750MW), but almost three times the size of the existing payment security mechanism for JNNSM Phase 2, Batch 1. That is, our preliminary results indicate that the existing payment security mechanism may not have been adequate in covering the risk of delayed payment from DISCOMs.

This demonstrates the need for the government to provide transparent frameworks for payment security mechanisms, in order to enable assessment of the mechanisms' adequacy in covering the risk of delayed payments. Investors will be more attracted to payment security mechanisms that can demonstrate their adequate risk coverage. The framework that CPI has developed could be a good starting point for the Indian government.

Better policy solutions can also help bridge the financing gap

We also find that the right policies can make a significant difference in managing investment barriers and ultimately facilitating more private investment for the renewable energy sector in India. Policymakers are often required to make decisions by balancing multiple objectives rather than comparing on a single metric. In particular, policymakers face a tradeoff between cost-effectiveness and the potential to incentivise production. Though we provide a detailed comparison of various federal government policies in CPI (2014), cost-effectiveness is the most important.

In the long-term, a combination of reduced cost debt and extended-tenor debt is a very attractive policy for both wind and solar energy. For example, compared with the baseline of unsubsidised levelised cost of electricity (LCOE), a reduction of 3 per cent in the cost of debt and a 7-10 year increase in a 10-year tenor reduces the total subsidy burden by 29-61 per cent. Since the government can mobilise funds at a lower cost compared with private developers due to its much higher credit (i.e., AAA) rating, it is possible to pass on the benefit of this borrowing capacity to renewable project developers at a relatively lower cost than the existing policy mechanisms.

In the short-term, since reduced-cost extended tenor may require a large outlay of capital, an interest subsidy, where the government subsidy would reduce the interest payment on debt, would be a more attractive policy than the existing policies. For example, for solar power, for the same state-level support, an interest subsidy of 10.2 per cent is equivalent to a viability gap funding (a one-time grant) of 30 per

cent; and, compared with this viability gap funding, it would result in a total subsidy reduction of 11 per cent.

The recent Paris Agreement for international action on climate change represents an opportunity, for both India and the rest of the world, to capture the momentum and excitement that has come with the

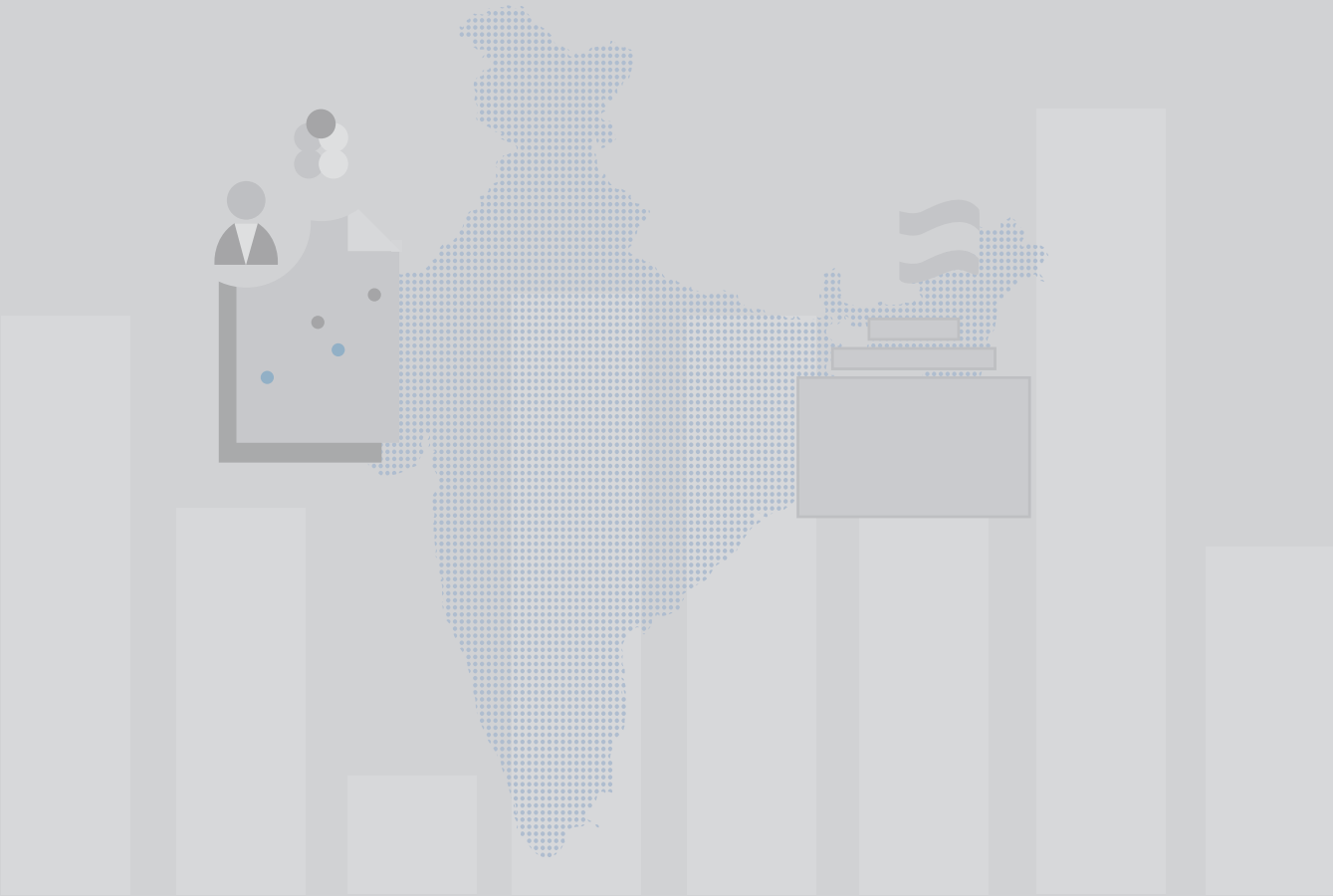
hope for a more climate-resilient future, and channel it into real work and real action. There has never been a better, or more important, time to scale up finance for renewable energy projects and other green infrastructure, and the policy and finance solutions discussed here could provide the stepping stones to cleaner economic growth in India.

There has never been a better, or more important, time to scale up finance for renewable energy projects and other green infrastructure, and the policy and finance solutions discussed here could provide the stepping stones to cleaner economic growth in India



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4

Moving towards a Sustained Mechanism of ESG Integration in Infrastructure Development



>> Vivek Venkataramani

Vivek Venkataramani is Senior Researcher in the Environment and Climate Change (ENCC) team at IFMR LEAD. His focus is on policy research on themes related to climate change, natural resource management and sustainability. In multiple collaborations with bilateral agencies, government departments and research think tanks, he has been working on promoting environmental and social risk inclusion in project financing (infrastructure, power, port, cement, mining projects) through a case study approach, design and evaluation of climate policies, adaptation finance, environmental performance indexation and urban greening.

Introduction

Adequacy of infrastructure is an imperative for economic growth and social development¹. India needs large scale investments in physical infrastructure for accelerating inclusive growth which would lead to a reduction in poverty and better quality of life. The estimated requirement is of INR 31 trillion (USD 454.83 billion) to be spent on infrastructure development² over the next five years, with 70 per cent of the funds needed for power, roads and urban infrastructure³. Other segments include ports, dams, bridges, airports, industrial parks, and building construction and township projects³.

Traditionally, infrastructure financing in India was

almost completely by the public sector. However as the scale of required investment grew, so did India's fiscal imperatives, and the public sector's capacity for financing infrastructure reduced over time. The private sector now constitutes about 40 per cent of the country's infrastructure investment.⁴

Their long-term character⁵, massive capital outlays and the involvement of a multiplicity of stakeholders (often with conflicting interests) in such projects requires that they be designed to correctly reflect the uncertainty (ranging from land acquisition to environmental clearances) and a wide range of risks over their life cycles. If these risks are not anticipated and adequately managed from the outset, it is the financiers who often bear the immediate burden. Given

- 1 The World Bank estimates that a 10 per cent rise in infrastructure assets directly increases GDP by up to 1 percentage point. César Calderón, Enrique Moral-Benito, and Luis Servén, "Is infrastructure capital productive? A dynamic heterogeneous approach," World Bank policy research working paper number 5682, 2009 (worldbank.org); <http://siteresources.worldbank.org/DEC/Resources/84797-1257266550602/CalderonC.pdf>
- 2 India's power sector suffers from a peaking deficit of 14 per cent and an energy sector shortage of 11 per cent. Only 17 per cent of the total road length of 70,548 kilometres in the country's National Highways network is of four-lane standard. The Railways has been beset with outdated technology, saturated routes, low payload-to-tare ratios and slow average speeds of 22 kilometres per hour (kmph) for freight and 50 kmph for passenger trains. Similar situations prevail in ports and airports which are plagued by congestion and inefficiency; Roy, A. (2015). Innovative financing; <http://blogs.worldbank.org/ppps/innovative-financing-case-india-infrastructure-finance-company>
- 3 The government recently set itself a target of INR 25 trillion (USD 376.53 billion) investment in infrastructure over a period of three years, which will include INR 8 trillion for developing 27 industrial clusters and an additional INR 5 trillion for road, railway and port projects.
- 4 The 12th Plan projected a greater role for the private sector, including the Public Private Partnerships (PPP), with projected investments at 48 per cent of GDP; Financing for Infrastructure: See Current Issues & Emerging Challenges (Keynote by RBI Deputy Governor, Harun R Khan, at the Infrastructure Group Conclave of the SBICAP on August 8, 2015, https://www.rbi.org.in/scripts/BS_SpeechesView.aspx?Id=968
- 5 Most of this financing comes from domestic and international banks, where the former do not have adequate long term debt instruments or the capacity for long payback periods, while projects in this sector have long gestation periods. Even in private finance, mobilisation of debt financing for Public Private Partnership (PPP) projects which are usually financed on a 70:30 debt-equity ratio, deployment of the requisite debt resources is a herculean task.

the nature of the sector, unless these projects have inbuilt protective safeguards, they also carry significant risks of damaging the environment, climate, and communities. In the end, it is the society that bears the costs of project failures and overruns leading to missed growth opportunities, apart from the costs arising from adverse environmental and social (E&S) impacts.

Globally, there has been a major shift in attitudes towards sustainability, with businesses and investors incorporating extra-financial performance considerations, i.e. environmental, social and governance (ESG) metrics into their investment decisions. ESG competence is emerging as a good business practice—something that can foster innovation, lead companies to identify efficiencies and manage risk better. Concomitantly, there is mounting evidence to show that attention to extra-financials actually increases brand equity, spurring better company performance. There are several factors actuating this shift. First, escalating societal concerns about climate change and natural resource depletion demand better environment-related practices for businesses (the

E in ESG). There are several international standards and guidelines that investors can consider to improve decision-making processes, for example, United Nations Principles for Responsible Investment (UNPRI⁶), Equator Principles⁶ and the Carbon Disclosure project⁷. Second, social factors (S) such as socio-economic impacts and human rights violations are increasingly recognised as material risks. Further, poor governance (G) is seen as a critical factor in project success.

In India, developments within the ESG ambit have been concerted, but slow on the uptake. The National Voluntary Guidelines on Social, Environmental and Economic Responsibilities of Business (NVGs) promote sustainability measurement and reporting by businesses with the “Apply or Explain” principle. There was a subsequent mandate by Securities Exchange Bureau of India (SEBI) for companies to submit an annual Business Responsibility Report based on the NVGs. This necessitated disclosures by the top 100 listed companies (by market capitalisation) and remaining companies in a phased manner.

Table 1: An illustration of E&S risks in infrastructure projects

Type of Project	Potential Environmental Risks	Potential Social Risks
Ports/Harbours	<ul style="list-style-type: none"> • Destruction of marine ecosystems, biodiversity hotspots, eco-sensitive zones, wildlife habitations and endangered species. • Increases soil erosion due to dredging, landscaping, etc. • Water Pollution 	<ul style="list-style-type: none"> • Displacement of rural communities • Land acquisition with possibility of inadequate compensation
Highways	<ul style="list-style-type: none"> • Acquisition of forest lands resulting in deforestation • Disruption of biodiversity and migratory corridors 	<ul style="list-style-type: none"> • Loss of agricultural lands • Loss of livelihood
Common Effluent Treatment Plants	<ul style="list-style-type: none"> • Ground and surface water contamination • Loss of soil fertility 	<ul style="list-style-type: none"> • Land acquisition with possibility of inadequate compensation • Health hazards in the neighbourhood
Construction Projects	<ul style="list-style-type: none"> • Loss of wetlands/marshlands • Groundwater depletion due to overexploitation • Air and noise pollution during construction and operations 	<ul style="list-style-type: none"> • Slum clearance • Loss of livelihood due to relocation • Health hazards due to air and noise pollution

6 Equator Principles; www.equator-principles.com

7 The CDP releases reports annually on the disclosures provided by its signatories on the ESG policies and efforts across key thematic areas like Climate Change, Forests, Supply Chain; <https://www.cdp.net/en-US/Results/Pages/reports.aspx>



ESG concerns for the Indian infrastructure development sector

Understanding the key environmental and social impacts associated with development projects in India would underscore the risks that banks and FIs have to deal with. Table 1 outlines some of the key indicative impacts concomitant to infrastructure projects.

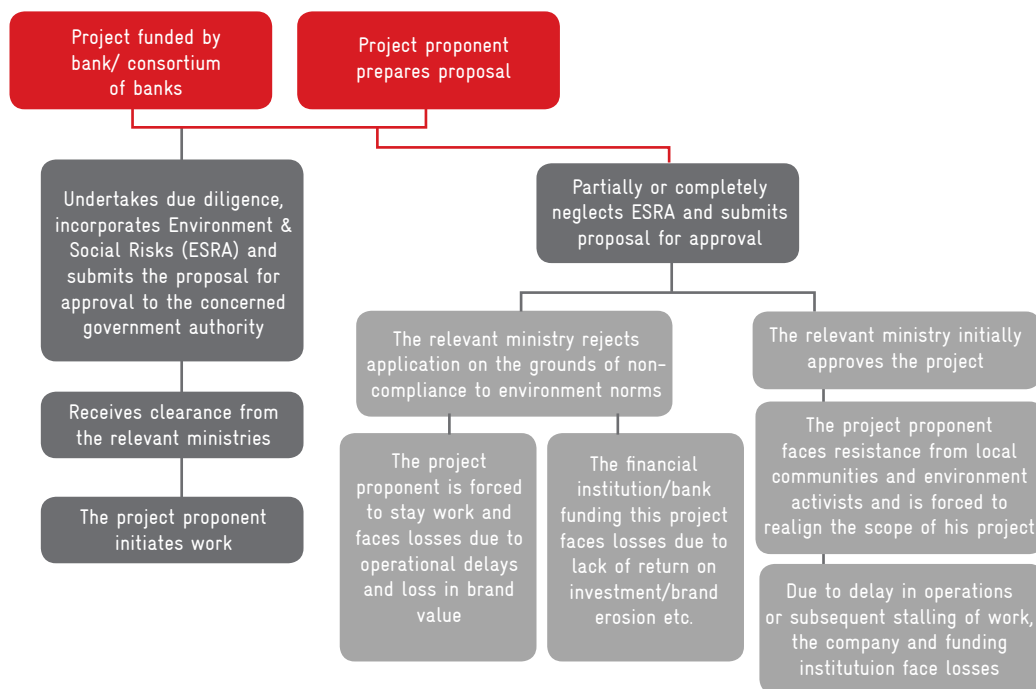
While it is the banking sector that has played a pivotal role in financing infrastructure in India, this source is facing a severe constraint due to a significant rise in stressed assets on banks' balance sheets⁸. The outstanding bank credit to the infrastructure sector⁹, stood at INR 10,074 billion in March 2015 and the gross NPAs and restructured standard advances, together as a percentage of total advances to the sector, increased from 5.1 per cent (at INR 193 billion) at the end of March 2010 to 22.8 per cent (at INR 2,222 billion) by the end of March 2015.ⁱⁱⁱ

The piling up of bad loans is mainly driven by advances to infrastructure and mining sector companies whose projects are stalled or faltering, according

to a 2015 report by the Rights and Resources Initiative (RRI)^{iv}. Their study suggests the problem is not delays in environmental clearances and land acquisition, as is commonly perceived. Rather, it is because of lax regulation at both the clearance level and the credit giving agency level. According to the Centre for Science & Environment (CSE), between 2007 and 2014 “almost all environmental clearance applications were cleared” while “94 per cent of proposals seeking forest clearance were approved”.¹⁰

In India, the environmental aspects of project finance deals are governed primarily by compliance to legislation. A project developer is required by law to undertake an Environment Impact Assessment (EIA) to obtain environmental clearance, which is the major prerequisite for starting projects and demanded by banks in all project finance deals in India. This has been done as an obligation and there has been hardly any initiative from either banks or project promoters to incorporate environmental management systems as an integral part of projects. Figure 1 indicates the typical project initiation process and how it can follow two courses depending on whether due E and S diligence has been undertaken or not.

Figure 1: Snapshot of project initiation process



8 While public sector banks' share to infrastructure loans as a percentage of total advances is about 18 per cent, their share in stressed advances is about 31 per cent. Private banks have an 8.4 per cent share to infrastructure loans, while the stress per cent from this segment is 18.2 per cent; <http://www.firstpost.com/business/rbi-financial-stability-report-infra-bomb-ticking-state-run-banks-books-2313230.html>

9 Primarily comprising power, telecommunications and roads

10 Karnika Bahuguna, Banks at a loss, Down to Earth, 15 March 2016; <http://www.downtoearth.org.in/news/banks-at-a-loss-53083>

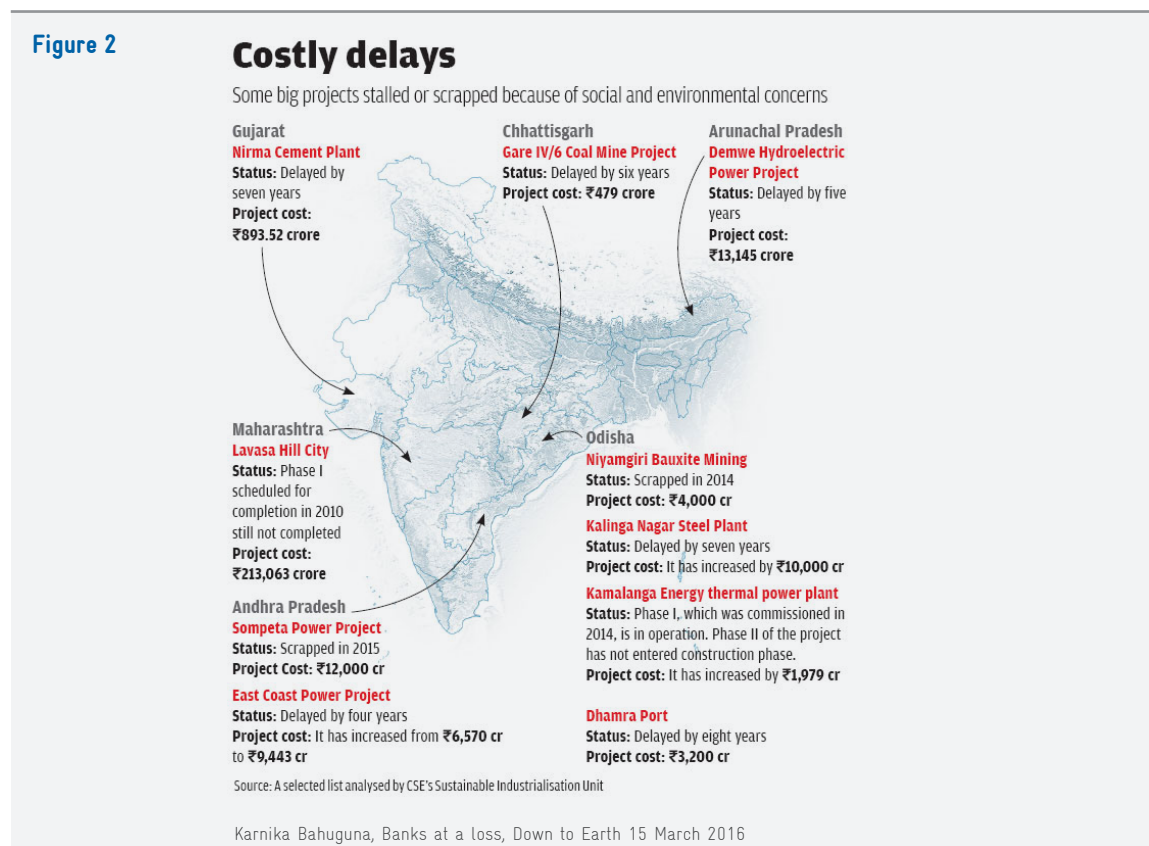
The governing law¹¹ for regulating and penalising environmental damages and conserving the environment is also assigned the role of providing clearances for development projects. Under this Act, the Environmental Impact Assessment (EIA) Notification, passed in 1994^v and later amended in 2006, includes mandates that need to be followed during the preparatory stages of development projects¹². However, recent amendments have led to a weakening of requirements of environmental clearances or community consultations, either by raising the project size threshold for central level clearance (leaving it to state authorities) or by re-categorising and exempting certain types of projects^{vi}.

There is plenty of anecdotal evidence of approved projects running into controversies and obstacles even prior to construction and operations. Such projects assign high visibility to both the project developer and the financing institution and controversies

arising from such projects' E and S problems can result in high brand erosion and financial losses. These controversies arise largely due to environmental and social issues affecting local communities, which are often identified and highlighted by civil society organisations, resulting in extended litigation as well. Figure 2 captures a snapshot of projects that were stalled due to environmental or social concerns.

Bottlenecks to incorporation of ESG concerns

Such experiences have increased awareness and perception among banks, FIs, and even project developers on the indirect impact of their lending operations and projects, although the country has so far witnessed only a weak effort towards integrating environmental and social concerns. Figure 3 indicates some of the inter-related bottlenecks that obstruct the uptake of ESG criteria in project development.



11 The Environment Protection Act, 1986, Ministry of Environment and Forests, GoI; http://www.moef.nic.in/downloads/rules-and-regulations/eprotect_act_1986.pdf

12 Schedule I of the original notification includes two categories (A & B) which delineate the types of projects that require environmental clearances from the government. While 'Category A' projects require clearances from the Central Government, 'Category B' projects require theirs from the relevant State Government. 'Category B' has further been sub-divided into B1 and B2 wherein the former necessarily have to conduct an EIA and the latter not. The sector-wise categorization of activities that require national and State level environmental clearance are provided in the Notification released by the Ministry of Environment (MoEF&CC); <http://envfor.nic.in/legis/eia/so1533.pdf>

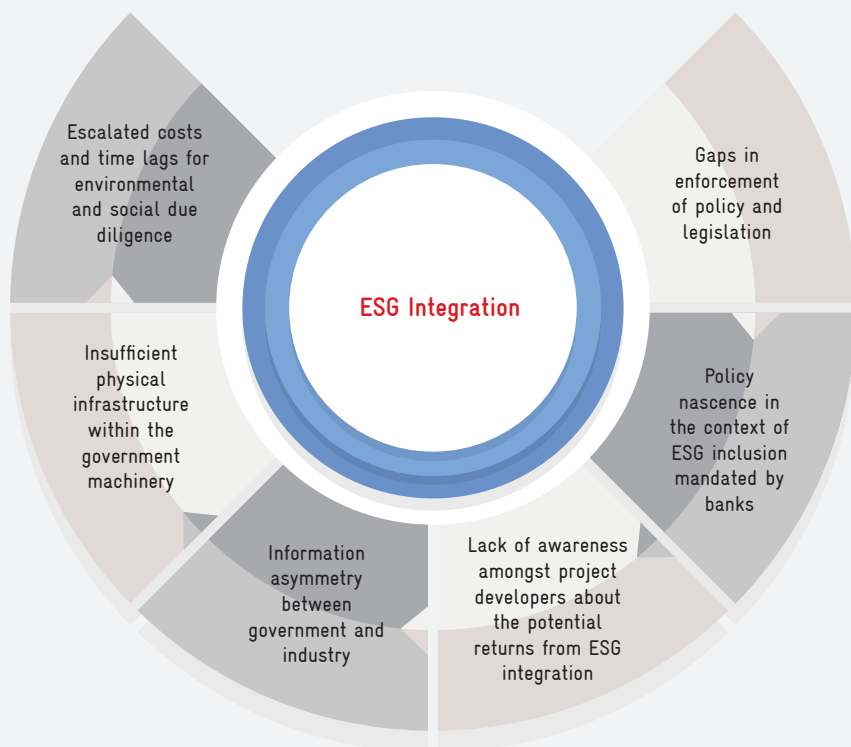
Gaps in the enforcement of policies and legislation: Minor discrepancies in the reporting of facts often result in major differences in the way a particular proposal of a development project is treated. This leaves scope for misrepresentation or misinterpretation of facts which can lead to evasion of mandatory clauses and assessments.

Policy nascence in the context of ESG inclusion: Indian banks typically do not mandate incorporation of ESG parameters in project proposals submitted to them. This due to several factors such as inconsistencies in the provision of environmental clearances and enforcement of other legislations; inadequacy of physical infrastructure (public and private) to collect information on ESG issues; non-availability of robust ground level data about such indicators; and infancy in the central bank's policies w.r.t. ESG integration.

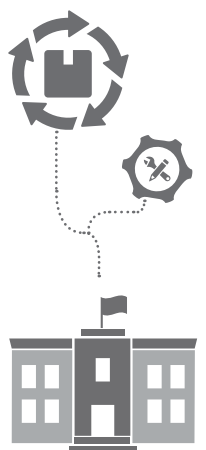
Lack of awareness among project developers about the potential returns from ESG integration: Project developers often do not care to invest time and resources to undertake detailed assessments of environmental and social impacts of their proposed projects as required by law. This can also be attributed to the lack of emphasis given to ESG criteria and understanding of potential financial and non-financial benefits that they might accrue through the proactive incorporation of ESG guidelines.

Information asymmetry between government and project developers: This hampers the process of clearances and project initiation. Government agencies lack expert personnel and resources for efficient and comprehensive E and S data collection and developers lack the time and incentives to carry out an exercise for which they don't yet understand a clear business case. In either case, records between both parties often do not match, leading to reassessments and additional rounds of data collection at the ground level.

Figure 3



Source: Author's analysis



Dhamra Port Case

The Dhamra port was considered to be a "Minor" port^{vii} according to the Indian Ports Act, 1908. This brought the port under the purview of the state government while "Major" ports are governed by the Central government. Minor ports are exempt from the process of environmental clearance under Environmental Impact Assessment (EIA) Notification of 1994. In reality, however, most minor ports are large in costs and scale and would require undertaking an EIA. Ports certified as minor will have to conduct an EIA and seek clearance under another law viz. the Coastal Regulation Zone (CRZ) Notification, 1991. But this does not mandate any public hearings, which did not allow the local communities to participate in the environmental clearance process. An amendment in July 1997 to the CRZ notification transferred environmental clearance of port projects from the Ministry of Environment and Forests (MoEF) to the Ministry of Surface Transport. This made the case easier for project developers to acquire environmental clearance. There was a conflict of interest between port development and environment conservation, and environmental clearance was provided to the project although this amendment was reversed after that in August 2000. The clearance was opposed by the Orissa Beach Protection Council (OBPC), which filed a petition with the National Environment Appellate Authority (NEEA). The NEEA, overlooking many facts regarding the project site and its environment, upheld the port's clearance. There were petitions filed by other organisations, which remained pending for a long time before being rejected. Owing to several controversies during the construction phase, the first phase was delayed by eight years and the project proponents, Tata Steel and Larsen and Toubro (L&T), faced severe brand erosion and decline in share prices in 2009 when the controversies had peaked. Dhamra Port Corporation Limited (DPCL) which was a joint venture between these two companies had to allocate INR 30 million towards wildlife and habitat conservation in the region. The project's financial closure was delayed by more than four years. While the construction was to start by the end of 2000, the project achieved financial closure only in February 2005.

Nirma Cement Plant, Gujarat

In the case of Nirma Cement Plant in Mahuva district, Gujarat an important point of contention was whether the proposed cement plant was on a water body, viz. the Shensuri River and the catchment area of the Bhandara reservoir or a wasteland (as claimed by Nirma Ltd.). This was an issue of providing land use records for the project site and peripheral areas which were inadequate during that period. After several years of a legal battle led by Shree Mahuva Bandhara Khetiwadi Pariyavaran Bachav Samittee (representative organisation of the local farmers) the National Green Tribunal in 2015^{viii} declared that the site was actually a wasteland and hence reversed the cancellation of EC by the central environment and forests ministry to the Nirma Cement Plant.

Insufficient physical infrastructure within the government machinery: The physical infrastructure for recording and monitoring environmental data at the district, village or hamlet levels is inadequate in several states. For instance, in Tamil Nadu, air pollution levels are monitored across industrial clusters^{ix}, but information at the district/village level is still unavailable. Given the slow penetration of monitoring

stations, secondary data can be quite unrepresentative of the proposed project site. Even states which have sufficient infrastructure, may not necessarily measure a comprehensive list of environmental indicators. The government machinery responsible for recording such data usually has a very rudimentary mandate for maintaining databases and therefore the information may be totally out of context with respect to any particular project. This is one of the biggest barriers to collecting secondary data around the project site within the given project plan period.

Escalated costs and time lags for environmental and social due diligence: Due to inadequacies and data gaps in basic parameters at the district or the village levels, project developers are often forced to undertake extensive primary surveys related to water, air, soil, socio-economic impacts, etc. which are time and cost consuming. This is often outsourced to external consultants where accountability can pose a concern.

Impact of non-inclusion of ESG criteria in project proposals

Several controversies have been witnessed in the last two decades of projects proposals not carrying

out comprehensive environmental and social assessments. Most of them have suffered severe delays in construction, clearances, operation and financial closure. This has resulted in brand erosion, unforeseen costs for ground level assessments and loss of committed capital and opportunity loss of investment. Two cases are mentioned below as an illustration.

Bhaironghati Hydro Power Project, Uttarakhand

The construction of a gravity dam in the Uttarkashi district over the Bhagirathi River (a tributary of the Ganges) became controversial due to its environmental risks and disregard to the cultural belief system of the local communities. This project was initiated by National Thermal Power Corporation (NTPC) in 2003 and was to be completed by 2008. In February 2008, the Detailed Project Report (DPR) of the project was returned to the Uttarakhand Jal Vidyut Nigam Limited (UJVNL) due to insufficient clearances^x. Geological investigations were initiated and local communities staged widespread protests opposing these hydropower projects. In March 2010, the Group of Ministers (GoM) headed by the then finance minister decided to shelve the Bhaironghati project due to its anticipated environmental consequences. Work had already begun on the construction of the hydropower project by the time the project was scrapped. The project was funded through a debt-equity ratio of 70:30 and all the expenditure incurred thus far was INR 209.2 million and additional committed liabilities of INR 38 million. Protests by local communities and conservationists also led to the shelving of other projects in the region, which was declared an eco-sensitive zone¹³ in 2012 by the Ministry of Environment, Forests and Climate Change (MoEF&CC).

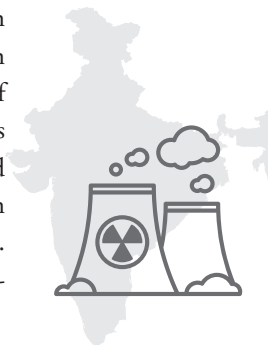
Vedanta Aluminium, Odisha

Sterlite Industries India Limited (SIIL) signed a Memorandum of Understanding (MoU) with the Odisha government in 2003 for setting up an integrated Alumina and Aluminium complex at Lanjigarh in Kalahandi district of western Odisha. The project cost was estimated at INR 40 billion. SIIL's subsidiary, Vedanta Alumina Limited, was the pro-

ject promoter. In order to ensure control over the supply of bauxite from Niyamgiri, Vedanta signed an agreement with the Odisha Mining Corporation Limited (OMCL) and became joint owner of mined bauxite from the Niyamgiri mines. The Vedanta Alumina refinery at Lanjigarh became operational in 2007, with a refining capacity of 1-mpta and the company also applied for an expansion to 6-mpta. However, it started expansion work on the refinery plant without the permission.

The lack of due diligence and consideration of E & S issues led to persisting protests and controversies against the project, with severe consequences for the project developer and its financing institutions. Amidst rising allegations against Vedanta, the MoEF appointed the Saxena Committee in July 2010 to investigate the ground realities and impacts of its projects. The committee concluded that the project had grossly violated the Forest Conservation Act (FCA), Environment Protection Act (EPA) and Forest Rights Act (FRA). It had serious environmental implications and had violated provisions that protect the tribal community. Most importantly, the Environmental Impact Assessment (EIA) study that was sponsored by Vedanta Alumina was grossly inadequate as it did not appreciate the ecological importance of the Niyamgiri hills and also failed to quantify the social and ecological damage from mining.

In 2010, the MoEF denied permission for any mining activity by Vedanta at the Niyamgiri hills and withdrew the environmental clearance for the expansion of the refinery along with the power plant. With no mining allowed and expansion of the refinery on hold, the company was left with the Lanjigarh 1-mtpa refinery, which is dependent on bauxite imported from other states. The stay on the expansion of the Lanjigarh refinery and power plant resulted in blocking of INR 100 billion of financial resources, of which 50 billion had already been invested, whereas the remaining half got stuck in the pipeline. Brand Vedanta took a beating with widespread criticism from environmentalists, civil society, and the media. Various international funds withdrew their investment in Vedanta.



¹³ This region had been declared as an eco-sensitive zone in December 2012 as per the Environment Protection Act, 1986, <http://www.downtoearth.org.in/coverage/insensitive-to-sensitive-zone-41626>

The refinery plant in Lanjigarh had to be run on bauxite bought from 14 different mines across Gujarat, Jharkhand, and Chhattisgarh. This was an expensive alternative for a plant that was conceptualised to operate on bauxite lying just 3 km from the plant¹⁴. The controversy also resulted in the dragging other projects of the company. It had committed capital expenditure plans of INR 360 billion for projects in Odisha. Since the company does not have bauxite mining clearance and given the tight supply environment, the company had to defer initiation of other planned smelters in Lanjigarh, Jharsuguda (Odisha) and Korba (Chhattisgarh)¹⁵.

Emergence of ESG integration in infrastructure lending in India

Although most banks and FIs are not signatories to any international ESG guidelines or principles, a few banks have voluntarily signed up for these or have developed similar policies internally. YES bank and Infrastructure Development Finance Company (IDFC) are examples.

IDFC was one of the first institutions which had set up an Environment Risk Group (ERG) to manage such assessments and incorporation. It was also the first financial institution in India to adopt the universally accepted Equator Principles (EP) in 2013. IDFC also reports annually, its measures towards integration of environment and social risks analysis (ESRA) to FIs such as the International Finance Corporation (IFC), Asian Development Bank (ADB) on projects financed through their lines of credit. These FIs have their own sustainability frameworks that need to be adhered to, in order to receive funding.

YES has an Environmental and Social Policy (ESP), which draws guidance from the Equator Principles, IFC guidelines, and other best practices, and provides a 360-degree risk-mitigation framework for ESG. It covers thematic impacts such as air, water, land, flora, fauna and biodiversity. The policy also covers negative impacts on the environment due to project financing activities such as pollution, land water and ground water depletion, deforestation and habitat destruction.

Another pertinent framework for environmental and social safeguards in India is that of the India Infrastructure Finance Company Limited (IIFCL), an innovative financing vehicle created by the government and registered as a Non-Banking Finance Company primarily to provide long-term debt to PPPs. IIFCL's E&S safeguards framework (ESSF)^{xi} is committed to complying with all relevant environmental and social policies, laws, and regulations in India, and is responsive to E&S safeguard policy requirements of DFIs (development finance institutions) wherever their line of credit is involved.

The ESSF applies to all projects financed by IIFCL through direct lending and refinance operations, and to public and private sector projects. All lead banks and sub-borrowers who seek financial assistance from IIFCL are required to conduct business in a manner that is compliant with ESSF, which is integrated with the project cycle of IIFCL. On a standalone basis, IIFCL has made cumulative gross sanctions of over INR 697 billion under direct lending to more than 390 projects and has made cumulative disbursements of over INR 497 billion, including disbursements under refinance and take out finance, as on 30th June 2016.

A typical example of an international bank adopting sector-specific frameworks to integrating ESG risks to evaluation and financing projects is that of Barclays bank. They provide sector specific briefs on the steps to be adopted while assessing ESG risks. The bank has classified infrastructure projects into ports, harbours and marinas, dams and reservoirs, airports, property, pipelines, linear transport infrastructure, etc. and has clearly delineated guidance^{xiii} on ESG criteria during each of their construction and operation phases. Although this is something that they follow across all their project financing activities, the bank is yet to make a significant headway in India in terms of its market share.

Such voluntary E&S initiatives provide these institutions and project developers an edge over others and help save time and costs in terms of preventing controversies and ensuring timely clearances. This can

14 Jairam says no to Vedanta, NDTV, 24 August, 2010; <http://www.ndtv.com/article/india/jairam-says-no-to-vedanta-mining-project-in-orissa-46736>

15 Vedanta defers 36000 crore expansion, DNA, 8 October, 2010; <http://www.dnaindia.com/money/1449218/report-vedanta-defers-rs36000-crore-lanjigarh-expansion>

also help them leverage international finance which requires full adherence to ESG standards. That said, however, the adoption of E&S frameworks is still extremely limited in India. A key perception among the financial sector community is the downside of such screening—that it could also lead to project proposals being rejected on E & S grounds, resulting in loss of potential clientele to banks. However, it cannot be overemphasised that over time, such scrutiny would only strengthen the long-term performance of their portfolio.

The next section discusses factors that would facilitate wider adoption of such safeguards in infrastructure financing in the country.

Facilitating factors

Role of government in ensuring robust policy and regulatory enforcement: The government has a significant role to play in ensuring environmental and social due diligence along with developers and financial institutions. This is because the central ministry (MoEF&CC) is the nodal agency for providing project clearance. This clearance is demanded by banks in all project finance applications in India as it is a prerequisite for commissioning projects. The government could not only impose well-defined and comprehensive norms and assessments but also enforce proper incorporation of the same into its project clearance process.

Role of Financial Institutions in raising ESG benchmarks for project financing: It is important to note that most ground-level assessments are taken up as a compliance requirement for clearances and there has been virtually no comprehensive initiative from either banks or project promoters to incorporate ESG parameters as an integral part of development projects. This has been the case in most projects funded by Indian banks and FIs wherein, apart from select pollution-related criteria, no comprehensive studies

are mandated on the project developer for availing finance.

However, in the case of projects funded by international FIs such as the International Finance Corporation (IFC) strict adherence to their performance standards is required at all stages of project development and operations. While the government definitely needs to better enforce such criteria, banks too need to become more proactive in adopting ESG guidelines and understanding their business case in the long run. Financial institutions need to understand the reputational risks and the possibility of losing potential avenues of international finance and losing out on competitiveness in the domestic market due to lack of ESG standards. Banks and FIs could develop an ESG policy or adopt universally accepted benchmarks and thereafter work on enhancing internal capacity to implement such policies in a sustainable manner. Wherever there is a question of lack of financial resources or capabilities for smaller clients/project developers, for example in the social infrastructure space, to adhere to such policies, a collective approach to their capacity building would be highly beneficial.

Role of researchers and academia in producing empirical evidence: It would be very useful to establish the correlation between ESG inclusion and financial benefits and sustainable performance in the long run. This would have to be proven empirically using data from project developers and financing institutions, which may prove to be a challenge. A 2013 study by CKinetics^{xiii} had suggested a model to link and quantify the potential financial impact due to a change in E&S disclosure and reporting measures and indicated that proactive integration of ESG parameters would benefit project developers' long-run performance. Substantial empirical evidence can help build the case with the RBI for introducing stronger mandates regarding ESG.



While the government definitely needs to better enforce such criteria, banks need to become more proactive in adopting ESG guidelines and understanding their business case in the long run



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5

Sustainable Banking Network: An Innovative Knowledge Platform for Banking Regulators and Associations



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“When the last tree has been cut down, the last fish caught, the last river poisoned, only then will we realise that one cannot eat money” — Native American Saying.

Introduction

Banks continue to be the main channel for funding the private sector in emerging markets. Due to this influential role, the banking sector is emerging as a critical game changer in achieving green and inclusive economies. Green banking, also referred to as sustainable finance, is a new global trend that encourages banks to consider environmental and social impacts in their lending decisions as well as how they design new products and services with positive benefit. Green banking therefore spans two important aspects of banks’ business operations: on the loan origination side, by encouraging lending to businesses that are environmentally friendly and socially responsible; and on the risk side, by avoiding or mitigating harm to the environment and people from the projects banks finance.

Against this backdrop, financial sector regulators and industry associations in emerging markets are taking the lead, including Reserve Bank of India (RBI) and the Indian Banks’ Association (IBA), which recently joined the IFC-facilitated Sustainable Banking Network.

This article highlights international trends in sustainable finance and work undertaken by the International Finance Corporation (IFC) and regulators and banking associations from emerging markets to promote the competitiveness of local banks through environmental and social risk management (ESRM) and innovative financial products that benefit people and the environment. This discussion can help India decide which course it should take to promote sustainability in its banking sector.

Sustainable Finance: The IFC Experience

Environmental and social (E&S) risks to financial institutions stem largely from issues related to their clients’ and investees’ operations (Figure 1). These

risks can translate into costs and losses for banks by affecting the ability of clients to repay loans and by impacting the bank's own reputation.¹ Because E&S risks can also indicate higher levels of overall project risk and poor management capacity, considering these risks in the transaction review process helps financial institutions reduce their overall risk exposure.

IFC's experience and leadership in creating and applying high E&S standards in private sector investments has shown the value of effective ESRM while

also demonstrating innovative and profitable business models. Examples include support for renewable energy, energy efficiency and access to finance for women entrepreneurs. In some countries IFC has engaged with the banking regulators or banking associations to develop national guidelines and sector-specific tools to help banks manage their E&S risks. In other countries, IFC has engaged with its existing financial sector clients to build internal systems for managing E&S risk and offer credit lines focused on sustainable businesses and sectors.

Fig 1: E&S risks for FI Business

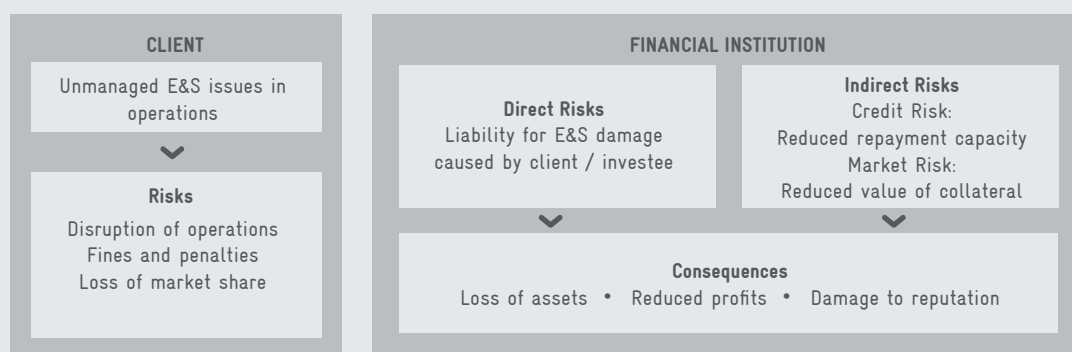
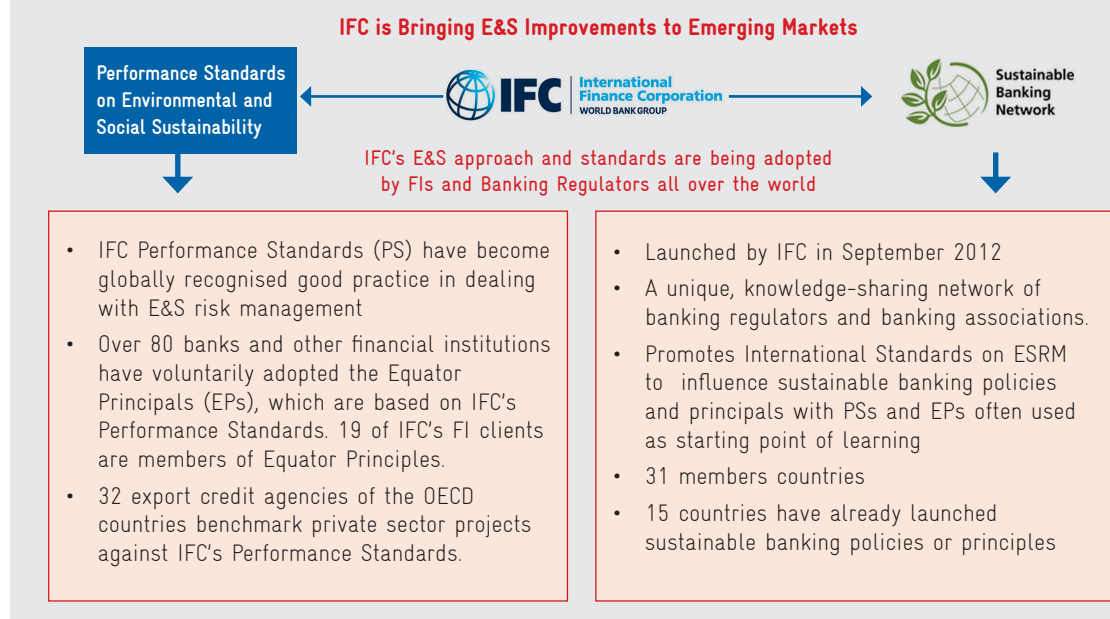
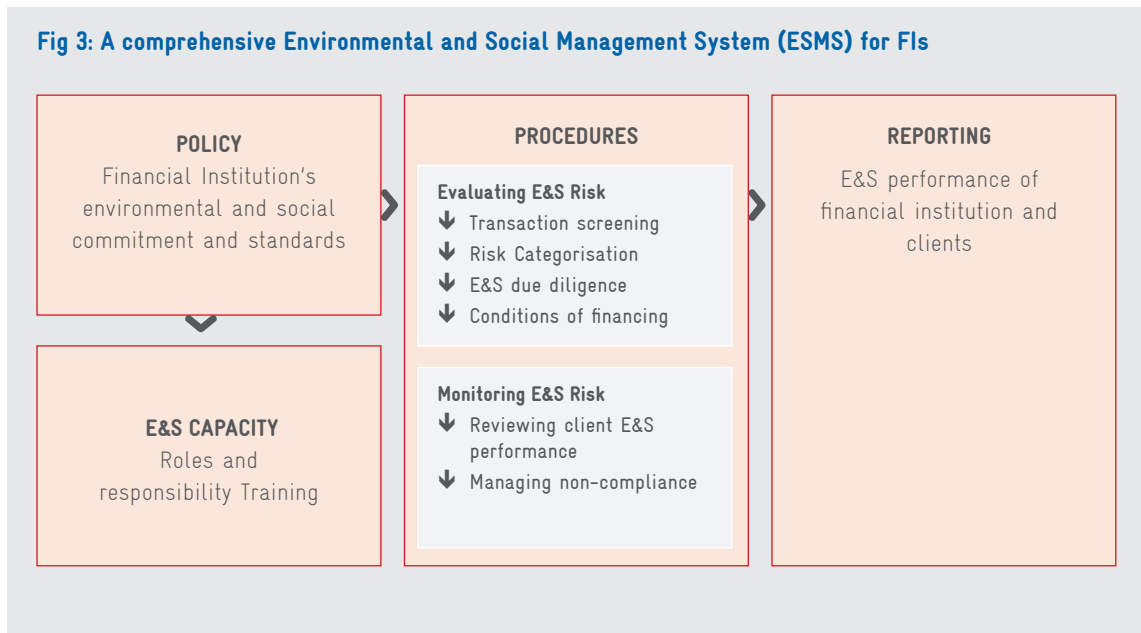


Fig 2: IFC Model of engagement



¹ IFC, 2016, FIRST (Financial Institutions: Resources, Solutions and Tools) for Sustainability is a one-stop web portal for financial institutions to get information and learn about the benefits of environmental and social risk management and how to identify and take advantage of environmental business opportunities. It was developed by IFC with support from the Government of Finland and Sweden and can be accessed through <https://firstforsustainability.org>

Fig 3: A comprehensive Environmental and Social Management System (ESMS) for FIs

The Sustainable Banking Network

The Sustainable Banking Network (SBN) is a unique, voluntary community of financial sector regulators and banking associations from emerging markets committed to advancing sustainable finance in line with international good practice. The Network facilitates knowledge sharing and capacity building of members, and supports them in policy development and related initiatives to create drivers for sustainable finance in their home countries.

The Network now includes 31 countries, representing more than 85 per cent of the banking assets across emerging markets and can play critical role to deliver on the green growth agenda. Latin America Banking Federation (Felaban) representing 19 countries from LAC, joined SBN as a partner member in 2016, demonstrating the emerging trend of regional integration and collaboration on sustainable finance. 15 countries have launched national policies, guidelines, principles, or roadmaps on sustainable finance. IFC provided strategic and technical advisory services to support the development of those country-specific policy/guidelines and to harmonise them with international good practices, in particular, IFC Performance Standards and Equator Principles. The Indian Banks' Association (IBA) is one of the newest members of the SBN family.²

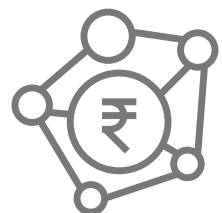
Barriers to sustainable banking

Experiences from both G20 and non-G20 country members of SBN indicate consistent general challenges faced by banking regulators and banking associations that are engaged in creating national enabling frameworks for sustainable banking. These insights are reinforced by an IFC survey conducted in more than 25 countries over the past four years as well as through IFC's collaboration with 800-plus client financial institutions over the past two decades, representing 10 per cent (USD5 trillion) of emerging markets banking assets.

The common barriers include

- a. defining and measuring sustainable banking
- b. embedding sustainable banking in banks' core business
- c. creating business drivers for sustainable banking
- d. promoting information flow to enable sustainable banking
- e. building capacity among regulators and banks

Defining and measuring sustainable banking: Sustainable banking is an evolving concept. Definitions differ across communities of practice and according to local culture and context. The term is generally understood by SBN members to include three optional components, depending on local preferences:



² See full list of members at http://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability+and+disclosure/environmental-social-governance/sbn_members

i) E&S risk management in investment and lending processes; ii) lending and investment to green industries/projects and seeking positive E&S impact; and iii) how banks manage their own E&S footprints, such as greening their facilities and undertaking corporate social responsibility initiatives. The first two components are considered core, although weighted differently based on context and whether social dimensions are included. While the understanding of E&S risk management is now well defined, the definitions of lending with positive E&S impact, and the various models associated with this, can vary widely from country to country. In addition, there is currently no systematic approach to measure and benchmark the progress and performance of sustainable banking at a global level. This is made more difficult by inconsistent definitions and inadequate data availability, as well as the capacity and resource requirements associated with monitoring and evaluation.

Embedding sustainable banking in banks' core business: Banks surveyed by IFC in 25 emerging markets emphasise that senior management support is critical for ensuring company-wide buy-in and for reinforcing structures for E&S risk management and sustainable banking. While there is growing interest in green lending portfolios, most banks are still struggling to institute an E&S risk management culture and approach. There are also concerns about the added costs of due diligence. SBN members have highlighted the importance of building awareness among banking executives about the value of sustainable banking in anticipating transaction-level and systemic E&S risks as well as business opportunities. Some SBN member countries are already linking E&S risk management to Basel requirements for managing material risks. DFIs are also helping establish how credit, market and operational risks can be addressed through enhanced due diligence and good governance.

Creating business drivers for sustainable banking: Understanding the business case is vital for widespread adoption and innovation by banks. Being a nascent practice, there is not much academic and empirical work on the real costs and benefits of green banking, although a growing body of research

does point to better risk profiles and profitability of sustainable businesses¹. SBN members confirm the need for in-depth research and systematic gathering of evidence on profitability and risk profiles of banks' green portfolios. According to the IFC survey across 25 countries, banks perceive that green lending could result in higher costs of doing business due to the need for more careful due diligence and stricter selection of clients and projects. Such fears could be allayed if incumbents in the green finance space willing to champion the cause by presenting their own experience and insights as evidence on costs and returns. Five common barriers currently prevent banks from entering the sustainable banking space: motivation, information, technical, financial, and, client awareness. While motivation barriers can be overcome by incentivising adoption of sustainable banking policies and practices, the rest of the barriers remain significant and need to be addressed as well.

Promoting information flow: Regulators and banks often find they are not equipped with the necessary information, both on the loan origination side and the risk management side. E&S information is not presented in easy ways for financial market players to understand and make decisions. Banks need databases that can help them classify and rate loans based on environmental information, maps, fines of environment protection agencies, etc. Most emerging market countries do not yet track green lending, and therefore meaningful comparisons can't be made at this stage. As banks start to enter the green bond space, there is a growing need for institutional capacity and systematic approaches to expand the horizon of sustainable banking.

Building capacity among regulators and banks: Lack of expertise and capacity, including a lack of qualified service providers, is frequently cited as a barrier. This applies to banking regulators who must engage with and supervise banks on this topic, as well as to banks tasked with designing and running internal systems for sustainable banking. A lack of qualified local service providers is also mentioned as an impediment faced by banks when undertaking review and due diligence on prospective clients. New green technologies evolve quickly and expertise is needed to assess viability.

Lessons Learned and Common Success Factors

Some emerging commonalities in different country experiences offer valuable lessons. These include the following strategies adopted by SBN member countries to address some of challenges identified above.

Blended strategy of policy-support and industry-led initiatives at different stages of sustainable banking development: Policy makers are increasingly reaching out to the financial sector to encourage an industry-led approach to sustainable banking and for contributing to national goals for sustainable development. Industry-led initiatives avoid a command approach and encourage consensus building. Voluntary measures are often initiated and led by banking associations with inputs and endorsement from regulators. To compensate for the weak enforceability of voluntary initiatives, regulators may choose to play a stronger role in implementation and supervision, thereby drive wider adoption and serious implementation. This may also lead to voluntary principles being eventually made mandatory.

- *Brazil:* The Central Bank of Brazil (BCB) and Ministry for Environment supported voluntary initiatives by state-owned and commercial banks through Green Protocols adopted in 2008 and 2009. BCB subsequently strengthened the policy signals for green banking through thematic regulations on environmental and labour standards, via implementation of the Internal Capital Adequacy and Assessment Process (ICAAP) in 2011, and through mandatory Resolution 4327 on Social and Environmental Responsibility for Financial Institutions issued in 2014.
- *Nigeria:* In 2012, the Nigerian Bankers' Committee launched the Nigeria Sustainable Banking Principles (NSBP). Throughout the process, the Central Bank of Nigeria (CBN) was actively involved in shaping the agenda, appointing the advisory body to oversee implementation of these Principles, and supervising implementation. As a result, the adoption of the Principles has become quasi-mandatory.

Incentives: Market incentives have been introduced by a number of SBN members to drive banks to

faster and more strategic implementation of sustainable finance. Such incentives may focus on i) positive recognition for good performers, for example, in the form of preferential consideration and recognition during supervision, ii) increased lending to specific green sectors or market segments, such as through dedicated funds or credit lines, or iii) appropriate pricing of the currently externalised E&S costs of doing business, such as through taxes on carbon emissions. Fiscal subsidies are treated with caution, both to avoid subsidies for green industries that artificially create and, when withdrawn, destroy business cases, and to address subsidies that maintain incentives for non-renewable industries such as fossil fuels.

- *Brazil:* BCB issued resolutions on low-carbon agriculture (Resolution 3896/2010) and climate change mitigation (Resolution 4008/2011), which led to establishing credit lines for climate-friendly lending backed by resources from the National Plan for Climate Change (FNMC). For instance, a Climate Fund was launched by Caixa Economica Federal to fund solar projects, energy efficiency, emissions reduction, and waste management.
- *Bangladesh:* Bangladesh Bank (BB) has offered a BDT 2 billion (USD 25.5 million) low-cost re-finance window to provide liquidity support to lenders for green financing in 11 specified categories. A new USD 200 million line of financing was approved by BB's board of directors to support on-lending by banks and FIs for green transitions in Bangladesh's export-oriented apparel, textiles and leather manufacturing sectors. Macro-prudential support measures, such as lower equity margin requirements, are being employed to favour socially and environmentally beneficial initiatives and options. Good performers in green finance earn better BB supervisory (CAMELS) ratings, with attendant preferential considerations, such as permissions for business expansion.

Multi-stakeholder consultation and awareness raising: Extensive multi-stakeholder consultation has been an effective strategy in a number of countries to build a solid foundation of industry alignment and buy-in before launch of national policies, guidelines or roadmaps on sustainable finance. It is



also an important part of the implementation process to ensure sustained awareness and confirm regulator commitment to supervision and recognition of good performers.

- *Brazil:* In 2012, during the United Nations Conference on Sustainable Development (Rio+20), BCB conducted a public consultation to present the first regulatory proposals about the requirement of a social and environmental policy (PRSA) and social and environmental responsibility report to be implemented by all banking and non-banking financial institutions. As a result of that debate, Resolution No. 4327 of 25 April 2014 was edited to provide the principles and guidelines for all Brazilian financial institutions to adopt an E&S Responsibility Policy (PRSA).
- *Bangladesh:* Bangladesh Bank has led a sustained initiative to ingrain socially responsible, inclusive and environmentally sustainable financing in the institutional ethos of the country's financial sector. Regular consultation has motivated all banks and FIs to increase financing for agriculture; micro, small and medium enterprises (MSMEs); and green businesses and industries.

Inter-agency collaboration: A characteristic approach of SBN members is to engage with other regulatory agencies and industry stakeholders for design and implementation of national green finance frameworks. Initially a way of overcoming pre-existing regulatory or industry barriers, inter-agency collaboration has proved a fruitful avenue for building capacity of banks, developing sector and thematic technical guidance, and designing market incentives.

- *China:* The 2007 Green Credit Policy was jointly developed by the People's Bank of China (PBOC), China Banking Regulatory Commission (CBRC) and the Ministry of Environment (MEP), becoming a first of its kind in inter-agency collaboration, signaling a strong political will to green the banking system. Since then, CBRC has taken the lead in implementing the policy through collaboration with government agencies such as the Ministry of Finance for Green Credit Guidelines development and Green Loan Classification across key industries.

- *Indonesia:* OJK, the Indonesia Financial Services Authority, is working with other ministries to develop incentives for sustainable finance, including risk guarantee facilities and feed-in tariffs for small-scale renewable energy projects. OJK also partnered with the Ministry of Energy and Mineral Resources and the National Planning Agency to publish handbooks and train FIs on renewable energy and energy efficiency lending. OJK partnered with the Ministry of Fisheries to develop a sustainable financing plan and a joint study on potential lending schemes for sustainable fishery businesses. In order to accelerate the roadmap implementation, OJK also partnered with several international organisations on research, strategic planning, capacity building and raising public awareness.

Capacity building and guidance for regulators and FIs:

With sustainable banking being a new approach, capacity-building efforts and technical guidance have been essential to help banks build internal know-how and systems. Support ranges from training and workshops to technical guidance and sector-specific guidelines and checklists.

- *Brazil:* BCB and IFC partnered to build capacity of Central Bank supervisors in order to strengthen knowledge of E&S risk management and support the implementation of the Resolution on E&S Responsibility for financial institutions.
- *China:* Following the launch of the Green Credit Guidelines in 2012, CBRC and the China Banking Association (CBA) have led efforts to disseminate best practices and sector-wide capacity building, including a Green Credit training book and trainings. CBRC has also led a series of awareness raising activities among banks, as well as dialogues with multiple ministries, to channel information and technical know-how to banks to enable green lending.
- *Mongolia:* The Mongolian Bankers Association (MBA), representing all Mongolian banks, launched the Mongolia Sustainable Finance Principles and Sector Guidelines in December 2014, which took effect in January 2015. All participating banks have since developed in-

ternal E&S policies and procedures and have hired full-time E&S staff. The sector guidelines provide guidance to participating banks on how to assess E&S risks and opportunities in the agriculture, mining, manufacturing and construction sectors, and assess the ability of clients to manage E&S issues. They include guidance on E&S risk rating criteria for assessing and categorising E&S risks, and encourage adoption of relevant industry international standards and best practices.

Monitoring and assessing FI implementation, including key performance indicators (KPIs):

Monitoring and evaluation plays an increasingly critical role for SBN members as they move to establish ongoing supervision of banks' implementation and to understand the state of green finance risks and business opportunities as they evolve. Consequently, early efforts have focused on establishing baseline data on E&S risks in banks' portfolios and the extent of green lending. As banks mature in their internal data capture and external reporting, regulators are gaining an increasingly sophisticated picture of E&S risk management practices and pitfalls, as well as opportunities to further support green finance through market incentives.

- *China:* CBRC introduced a Green Credit Monitoring and Evaluation Mechanism in 2014 to track results of banks' green credit performance and provide specific key performance indicators (KPIs) to ensure policy objectives are met. Banks are required to use the KPIs to conduct self-evaluation on a 12-month basis and file results with CBRC, which in turn, uses these reports for off-site supervision. CBRC may also implement on-site supervision. It has also developed a tool to capture the carbon emissions of projects.
- *Brazil:* BCB has asked for the establishment of a database to capture losses resulting from environmental and social issues and has constituted a working group to discuss these issues. The Brazil banking association, FEBRABAN, is currently developing a framework of such a database to capture indicators on environmental and social issues, and has made a guide available to local banks.

- *Nigeria:* Nigeria's Central Bank introduced a Monitoring and Reporting Mechanism in 2013 to guide and monitor the implementation of the Nigerian Sustainable Banking Principles. Banks are required to provide preliminary once-off reports on policies and systems, as well as baseline data collection, followed by bi-annual reporting on indicators organised according to the 9 principles. By the end of 2015, Nigerian banks had completed submission of the first batch of reports, which CBN is to use to determine industry baselines and to set benchmarks.

Adopting a holistic approach to cover both environmental and social aspects for defining sustainable/green banking:

The term "green banking" is commonly approached from the environmental perspective. However, social conflicts linked to development projects are on the rise in many countries, driven by community concerns about land, livelihoods, benefit-sharing and environmental damage. Social issues therefore intersect with environmental issues and can impact on bank performance, for instance, through suspended projects, rising costs, construction delays, and threats to future investment. Human rights, labour standards and access to finance for marginalised groups are social issues that represent risks as well as business opportunities for banks. Most country-level green banking initiatives therefore include both E&S dimensions.

- *Turkey:* Turkey's Sustainability Guidelines for the Banking Sector, issued by the Turkish Banking Association (BAT) in 2014, refer to management of both environmental and social risks, with particular reference to human rights and employee rights, and to stakeholder engagement and communication. Corporate governance is also mentioned, pointing to further integration to form a combined concept of environmental, social and governance (ESG) performance of businesses.
- *Peru:* The Superintendency of Banking, Insurance and Private Pension Fund Administrators (SBS) of Peru launched the Regulation for Social and Environmental Risk Management in March 2015. SBS also released guidance on the role of enhanced due diligence in the regulation of socio-environmental risk management for financial firms to explain key features of the

regulation. These efforts have been particularly influenced by the high cost of delayed and cancelled projects in the real sector, such as mining, due to social and distributive factors.

Partnership with the International Community:

One of the consistent themes across all SBN member countries is fruitful collaboration with the international community, including organisations from many developed G20 countries. Either through global level engagements such as the SBN knowledge platform, or country-specific ones for development and implementation of policies and principles, the international community is increasingly joining hands to support SBN members and to learn from their pioneering efforts. Examples of collaboration

include joint research, knowledge sharing, tool development, capacity building, peer-to-peer learning, funding, and harmonisation of international good practices with local requirements to incorporate local context and culture. SBN members acknowledge that many of their measures were enabled by the SBN platform and collaboration with the international community.

While developed countries may face different E&S challenges and may have more mature financial systems, we believe the work of SBN members remains pioneering at an international level and can inform a harmonised global understanding of sustainable banking.

Box 1: Sustainable Finance Examples from Asia

Bangladesh	China ⁱⁱ
<ul style="list-style-type: none"> • Mandatory ESRM guideline for the financial sector rolled out in 2011, comprising 10 sector-specific guidance notes and checklists. • M&E tool for monitoring sustainability performance of banks by the central bank. This tool generates a rating reflected in the bank's CAMELS rating. It focuses on four parameters: ESRM in lending, Green finance portfolio, efforts for reducing the bank's carbon footprint (e.g. paperless statements, solar powered ATM machines) and corporate responsibility activities related to the environment. • The central bank has a dedicated Sustainable Finance Department and all banks have a Sustainable Finance unit led by a Senior Vice President. • The central bank has introduced a refinancing scheme where 5 per cent of the annual portfolio needs to be in Green finance. This scheme provides interest subsidies to end users for renewable energy, energy efficiency and other environmentally beneficial lending administered through all commercial banks. • An ESRM guideline has been made mandatory for non-bank financial institutions as well. 	<ul style="list-style-type: none"> • China adopted a policy-based approach to help tackle profound environmental problems and support the transition to a sustainable growth path. The People's Bank of China (PBOC), China Banking Regulatory Commission (CBRC), and Ministry of Environmental Protection jointly issued the Green Credit Policy in 2007, followed by CBRC's Green Credit Guidelines and a monitoring framework to guide implementation. • CBRC introduced a Green Credit Monitoring and Evaluation Mechanism in 2014 to track results of banks' green credit performance and provide key performance indicators (KPIs) to ensure policy objectives are met. • Banks have to use the KPIs to conduct self-evaluation on a 12-month basis and file results with CBRC. • CBRC uses the reports for off-site supervision and may also implement on-site supervision. • CBRC has built a tool to capture carbon emissions of projects. • By end of 2015, CBRC's green credit statistics for the top 21 Chinese banks (accounting for around 80 per cent of total banking assets) showed the majority had adopted E&S risk management practices and green credit made up about 10 per cent of these banks' portfolios.

The Indian Context

In 2007, the Reserve Bank of India issued a circular emphasising the need for financial institutions to develop policies and processes to promote sustainable development. It highlighted international best practices, including the IFC Performance Standards and the Equator Principlesⁱⁱⁱ. Since then, the Indian banking sector has been keen on promoting sustainability through their lending practices. The Indian Banks' Association (IBA), jointly with major banks, recently created a set of Responsible Banking Principles (see special section at end of this volume).

In 2015, IFC conducted a survey to identify key challenges and practices of the Indian financial sector with regards to sustainability. This survey was conducted as part of a 28-country global survey and will be used by the banking regulator to identify future approaches to sustainability in India's financial sector. The survey identified some key challenges that banks face here with respect to sustainable finance and ESRM:

- In the absence of a basic guidance in terms of a formal process from the banking regulators, different banks perceive E&S risks differently and there is a competitive disadvantage for banks that have relatively stringent E&S due diligence procedures. A level playing field is required to ensure there is basic E&S due diligence in all banks as part of their credit risk assessment.
- In the presence of an active civil society, many infrastructure projects get delayed for years, project permissions take longer than expected, and court proceedings hold up select projects, contributing to increases in Non-Performing Assets (NPA). These delays could be minimised if banks are equipped to identify and manage E&S risks in lending.
- There is a significant need for awareness, capacity and skill among bankers related to E&S risk identification and management. It is not enough to encourage banks to practice sustainability, it is also important to provide the understanding and tools that help identify and manage E&S risks.

Box 2 indicates the top five stressed sectors according to RBI's Financial Stability Report 2014-15.

Box 2: Top 5 stressed sectors

Sector	% of Total Advances	% of Stressed Advances
Infrastructure	14.7	30.3
Iron and Steel	4.7	9.2
Textiles	3.4	7.4
Aviation	0.5	3.5
Mining	0.6	0.8

At the system level, these five sectors together account for around 24 per cent of total advances of commercial banks and around 51 per cent of their total stressed advances.

While there are several reasons for financial stress in these sectors, a significant percentage of NPAs occur due to social conflicts that result in delays or abandonment of projects (Down to Earth, 2016)^{iv}. This is especially true for projects in the infrastructure and mining sectors across the country. While banks do have MIS systems to capture the total NPAs, these do not identify the root causes for stressed assets.

The baseline survey indicates that India is at an early stage of environmental and social risk management in lending. National ESRM dialogue and awareness is in early stages and championed by just one or two key stakeholder groups. There are no national enabling frameworks for ESRM for FIs, though some research work, case studies and voluntary principles have been developed. Apart from limited technical capacity of bankers and inadequacy of available training, there is also a lack of qualified technical support. Some banks do consistently apply ESRM factors while lending but that is mainly due to pressure from DFIs.

On the business opportunity side, IFC launched Green Masala Bonds to finance renewable energy projects to help meet India's ambitious renewable energy targets announced ahead of the UN climate change conference (COP21) in Paris. The Indian government aims to continue reducing fossil fuel subsidies, increase coal taxes to finance clean energy projects, and introduce tax-free infrastructure bonds to fund renewable energy. RBI has played an instrumental role in promoting Green Bonds in



India. From the point of view of India's banks, financing green projects is becoming more attractive after Prime Minister Narendra Modi publicly endorsed sustainable finance at the first renewable energy global investors' meeting in New Delhi in early 2015.

Way forward

The Sustainable Banking Network captures a new trend of country-level green banking initiatives across multiple emerging markets, with banking regulators and associations as the driving forces. These initiatives have achieved alignment between international standards and local market needs, while also responding to global and local environmental and social risks.

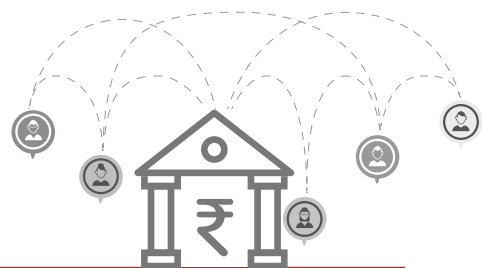
SBN member countries have each adopted unique routes to green finance in response to local context and priorities. In Bangladesh, Brazil, China, Indone-

sia, Nigeria, Peru and Vietnam, financial or banking regulators have taken the lead. In Colombia, Kenya, Mexico and Mongolia, banking associations have led a voluntary industry-wide initiative.

International standards have proven useful when designing country-specific green banking policies on the risk management aspects. IFC's Performance Standards and the Equator Principles are often a starting point. When consistent with international standards, country-specific policies are likely to have more significant system-wide impact and make more efficient use of resources of governments and development partners.

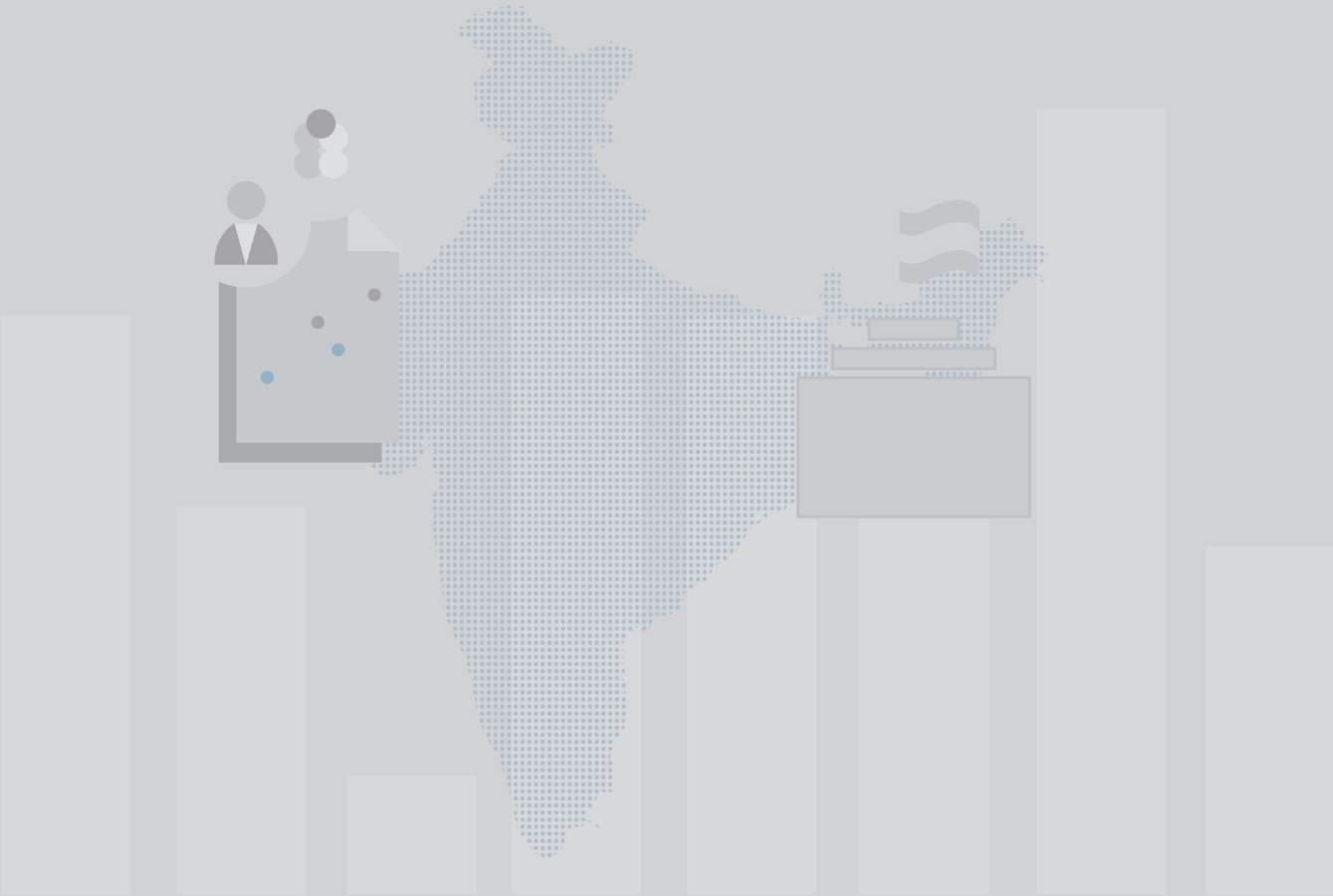
Implementation, compliance and enforcement mechanisms are significantly stronger when policies and voluntary principles are country specific. The timing is just right for India to take a leadership role in promoting sustainable finance in India and rest of the region.

The Sustainable Banking Network captures a new trend of country-level green banking initiatives across multiple emerging markets, with banking regulators and associations as the driving forces. The timing is just right for India to take a leadership role in promoting sustainable finance in India and rest of the region



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6

Special Section: Note on the National Voluntary Guidelines for Responsible Financing

Introduction

The National Voluntary Guidelines for Responsible Financing are specific to the financial sector and cater to risks, opportunities and responsibilities related to sustainability criteria. These criteria suggest that environment, social and economic factors are interlinked and integral to the performance of an organisation, and at the aggregate level to that of an industry sector or a region. Economic growth that compromises on environment and social well-being becomes lopsided and unstable. A sustainable, stable and inclusive economy thus depends very much on how robust and responsible is the mobilisation and allocation of capital—the key function of the financial sector.

Whether it is the risk of bad loans or imperatives of sustainable development such as climate, water, poverty, energy, inclusion, and innovation—these issues have become increasingly central to managing competition, business continuity, customer demand and regulatory requirements. Tackling these challenges at the individual enterprise level translates into target-oriented sustainability actions. This is true for financial institutions (FIs) as well as the businesses they finance. Proactive steps by financial institutions can lead the way, inform and optimally implement policies favouring sustainable development and finance. In the ultimate analysis, responsible financing is key to financial institutions serving the real economy—one that is people-focussed, has a capacity to absorb external shocks and is sustainable.

To this effect, the National Voluntary Guidelines for Responsible Financing developed by the Indian Banks' Association through a process of consultations with financial institutions provides

a systematic structure, aims to curb ad-hocism and offers strategic and operational clarity required for integrating ESG within FIs. Further, the demand for increased capital by Indian FIs will essentially need to mobilise international institutional investors for whom FIs' performance on ESG will be important. A commonly agreed set of national guidelines for the financial sector would help fulfil that requirement in a standardised manner.

The Guidelines are responsive to the context within which the Indian financial sector operates and integrate the good practice norms prevalent across the world as well as in India. These include the Equator Principles, United Nations Principles for Responsible Investment, SDGs, Global Reporting Initiative, Carbon Disclosure Project, and such like, and national precedents such as the RBI circular of 2007 on the role of banks in Corporate Social Responsibility, Sustainable Development and Non-Financial Reporting, National Voluntary Guidelines on Business Responsibilities (NVGs, 2011, Ministry of Corporate Affairs) and Business Responsibility Reporting (ESG reporting based on NVGs, SEBI 2012) to name a few.

The Guidelines are comprehensive and bridge the silo approach generally practiced by organisations. They incorporate all aspects of business activities of banks from governance to risk assessment to green finance to innovation for the under or unbanked categories of clients and customers. Each of these aspects are related to one another and the Guidelines provide that interconnection. Performance on each of these business activities can be further fleshed out under the framework provided by the Guidelines for any sector (infrastructure, agriculture, MSMEs, renewable energy etc).

Description

The National Voluntary Guidelines for Responsible Financing contain eight principles and five pillars of implementation. The eight principles are Ethical governance, Integration of E&S risk assessment in lending, environmental footprint of operations, Environmentally sound investment and products, Inno-

vative products for social and human development, Stakeholder engagement, Respect for human rights, and Disclosure. The principles, their description and applicability and the broad areas of disclosure are contained in the first Chapter of the Guidelines.

A brief description of each principle is given in Figure 1.

Figure 1: Principles of responsible financing

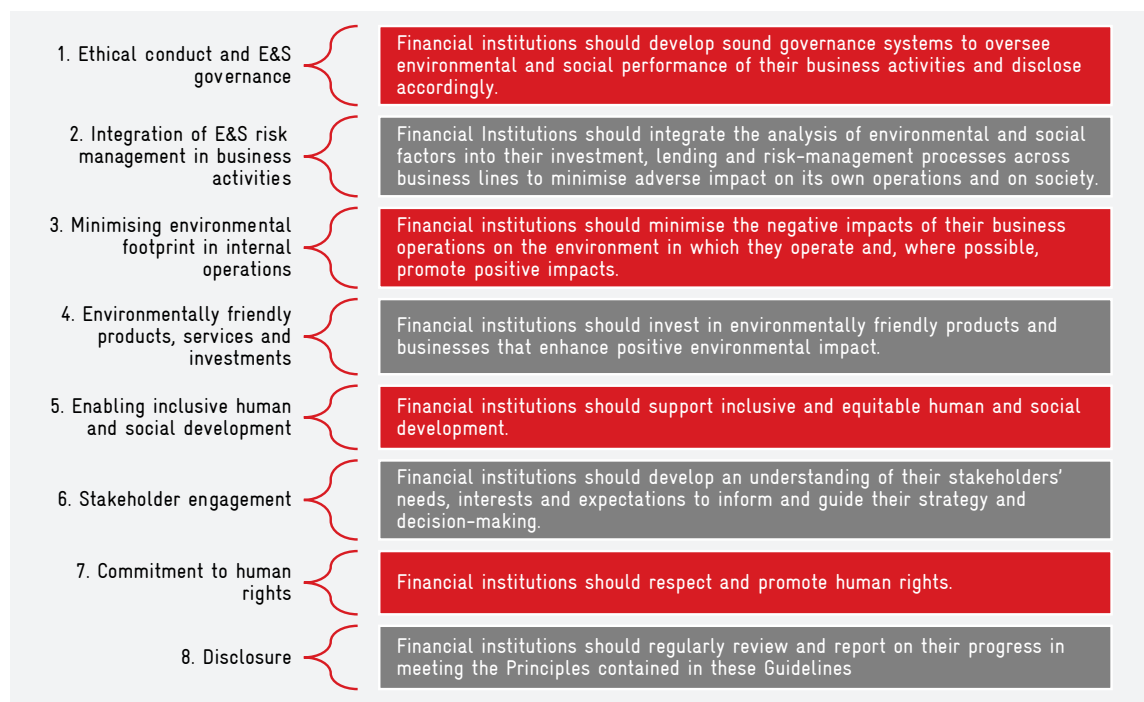
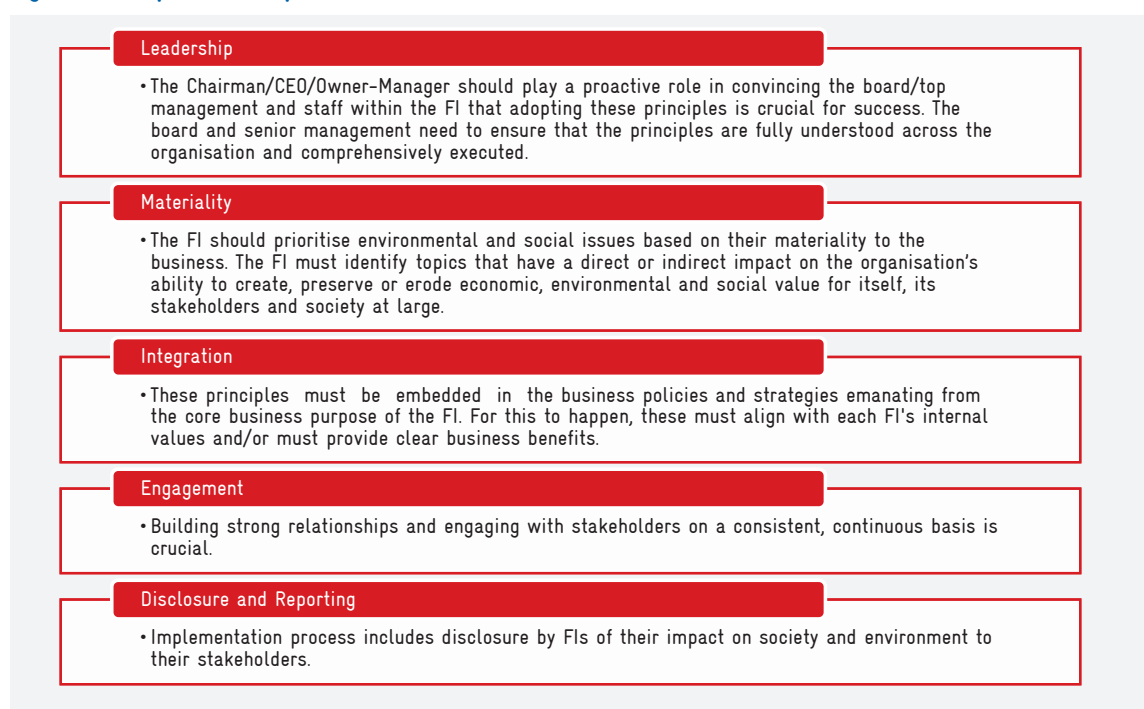


Figure 2: Five pillars of implementation



The second chapter gives a detailed principle-wise implementation guidance, which is summarised in a step-wise process to translate the eight principles into concrete and measurable actions. Five pillars of implementation of responsible financing guidelines are: Leadership, Materiality, Integration, Engagement and Reporting (Figure 2).

The Guidelines are a voluntary instrument and raise the bar of conduct for FIs beyond compliance. They urge FIs to systematically adopt measures spanning the eight ESG principles. These measures do not induce any legal liabilities for the adopting organisation.

Each principle of the guidelines serves to enhance the business case for the FI on one or more of the following parameters, namely, revenue growth and market access, brand value and reputation, cost savings, human capital, risk management and access to capital.

The eight principles of responsible financing are non-hierarchical and non-divisible, which is to emphasise the interconnection among all the principles as well as to prevent cherry picking of issues. The relative weightage to topics covered under each principle is left to the FI given their scope, sectors they lend to and the issues that are most material to their business and through their business material to their impact on society.

Implementation

The table at the end of the second chapter provides base indicators under all the five pillars of implementation to unpack the implementation of each principle. Below is an example of implementation check for one principle and a good practice example.

Principle two of the Guidelines deals with creating and implementing an ESG risk assessment mechanism within the bank's lending operations. Description

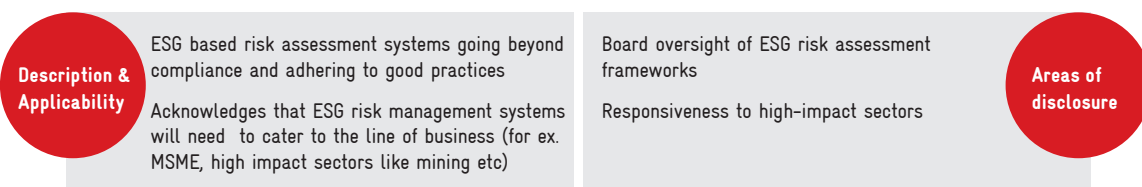
and applicability of this Principle and the broad areas of disclosure are enumerated in Figure 3. A check for the FI on the five pillars of implementation could include questions indicated below.

- **Leadership:** Is there an institutional set up that makes E&S risk management part of credit risk appraisal? What kind of management procedures are in place? Is E&S risk assessment framework approved by the Board?
- **Materiality:** How do you categorise issues based on their nature and scale of impact on bank's business—products, services? Is there a mechanism to identify high impact sectors?
- **Integration:** How is E&S risk framework and due-diligence process implemented across verticals? Are staff members adequately trained?
- **Engagement:** Have you initiated internal and external dialogue with relevant stakeholders to develop further understanding of ESG risks and process of ascertaining and mitigating them?
- **Disclosure:** Besides the above qualitative and process questions, quantifiable aspects like the percentage of projects that clear ESG based lending as part of portfolio should be documented and communicated to the stakeholders.

Action steps for adoption of Guidelines by the FI:

1. Financial Institutions should adopt these principles and implement them in various lines of business as per their strategic priorities with the objective of strengthening the risk management framework of the institution. While the principles of the Guidelines are indivisible and non-hierarchical, an FI is encouraged to develop a plan that phases its progress under each principle against appropriate timelines and indicators.
2. The FI Board should integrate ESG oversight function in an appropriate sub-committee (e.g. Risk Committee) or create a new committee as

Figure 3



- deemed fit for mainstreaming these principles in FI's operations and its subsequent monitoring and review.
3. The committee with ESG responsibility should place the guidelines for adoption before the Board outlining the business case and advantages accruing to the institution in terms of:
 - a) Effective board oversight on ESG footprint of the FI's internal operations and ESG risks associated with the asset portfolio and help in creation and preservation of long term capital
 - b) Focused environmental and social risk management to mitigate transaction related credit and reputational risks
 - c) Useful tool and input data for credit rating exercise of portfolio
 - d) Identifying new business opportunities aligned to E&S risk mitigation and adaptation (cleantech financing, energy efficiency, agri-financing and logistics etc)
 - e) Identifying demand among existing customers for products and services with social and environmental components
 - f) Positive investor outlook and access to international finance/low-cost finance
 - g) Transparency and disclosure measures which will facilitate better relations with customers and the public and good reputation.
 4. In general, an ESG Portfolio Risk Framework could follow the mentioned steps:
 - a) Check new investment opportunity for activity on Exclusion List. If the opportunity confirms negative, then
 - b) Initiate screening review of the industry sector, client and technical aspects of project on ESG parameters (Those applying and reporting on NVGs through BRR should be given preference)
 - c) Conduct due diligence based on ESG policy of the institution adhering to the eight principles of these Guidelines
 - d) Initiate gap assessment and deploy environmental and social action plan
 - e) Enter investment agreement
 - f) Monitor and review on an ongoing basis
 - g) Feed findings in the reporting process and disclose on an annual basis (at the least)

Figure 4: Implementation Check: Principle-wise Disclosure Questions

Principle	Disclosure
PRINCIPLE 1: Ethical conduct and E&S governance	i. Does the policy relating to ethics, bribery and corruption cover only the financial institution? Yes/ No. Does it extend to the Group/Joint Ventures/ Suppliers/ Contractors/NGOs /Others? ii. Indicate the frequency with which the Board of Directors, Committee of the Board or CEO to assess the ESG based performance of the financial institution. Within 3 months, 3-6 months, Annually, More than 1 year. If not, is there a plan to introduce this and when? iii. Does the risk committee of the financial institution duly integrate ESG (Responsible Financing) parameters of evaluation approved by the Board? iv. What systems are in place to monitor progress on mainstreaming E&S in the FI? v. Has the (Responsible Financing) policy been communicated to internal and external stakeholders? vi. How many stakeholder complaints have been received in the past financial year and what percentage was satisfactorily resolved by the management? vii. Does the FI publish a Business Responsibility or a Sustainability Report? How frequently is it published?

Principle	Disclosure
PRINCIPLE 2: Integration of E&S risk management in business activities	<ul style="list-style-type: none"> i. Do you have an ESG risk assessment framework approved by the Board? ii. Does your ESG risk assessment framework follow a pre-loan and ongoing monitoring and evaluation based on ESG parameters? iii. What percentage of projects evaluated and passed on ESG criteria indicating their sectors as part of overall portfolio?
PRINCIPLE 3: Minimising environmental footprint in internal operations	<ul style="list-style-type: none"> i. What systems and processes are in place for GHG reduction and avoidance; for reduction, reuse and recycling of products (paper, water e-waste, etc.)? ii. Are there any renewable energy sourcing for branches and operations etc.?
PRINCIPLE 4: Environmentally friendly products, services and investments	<p>List products or services whose design has incorporated environmental concerns, risks and/or opportunities.</p> <ul style="list-style-type: none"> i. Has the FI invested in clean technology, energy efficiency, renewable energy climate mitigation and adaptation projects etc. If yes, what is the percentage share of the portfolio lending in the reporting year, and in the previous three years? ii. Give details of external credit lines, the financial institution is using to fund environmentally responsible ventures?
PRINCIPLE 5: Enabling inclusive human and social development	<ul style="list-style-type: none"> i. Innovative products for financial inclusion ii. Funding of projects for marginalised communities, underserved groups and remote and underdeveloped areas iii. Partnership with development funds targeted at bottom of pyramid financing etc., iv. Products and services which have integrated social impact parameters into their design, and which target the underserved sections of society v. Steps taken to ensure that financing schemes and development initiatives are sustainable and successfully adopted by the targeted stakeholders.
PRINCIPLE 6: Stakeholder engagement	<ul style="list-style-type: none"> i. Do you have a process to systematically identify and engage internal and external stakeholders? ii. Have you identified the sections of disadvantaged and vulnerable internal and external stakeholders? Please list. iii. How many stakeholder complaints have been duly resolved? iv. Please indicate how you monitor any stakeholder risk and engagement from deal appraisal to through the term of investment.

Principle	Disclosure
PRINCIPLE 7: Commitment to human rights	<p>Bank's initiatives and performance on Human rights should also be covered in its annual report:</p> <ol style="list-style-type: none"> Does the FI have a written human rights policy? Does it cover only the company or extend to the Group/ Joint Ventures/ Suppliers/ Contractors/ Others? Is it integrated into core business processes? Do you have an employee association that is recognised by management? What percentage of your permanent employees is members of this recognised employee association? In case of contractual employees, does the FI follow desirable practices on wage, working conditions etc. Does the FI's grievance redress system address their concerns satisfactorily? Number of complaints received and resolved? Are grievance redress mechanisms a part of your operations? Total number of incidents/ grievances of human rights violations in the projects for which lending is done. How many of these complaints have been satisfactorily resolved. Is security of workers/personnel assured in sensitive areas of business operations? What measures on awareness creation have you undertaken to inform employees, suppliers and clients on human rights?
Principle 8: Disclosure	<ol style="list-style-type: none"> Disclose how ESG issues are integrated within operations and investment practices Disclose active ownership activities (voting, engagement, and/or policy dialogue) Report on progress and achievements relating to the ESG Principles contained in these Guidelines as elaborated above Apply or Explain: Explain with broad plan of action what FI will do to improve ESG performance in areas identified as important by the FI where there is no on-going action

Process adopted for formulation of the Guidelines

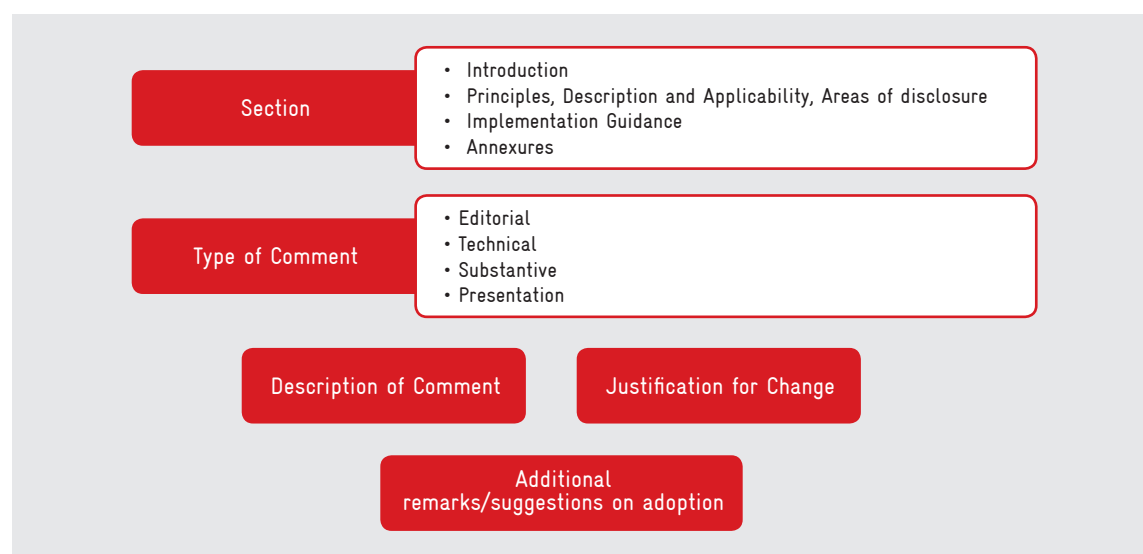
The Indian Banks' Association had been engaged on the issue of responsible business and finance since 2012 which led to the formation of a Working Group on Responsible Finance in 2014 under the aegis of the bilateral cooperation project between SIDBI and GIZ on Responsible Enterprise Finance. The Working Group acted as a platform that brought banks, NBFCs, other agencies active in the field, corporates together to deliberate on a common understanding of what is meant by sustainable/responsible financing. The Working Group was chaired by the IBA CEO Mr Mohan Tanksale.

The Working Group designated a core group from its membership—a smaller Guidelines Drafting

Group—that formulated the Guidelines, developed guidance for implementation, and sought feedback from the Working Group and a larger group of banks (IBA members). The process was highly iterative and several online and in-person meetings led to the final draft. It was debated within the Working Group and at the IBA Management Committee. The feedback was duly incorporated.

Feedback on the Guidelines was sought through email and findings were discussed by the Working Group. The categories of feedback are illustrated in Figure 5.

The majority of comments received agreed with the rationale, objective and content of the Guidelines and a large number of them focussed on the implementation citing that since FIs are in different

Figure 5: Categories of feedback

stages of maturity to deal with ESG, a phased implementation process was recommended. It was acknowledged that the Guidelines could not only help manage risks better but also mobilise more capital and newer customers. However, wider incentives are required to mainstream responsible financing. Other suggestions from banks included: Intensified engagement with regulator to remove the perceived first mover advantage; Wider consultations with other public, private and international banks, financial institutions and insurance companies to get better buy-in and capacity building for implementation; Strengthening the finance ecosystem for renewable energy with a focus on long-term debt, interest subsidies, loan guarantees and risk insurance; Support for asset financing models that help consumers pay for services instead of bearing upfront costs; Pilot green bonds and green banking via state governments and municipalities; and Ensuring transparent and timely updates about plant performance to build trust amongst financiers.

The Working Group debated on various segments of the financial sector and their different material issues and different ways of risk management. Even within each sector, it was acknowledged that there may be varied needs. For example, 95 per cent (indicative) of the workforce in an insurance company is involved in selling insurance policies to consumers and the other 5 per cent manage the corpus and therefore responsible financing pertains to two different

dimensions within the same segment. While in the first case, ESG issues such as consumer data protection, responsible advertising, and transparency on policy terms and conditions are more material, in the other, the managers of the corpus would have to look into ESG indicators of project finance of their investees. Both sides of the value chain thus need to be considered to cover the entire gamut of risks.

Discussions were held on extent of materiality of various risks and the level of granularity required. The criteria included impact on business and consumers, probability of occurrence and stakeholder interests.

A balanced perspective was attained with the aim of sustainability of the sector as a whole in the medium to long term and to enable consistent improvement in performance.

The Guidelines have been approved and endorsed by the IBA and dissemination and sensitisation efforts are underway with 27 banks who have nominated senior functionaries from their banks as nodal officers for the adoption of the Guidelines within their organisation.

The Guidelines also contain a set of annexures. These provide resources, a glossary of terms and a note on the process adopted for the development of the Guidelines. Tables 1 and 2 indicate the members of the Guidelines Drafting Group and the Working Group.

Table 1: Guidelines Drafting Group members (drawn from Working Group)

Organisation	Name	Designation
cKinetics	Mr Pawan Mehra	CEO and founder
GIZ	Ms Neha Kumar	Senior Advisor, GIZ, (Former Member of the NVGs and BRR Drafting Committee)
IDFC	Mr Alok Dayal	Senior Director – Credit and Environment Risk
IDFC	Mr Rajnish Kadambar	Director– Environment Risk
IL & FS	Mr Alok Bhargava	CEO – Strategic Support Group
	Mr Santosh Shidhaye	Senior Vice President – Corporate Sustainability Group
SIDBI	Mr Anand Shrivastava	Deputy General Manager
SIDBI	Mr Pradyumna	Assistant General Manager
Tata Group	Mr. Shankar Venkateswaran	Group Head- Sustainability, Member of the NVGs Drafting Committee
Yes Bank	Ms Namita Vikas	Group President – Responsible Banking
Yes Bank	Ms Neha Kapur	Senior Vice President- Responsible Banking
SBI	Mr V Murali	DMD Credit Risk
Research and coordination support		
GIZ-SIDBI	Ms Trina Datta	Consultant

Working Group Chair: Mr Mohan Tanksale (IBA CEO)

Table 2: Working Group Members

Name	Designation	Organisation
Mr Sangeet Shukla	Senior Advisor	Indian Banks' Association
Mr B V Upadhye	General Manager	Bank of India
Mr. Ravi Sangvai	Program Director	CAFRAL
Mr. Pawan Mehra	Managing Director	cKinetics
Mr. R K Bansal	Executive Director	IDBI Bank Ltd.
Mr Alok Dayal	Senior Director - Credit and Environment Risk	IDFC Ltd.
Mr. Rajnish Kadambar	Director - Credit and Environment Risk	IDFC Ltd
Mr Alok Bhargava	CEO- Strategic Support Group	IL&FS Ltd.
Mr. Sanjeev Ghai	CGM	Indian Infrastructure Finance Company Limited
Mr. Anupam Verma	Head	International Financial Institutions Group, ICICI Bank
Mr. Nikhil Parekh	Chief Manager	International Financial Institutions Group, ICICI Bank
Mr. Farid Akhtar	GM	Punjab National Bank
Dr. (Ms) AnupamPrakash	Director	Reserve Bank of India
Mr. SumantraSen	Founder & CEO	Responsible Invest. Research Association (RIRA)
Mr. Ravi Krishnamurthy	Executive Director	SBI Life Insurance Co. Ltd.
Mr. Natarajan Raman	Executive Director	SIDBI
Mr. K G Alai	Head HR	SIDBI
Mr. Anand Srivastava	DGM	SIDBI
Mr. L S Narayanswami	Director - Strategic Initiatives	Standard Chartered Bank
Mr. Supriyo Kumar Chaudhuri	CGM (CPPD)	State Bank of India
Mr. V Murali	DMD	State Bank of India
Mr. Shankar Venkateswaran	Chief - Tata Consultancy Group	Tata Sons Ltd.
Mr. DipankarSanyal	CEO	TERI-BCSD
Ms NamitaVikas	Group President - Responsible Banking	Yes Bank Pvt. Ltd.
Ms Neha Kumar	Senior Advisor	GIZ, India



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