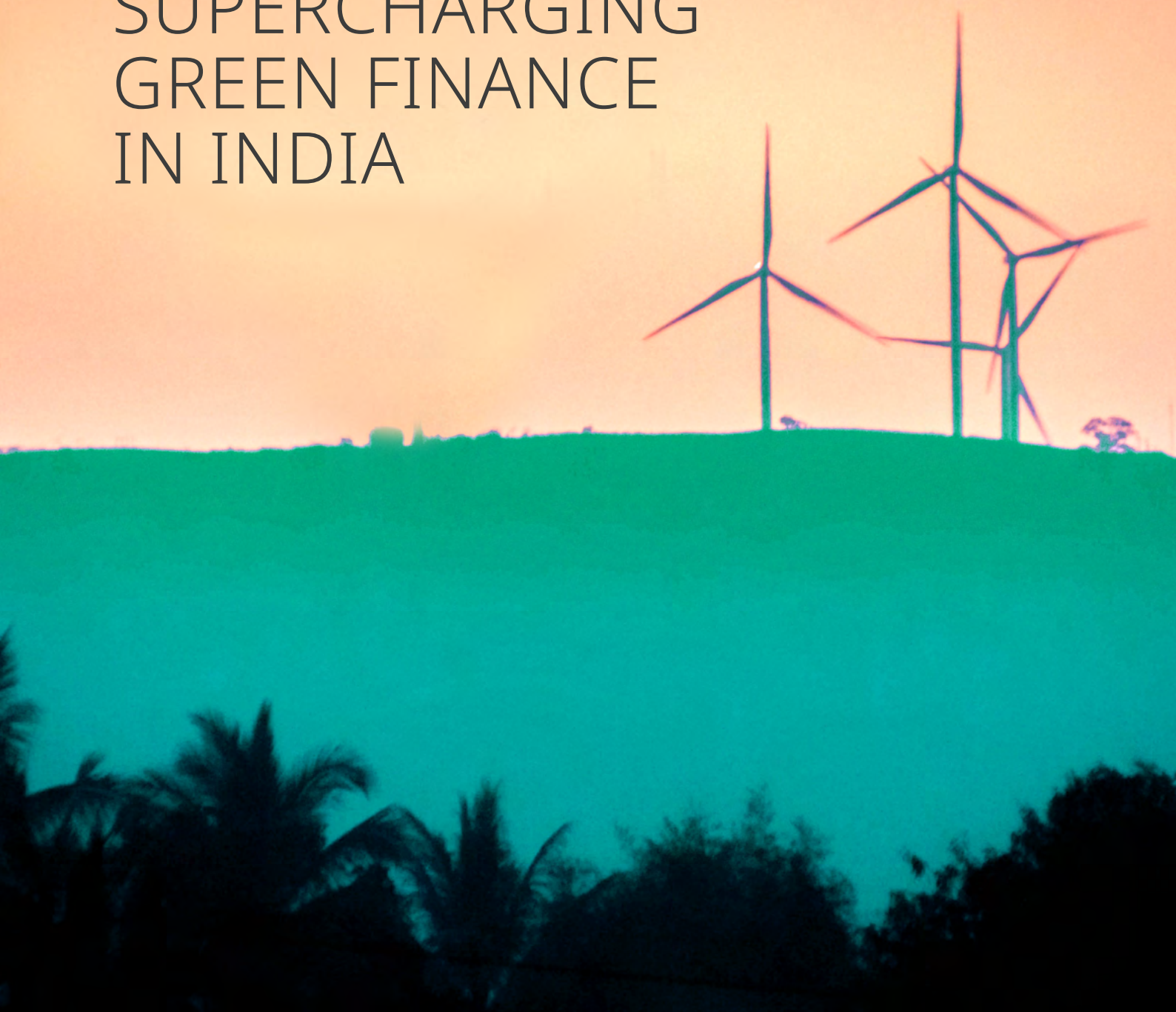
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A report of the UK-India Green Finance Working Group

UNTAPPED POTENTIAL
SUPERCHARGING GREEN FINANCE IN INDIA



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FOREWORD



In years to come 2019 will be remembered as the year green finance finally entered the mainstream. Momentum has been building for several years now, but with the green bond market crossing the $1 trillion threshold; with governments in the UK and India making landmark policy changes, it feels as though the financial community has finally crossed a credibility line.

Although progress in green finance is encouraging, global achievements to date are dwarfed by the enormity of the challenge before us. The latest report from the IPCC in September 2019 underscored the growing gap between climate ambition and reality; and the consequences of failing to act. In the next 30 years, we must navigate the most significant social and economic transformation of a generation. And we must do it without sacrificing growth.

The UK and India are at the forefront of thinking to unlock green growth. We recognise the transition to a sustainable future as an opportunity as well as a challenge. And nowhere is that opportunity greater than in infrastructure. Just as the steam engine and the flying shuttle were the vanguard of the First Industrial Revolution, the solar panel, the wind turbine, and the electric vehicle are the heralds of today's sustainable revolution.

Despite the evident opportunity, the green infrastructure gap is not closing fast enough. We risk falling behind. That is why the UK and Indian governments invited us to set up the UK-India Green Finance Working Group last year. We were tasked to unlock more private capital for green infrastructure in India; to create a blueprint of what works to support more investment in other growing economies.

In this, our first report, we have started by unpacking the barriers restricting the flows of capital into viable green projects in India, and the challenges faced by Indian companies in raising finance. Although we identify a range of blockers, we are optimistic that with a series of targeted actions from the UK and Indian governments, and from market participants, more capital can be mobilised for the green transition.

Much is needed in the coming years, and the road will be bumpy. It is only by working together that we can progress on the path to a greener and prosperous future.





Richard Abel
Co-Chair

Hitendra Dave
Co-Chair

November 2019

EXECUTIVE SUMMARY



India has set ambitious emission reduction targets. To meet its National Determined Contribution, the country has pledged to reduce the emission intensity of GDP by 33%-35% by 2030 compared to 2005 levels and increase the share of non-fossil fuel sources to 40% of installed power capacity by 2030.

Meeting these targets would require a huge increase in investment in new green infrastructure. According to estimates by the Indian government, the country needs to invest $4.5 trillion over the next ten years to meet targets for renewable energy and urban sustainability (around $450 billion a year).

At present, most green projects are financed through banks, non-bank financial corporations and via a company's balance sheet. However, rising non-performing loans coupled with a liquidity crisis facing Non Banking Financial Companies (NBFCs) suggests that alternative sources of green finance would be needed to help India transition to a low-carbon economy.

The Indian green finance market is at a early stage of development. India has the second largest green bond market among emerging economies and has issued $7.2 billion of green bonds to date.[1] There is a high demand for green bonds, with previous issuances being oversubscribed by two-three times.

Global annual savings are around $20 trillion and OECD pension funds manage funds worth $28 trillion. There is a huge opportunity to direct a share of this funding towards green projects in India.

1 Climate Bonds Initiative (2019): Green Bonds – The state of the market 2018.

However, a number of barriers have limited the green finance market from reaching its potential. These can be grouped into four areas:

Fundamentally, **structural barriers** such as managing foreign exchange risk in a cost-effective way and overcoming the challenges associated with small project size constrain the capital, green or not.

The **absence of supporting infrastructure** for green finance needs to be strengthened to enable the market to take-off. There is a lack of transparency, comparability, and visibility of green projects.

A **lack of information and policy clarity** makes issuers and investors hesitant about green finance. The lack of historical performance data and a limited understanding of the risks at various stages of the investment cycle act as constraints. A related barrier revolves around limited technical capacity.

In some cases, the **policy and regulatory incentive structure** actively disincentivises green investment. Current policies on priority lending sectors and sector credit limits are giving even engaged green investors pause.

Despite these challenges, there is a clear pathway forward to supercharge green finance in India. The UK-India Green Finance Working Group recommends six actions to overcome these barriers and unleash India's potential for green growth.

SIX RECOMMENDATIONS



1.

India and the UK should work together to **shrink structural barriers for investment**. This would involve further development of masala bond and foreign exchange hedging markets and collaborating with development finance institutions to derisk transactions.

2.

Adapt innovative financing mechanisms to the Indian investment landscape. The working group plans to facilitate the required collaborative analysis into the potential for green infrastructure investment vehicles, such as yieldcos, and the feasibility of adaptation/ resilience bonds.

3.

The UK and Indian governments should **boost investor confidence by drawing on international best practice to increase transparency and standards**. In particular, efforts should focus on a green taxonomy, raising real economy ambition in sectors such as buildings, and supporting the implementation of TCFD.

4.

Increase the visibility of green investment opportunities and identify funding gaps. Initially, this should focus on underrepresented sectors and stages of development. In parallel, efforts should mobilise investment for bankable green projects to build market momentum.

5.

Both government and the working group will need to cooperate to **build domestic support for green finance and increase technical capacity to further green investment**. Sharing technical expertise among regulators would be an excellent first step. Case studies should also be developed to address sectoral and mobilisation questions.

6.

Finally, there remains considerable potential to **catalyse new green investment through targeted policy reforms and incentives**. This would require thorough evaluation of the impacts of policy change and new incentives to free up capital. Candidate policies for evaluation include:

1 Institutional investment below AA grade paper
2 Green sub-targets in the priority sector list
3 Changes to the ECB guidelines for issuers with a track record of green projects.

CHAPTER 1

THE OPPORTUNITY



India set ambitious emission reduction targets under the United Nations Framework Convention on Climate Change (UNFCCC) Paris Agreement. To meet its National Determined Contribution (NDC), the country has pledged to reduce the emission intensity of GDP by 33%-35% by 2030 compared to 2005 levels, and increase the share of non-fossil fuel sources to 40% of installed power capacity by 2030. These have been recognised by analysts to be broadly consistent with a two-degree world (Kumar et al, 2019). In the long-run, India has pledged to keep its per capita emissions below those of developed countries.[2]

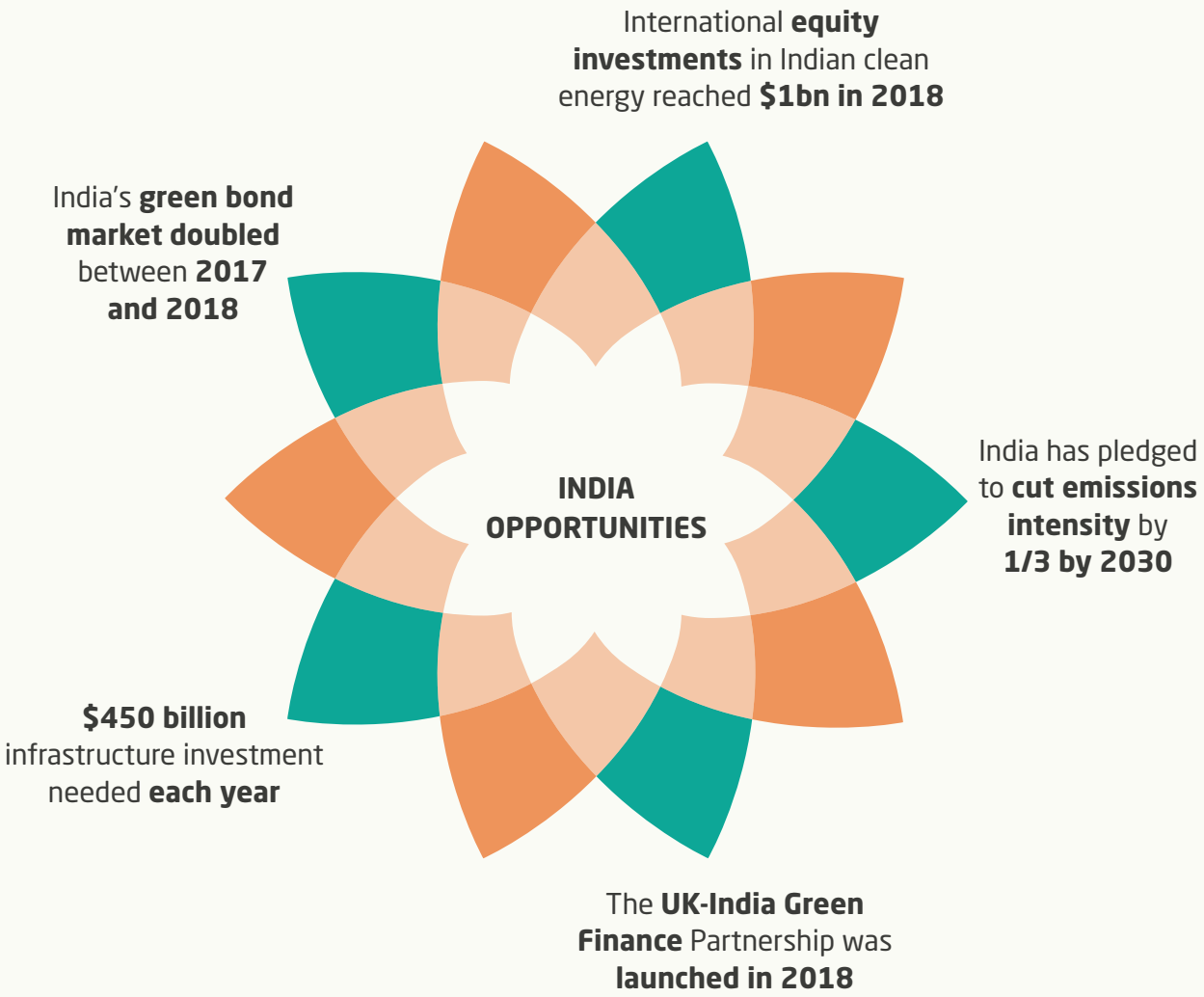
Achieving these targets will require huge investments in new green infrastructure to sustain high growth rates and meet the aspirations of its citizens. According to estimates by the Indian government, the country needs to invest $4.5 trillion over the next ten years to meet targets for renewable energy and urban sustainability (around $450 billion a year) (Kumar et al, 2019). In energy, India needs to invest over $30 billion per year between 2018-2030 to achieve its targets, excluding investments in supporting grid infrastructure. The Institute for Energy Economics and Financial Analysis (Buckley and Shah, 2019) has produced a higher estimate of the required annual investment, in the range of $50-$70 billion a year, including transmission and distribution infrastructure. Achieving the 2022 renewable energy target (175 GW), a subset of the 2030 target, would require an investment of at least $13.5 billion per year between 2018/19 and 2021/22 (Dutt et al, 2019).

At present, most projects are funded by banks, NBFCs or through a company's balance sheet. In 2017, commercial banks and NBFCs accounted for 62% and 36% respectively of debt capital flows into utility-scale solar and wind projects (Dutt et al, 2019). In addition, the government may directly fund certain types of green projects through tax revenues. However, these sources are under strain and would be unable to meet the level of investment required.

Increasingly non-performing assets (NPA) are placing a strain on bank balance sheets and their ability to lend. As of September 2018, Indian bank's NPAs as a ratio of advances were 10.8% - the sixth largest of any banking system in the world. The infrastructure sector accounts for 36% of bad loans, 20% of which were delinquent (Dutt et al, 2019). Measures to restructure these bad debts are eroding bank's balance sheets and restricting their ability to lend. Lending to infrastructure projects, including the power sector, has been particularly affected. In Budget 2019/20, the government announced an INR 70,000 crore (c. $9.7 billion[3]) capital injection into Public Sector Banks. Although in the absence of more substantial banking reforms, domestic lending to the green infrastructure sector is likely to remain muted.

2 https://climateactiontracker.org/countries/india/
3 Exchange rate used: 1 USD = INR 71.62

NBFCs are facing a liquidity crisis. The collapse of IL&FS – a prominent NBFC funding infrastructure including renewable energy – has squeezed liquidity and led to a crisis of credibility. This has made it more difficult for NBFCs to raise finance. According to media reports, some solar projects have faced higher costs of finance as a result, with the cost of borrowing for large greenfield projects increasing from 9.75% to 10.75%.[4]



4 https://www.thehindubusinessline.com/money-and-banking/nbfc-crisis-hits-clean-energy-firms/article27225911.ece

India faces a large funding gap to meet its climate change goals. According to the Economic Survey 2019/20, India faces around a $100 billion annual infrastructure funding gap[5] to meet its aspirations of becoming a $10 trillion economy by 2032.[6] Some estimates suggest that becoming a $10 trillion economy would require a doubling of investment in renewable energy. Average annual financial flows into the renewable energy sector has been around $10 billion between 2013-2017. Similarly, meeting the Indian government's ambition of raising the share of annual electric vehicle sales from 0.1% today to 30% in 2030 would require a huge increase in investment (Dutt et al, 2019). According to Feedback Consulting, India would need to invest $25 billion in charging infrastructure alone.

Increased pressure on the banking and shadow banking sectors, and limited fiscal space for the government to expand investment, creates opportunities for green finance. Green finance has scope to play a bigger role in addressing current funding challenges. Green bonds could help diversify sources of funding, introduce greater liquidity and tradability, and address tenor mismatch. Green equity from both domestic and overseas investors has scope to play a much larger role in helping India transition to a low-carbon economy. Further policy reforms and steps to build the capacity of stakeholders would help unlock additional capital. The UNEP Inquiry – FICCI Report on the Design of a Sustainable Financial System for India (2015) outlined the need to remove regulatory barriers to long term funds from pension and insurance sectors.

The transformation of the financial system goes beyond just funding projects,ensuring that climate and environmental factors are fully integrated into financial decision making across all sectors and asset classes. A transition to a green financial system would require fundamental changes to the way decisions are made across the economy. The UK is leading on many fronts. The publication of the Green Finance Taskforce was a landmark in the development of green finance. The Bank of England has also taken the lead to ensure that climate change is considered a major financial risk. 70% of banks in the UK now consider climate change as a financial risk, and green products are becoming more widespread in the market (Green Finance Strategy, 2019).

There is global momentum building around mobilising green finance. The New Climate Economy Report estimated that around $90 trillion will be needed between 2015 and 2030 to achieve global sustainable development and climate change goals. Over $3.3 trillion in private climate finance had been mobilised by 2017, green bond issuances in 2017 were $155 billion compared to $82 billion in 2016.

5 Note this funding gap covers both green and non-green sectors.
6 https://www.business-standard.com/article/pti-stories/india-must-spend-usd-200-bn-on-infra-annually-harnessing-pvt-investment-a-challenge-eco-survey-119070400730_1.html

Globally sustainably managed assets under management have increased by 25% between 2014 and 2016. Annual global investment in clean energy has grown seven-fold from $47 billion in 2004 to $336 billion in 2017 (Green Finance Taskforce, 2018).

The Indian green finance market is at an early stage of development and offers opportunities for growth in the future. A survey by Singapore-based EDHEC Infrastructure Institute and the Global Infrastructure Hub of 300 respondents, including 130 asset managers with $10 trillion of assets under management, found India to be the top emerging market for infrastructure investment (Buckley and Shah, 2019). Globally, cumulative green bond issuances since 2007 have been $521 billion, with the US, China and France leading the market. India has the second largest emerging markets green bonds market, and has issued $7.2 billion of green bonds to date.[7] In 2017, India issued $3.8 billion of green bonds, a 2.4 times increase compared to the previous year. FICCI and CBI established the Indian Green Bonds Council in October 2016 comprising banks, non-banking finance companies, insurance, investment banks, stock exchanges and public and private sector companies.

International issuance of green bonds has been popular among Indian-registered entities. Of the 14 green bond issuances by Indian-registered entities until 2017, six have been registered in Singapore, with several dual listed in London or Berlin (CBI, 2017). International issuance has mainly been in USD with the ticket size of bonds larger than those issued domestically. International issuances have ranged between $299m-$500m compared to an average of $75m for domestic issuance. Issuing bonds offshore could offer some advantages to Indian-registered entities. First, it has allowed Indian companies to tap deeper pools of capital and provided foreign investors with an opportunity to gain exposure to the Indian economy. Global financial centres, such as London, also have a relatively well-educated cohort of investors who are attracted to green investments that could make it easier to tap finance. Second, the average coupon for domestic issuers is around 7.5%, much higher than 4.7% for international issuances. This is largely down to currency risks and the cost of hedging. Currency risk also has an impact on the tenor of the bond, with international issuances typically having a tenor of 5-7 years compared to 3-10 years for domestic issuances.

There is high investor demand for green bonds and issuances to date have been oversubscribed. Green bonds have been oversubscribed by two-three times and have attracted a large pool of investors compared to vanilla bonds issued by the same issuer. The tax-free bond issued by IREDA in 2016 was oversubscribed by more than five times.[8] Issuances by public-backed entities between 2015-2018

7 Climate Bonds Initiative (2019): Green Bonds – The state of the market 2018.
8 TERI: Unlocking the green bond potential in India.

received 14%-24% of investments from dedicated green funds (Dutt et al, 2019).

The renewable energy sector has been the most successful in using green bonds to raise finance, followed by the transport sector. 83% of the proceeds of green bonds in 2017 have been used to fund renewable energy projects. Other sectors, such as real estate, have been relatively less successful in attracting finance through the bond market. Exim Bank issued a $500 million bond in 2015 to fund transport assets in Bangladesh and Sri Lanka;[9] Yes Bank (2015), Axis Bank (2016) and PNB Housing Finance (2016) have issued bonds for low-carbon buildings; and the Indian Railways Finance Corporation issued a $500m green bond in 2017. A $200m issuance by Jain Irrigation in 2017 was the first time the green bond market was used to raise funds for the water sector. However, beyond these cases, renewable energy has dominated green bond issuances and accounted for 77% of total issuances to date.[10] There could be three reasons behind this trend. First, the wind and solar markets are mature, with established technologies and proven business models. Second, clear government targets for the deployment of these technologies, coupled with a supportive policy framework, has provided greater policy certainty compared to other sectors. The government has created scale and cost reductions have been possible because of clear signals that the government would hold multiple auctions. Third, given the lack of a green taxonomy, it is easier to demonstrate the 'green-ness' of renewable energy investments compared to other sectors, such as real estate.

A supportive policy framework has contributed to the success of the renewable energy sector in India. FDI inflows in the non-conventional energy sector was $3.7 billion between 2014-2018.[11] More than $42 billion has been invested in the renewable energy sector since 2014 (IBEF, 2018). A number of factors have contributed to this success. Transparent and repeatable tender processes have improved market confidence and driven down costs. The government plans to set up 25 solar parks and Ultra Mega Solar Power Projects targeting 20 GW of solar power capacity, which has helped mitigate transmission risks. And, power purchase agreements in local currency, along with a deep domestic debt market that offers long tenor debt at scale has helped create a favourable environment for renewable investments.

Interest from foreign equity investors in India's green economy is growing. International equity investment in India's clean energy sector has grown rapidly from $283 million in 2016 to $532 million in 2017, and $1.02 billion in 2018.[12] This excludes investments made by overseas

9 https://www.eximbankindia.in/green-initiatives
10 Climate Bonds Initiative (2018): India – Country Briefing July 2018.
11 https://www.investindia.gov.in/sector/renewable-energy
12 https://www.livemint.com/industry/energy/foreign-investors-pumped-1-02-bn-equity-in-india-s-clean-energy-space-in-fy19-1562984674870.html

developers in Indian subsidiaries. Sovereign wealth funds have also shown an interest, with GIC and the Abu Dhabi Investment Authority recently investing an additional $329 million in Greenko Energy. Recently Goldman Sachs, Abu Dhabi Investment Authority (ADIA), and Canada Pension Plan Investment Board (CPPIB) subscribed to an additional $300 million in Renew Power.

There is a huge amount of capital that can be directed towards India under a supportive investment environment. Policy measures to develop a supportive framework for green investments and deepen financial markets would increase financial flows. The Indian corporate bond market is underdeveloped and accounts for 5% of GDP compared to 18% in China.[13] Regulatory and technology risks associated with green investments in India – both real and perceived – have made investors cautious. The lack of liquidity, scale and credit means that there are very few green bond issuances of more than 5 years in either domestic or international markets.[14]

Alleviating existing barriers, in both debt and equity markets, would make India a more attractive investment destination. Annual global savings are around $20 trillion; and OECD pension funds manage assets worth $28 trillion (Kumar et al, 2019). Domestic institutional investors have $564 billion of assets under management, while foreign institutional investors manage more than $70 trillion (Jena et al, 2018). A well-functioning green finance market would align well with the priorities of institutional investors – low-risk investments with a long tenor. Channelling a small proportion of global savings in pension funds towards green projects in India could be hugely beneficial.

13 UNEP and FICCI (2016): Delivering a sustainable financial system in India. UNEP Enquiry – Design of a sustainable financial system.

14 Of the 13 green bonds issued between February 2015 and March 2017, only two issuances had a tenor of ten years (YES Bank and IREDA), and two had a tenor of seven years (YES Bank and Greenko), (CBI, 2017).

CHAPTER 2

UK-INDIA PARTNERSHIP



London is a global-hub for green finance and offers deep and liquid capital markets. The UK benefits from access to global capital pools, a central time zone and a stock exchange that hosts one of the most international capital markets with 500 global companies from more than 70 countries. The current market capitalisation of green funds listed in the UK is more than $9 billion. The market has grown by 200% over the last five years and funds have successfully raised a further $6.3 billion since their listing.[15]

The UK offers a sophisticated financial sector with a well-informed cohort of investors. The UK is the largest centre for asset management and insurance in Europe. The asset management sector has £9.1 trillion under management, while the insurance sector generated $220 billion in premiums in 2017. The UK banking sector assets are the largest in Europe and it is a world-leader in cross-border banking and accounted for 18% of the global market in 2017. The UK financial sector is supported by a well-developed professional services sector with strengths in legal, accountancy and consulting services.

The UK Government has been leading efforts to decarbonise its national and the global economy and expand the flow of green finance. The UK was the first country in the world to set a long-term emissions reduction target as part of the Climate Change Act 2008. In 2019, became the first G7 country to implement a legally binding commitment to achieve a net-zero emissions economy by 2050. The UK co-chaired the G20 Green Finance Study Group with China in 2016 that provided options on scaling green finance globally, while the Bank of England has also been involved in global efforts on greening the financial system through the Central Banks and Supervisors Network for Greening the Financial System. Most recently, the UK Government has launched a Green Finance Strategy, and together with the City of London Corporation, launched the Green Finance Institute. The Green Finance Institute has a specific remit to accelerate the transition to a zero-carbon and climate-resilient economy.

The UK and India have a strong bilateral partnership. In 2010, the Governments of the two countries established a foundation for an Enhanced Partnership of the Future, one that is defined by high levels of economic and technological cooperation, and close coordination on regional and global issues. Since 2005, there have been nine Economic and Financial Dialogues covering a wide range of issues of mutual interest with the objective of deepening the economic and financial relationship between the two countries. In 2014, the two countries launched the UK-India Financial Partnership to strengthen the links between the financial services industries.[16]

15 Rimmer, A: Approach to sustainable finance. London Stock Exchange Group Presentation.
16 http://www.mea.gov.in/Portal/ForeignRelation/United_Kingdom_Feb2015.pdf

The UK-India Green Finance Working Group was set up in 2018 to unlock capital for green infrastructure development in India. The UK and India-based members of the Working Group will work towards connecting opportunities in India with private capital and service providers in London. The Working Group will explore both the barriers restricting the flows of capital into viable green projects in India, and the challenges faced by Indian companies in raising finance.

The UK and India are supporting specific instruments to support green finance. Announced in 2017, both governments committed to invest £120 million each in a joint Green Growth Equity Fund to leverage private sector investment from the City of London and elsewhere to invest in green infrastructure projects in India. The fund initially aims to raise around £500 million of private capital with the potential to unlock much more in the future. In addition, UK Climate Investments and CDC-managed funds are putting UK Government climate finance to work to support innovative green projects and companies across India.

The UK supports the Indian Government's efforts in launching the Coalition for Disaster Resilient Infrastructure (CDRI) at the UN Climate Summit in September 2019. The CDRI will provide a knowledge platform for disaster and climate resilient infrastructure.[17] The Indian Government has pledged Rs. 480 crore (c. $67 million) to fund technical assistance and research projects, set-up offices and cover operational expenditure for the next 5 years. This coalition will complement existing efforts to draw attention to the importance of building climate resilient infrastructure and the need to increase financial flows into this area.

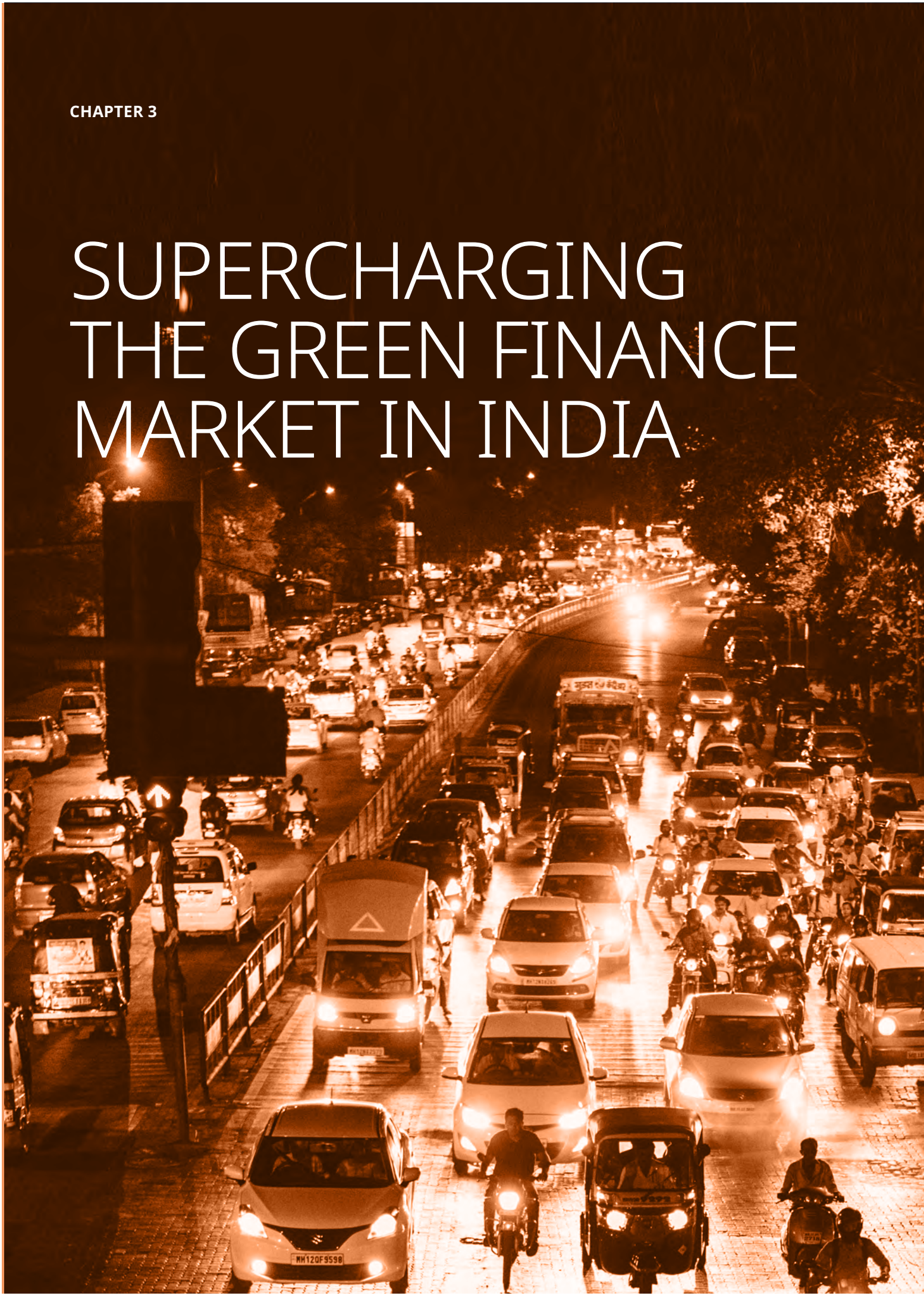
The UK Government will assist the International Solar Alliance (ISA) to deliver its mandate to scale solar power in 120 ISA countries. ISA is an initiative led by India and France that provides a platform for collaboration for solar-rich countries to scale solar power and work together to address common barriers.

Given the historic relationship and the deep engagement that is already taking place across multiple forums, the UK is an ideal partner to work with India to unlock green finance to fund its climate change ambitions.

17 https://pib.gov.in/newsite/PrintRelease.aspx?relid=192854

CHAPTER 3

SUPERCHARGING THE GREEN FINANCE MARKET IN INDIA



There are a number of barriers that currently inhibit the green finance market from reaching its potential. These can be grouped into four broad categories: structural barriers and constraints to scale; the absence of a transparent and visible frameworks for green finance; patchy knowledge of green finance and nascent technical capacity; and minimal policy and regulatory incentives to adopt green finance.

This section will outline the barriers and recommendations for policy change and further work under each category to help unlock additional funding.

STRUCTURAL BARRIERS TO SCALE

Managing currency risk in a cost-effective way is an issue facing Indian international financial transactions. This happens when the primary currency for the debt and / or equity investors (e.g. non-Indian resident investors) or the project's capital expenditure (e.g. imported solar panels) is denominated in a different currency to its operational cash flows. The cost of currency hedging is a function of several factors including the sovereign yield differentials between two currencies, views about the future Indian inflation rate, the liquidity spread, the credit spread and the capital allocation charge. Typical currency hedging instruments for USD/INR are for a 3-5 year duration with a price of 4.5% for good quality corporates. Longer-term hedging of the INR is more challenging. First, there is a lack of a meaningful fixed rate loan market. Most corporate borrowing is priced on a short-term floating rate basis, which inhibits long-term hedging. Second, there is no sovereign yield curve as the Indian government does not issue bonds in international markets. The yield curve is built using issuances by quality quasi-sovereign institutions, such as State Bank of India, which often get a sovereign rating of BBB-. Third, the market for hedging in India has never evolved beyond 3-5 years and has been primarily driven by the demand for near term trade and commodity transactions. The high costs of currency hedging could contribute to a more challenging environment for foreign investors.

Asset-liability mismatch is a challenge, partly because of the overreliance on bank finance. An asset-liability mismatch arises when there is a demand for long-term financing, for example from green infrastructure projects, but the financial institutions are constrained because of short tenor liabilities. This problem is particularly acute for investment in renewable energy because it has higher upfront capital costs than fossil-fuel investments for the same capacity. A range of financial products are available to address asset-liability mismatch including increased pension fund appetite for corporate debt, long-dated green bonds, yieldcos (infrastructure

investment trusts) and collateralised loans (G20 Green Finance Study Group, 2016).

The small project size of certain types of green projects makes it more difficult for them to raise the required levels of capital. Institutional investors look for larger investments, above $1 million for domestic investors and above $100 million for foreign investors, to justify high due diligence and transaction costs (Jena et al, 2018). Warehousing offers one way of overcoming small deal sizes by aggregating smaller loans and assets to reach the size needed to attract institutional investors. As projects move from the risky development stage to the less risky operational phase, securitisation helps transfer assets from banks to long-term investors. Renewable energy and many energy-efficiency projects lend themselves to securitisation because they provide stable income streams and low operational risk.[18] Another solution proposed by the Climate Policy Initiative (2018) to overcome the challenges of small deal size could be create a non-profit, fee-based intermediary to source and structure deals, and conduct due diligence on behalf of investors seeking to invest directly into green sectors. These types of financial products could be beneficial to small-scale projects that currently struggle to attract finance on favourable terms because of their size.

Additional support is needed for companies transitioning to low-carbon models but who are unable to tap into green financial markets. Green finance works well for companies investing in an area that is clearly green, but does not help companies that are looking to reduce emissions and transition to new, cleaner business models. These companies have found it difficult to tap into the green finance market because of fears of being accused of 'greenwashing'. For example, a cement company that is transitioning to a lower carbon business model that is not yet not 100% green may struggle to raise finance. The London Stock Exchange Group is developing transition bonds to help these companies move towards more environmentally friendly business models. The additional capital needed to adopt more environmentally efficient models may not be available through traditional routes, and some companies may not have the capacity to fund these through their balance sheets.

18 https://www.climatebonds.net/policy/policy-areas/market-development

RECOMMENDATIONS

The recommendations in this section are split into two areas. First, reforms to remove the structural barriers that inhibit the flow of green capital. Second, steps that could be taken to expand the use of innovative financial products.

1. Shrink structural barriers for investment

The UK-India Green Finance Working Group should work in partnership with the Indian Government to **develop solutions to overcome the challenges of small deal size** with a view to channelling finance to this untapped area. This could be particularly beneficial for small, non-energy projects that may currently struggle to get off the ground.

The UK-India Green Finance Working Group should work in partnership with the Indian Government to **support offshore local currency issuance for green projects**, and to identify reforms to deepen foreign exchange hedging markets to increase the flows of long tenor international capital.

The UK and Indian Governments and private sector players should use their influence with MDBs to **encourage MDBs to use their balance sheets to reduce the risk of green investments** through guarantees, syndicated loans, credit lines, first-loss provision and blended finance.

2. Adapt innovative financing mechanisms to the Indian investment landscape

The UK-India Green Finance Working Group should further **study the barriers facing the expansion of yieldcos/infrastructure investment trusts** as an investment class which is an attractive investment vehicle for institutional and retail investors.

There are huge investment opportunities in upgrading and investing in urban infrastructure as India transitions to a low-carbon economy. The current municipal bond market is small, partly because of the poor fiscal health of municipalities and the lack of financial disclosure mechanisms. However, in August 2019 SEBI increased the number of eligible entities for issuance of municipal bonds. In addition, special purpose vehicles under the Smart Cities Mission and state-pooled finance entities will also be eligible to issue municipal bonds. The UK-India Green Finance Working Group should support the Indian Government's commitment to **strengthen the municipal bond market to help cities fund their infrastructure needs**.

Climate change adaptation is a crucial yet underfunded sector. The direct costs of extreme weather events in India are around $9-$10 billion per annum and a survey of 170 countries found that India has the second largest vulnerability to climate change (Kumar et al, 2019). The UK-India Green Finance Working Group in partnership with SEBI and the RBI should **explore the potential of adaptation bonds in India**.

DEVELOPING TRANSPARENT AND VISIBLE FRAMEWORKS FOR GREEN FINANCE

There is currently a lack of clear frameworks to evaluate a diverse range of projects in an Indian context.[19] In 2016, SEBI guidelines included a broad list of assets and sectors that investors could invest in and in 2017, the regulator set out guidelines on disclosure norms.[20] This is a helpful first step, but not sufficient on its own to unlock the levels of capital the country needs. There is a lack of accepted definitions of what 'green' means across asset classes and industries. The absence of a detailed green taxonomy, creates scope for issuers to define 'green' themselves and for the bonds to not be accepted by international investors. Issuers tend to be cautious, perhaps because of a fear of being criticised for labelling non-green assets as green. This may partly explain the higher interest in renewable energy technologies compared to emerging sectors where the definition of green is less clear.

There is also a lack of consistent green standards and monitoring mechanisms to help investors identify eligible projects. At present, in some sectors such as real estate, companies have multiple green standards to choose from (e.g. GRIHA, IGBC, LEED, EDGE). Anecdotal evidence suggests that these standards vary in terms of their relevance to the local context and the quality of monitoring mechanisms in place to ensure companies don't flout standards once they receive a green certification. Moreover, following green standards is voluntary, and there is no overarching government plan covering the greening of the existing building stock, or a set of minimum standards (although GHRIA and EDGE are gaining widespread acceptance for real estate). Developing a widely accepted set of robust green standards and educating the market will be important to ensure confidence in the functioning of green financial markets.

The lack of a credible, diversified pipeline of green projects makes it difficult to mobilise finance. Interviewees suggested that there is an appetite among investors to channel funding to green projects in India. However, a major challenge has been a deal pipeline across assets and sectors. A credible pipeline, which in some cases may require policy and regulatory interventions, could play a big role in mobilising domestic and international capital (Kumar et al, 2019). The government's Smart Cities Mission creates an opportunity to club infrastructure investments across sectors (e.g. water, sewage, waste management, transport) into a credible, diversified green pipeline that goes beyond renewable energy. This would make it easier for investors to identify eligible green investments that align with their investment objectives.

19 TERI: Unlocking the green bond potential in India.
20 TERI: Unlocking the green bond potential in India.

RECOMMENDATIONS

The recommendations in this section are split into two areas. First, to improve transparency and provide longer term clarity around policy. Second, increasing the visibility of green to increase financial flows into green investments.

3. Boost investor confidence by drawing on international best practice to increase transparency and standards

The Indian Government should support development of a **taxonomy of green investments** in consultation with the UK-India Green Finance Working Group, drawing upon international best practice. This should be adapted to the local context and align with the government's overarching vision for a low-carbon economy.

The Indian government should **draw upon international best practice to articulate a set of green standards** for priority sectors that are adapted to the local context. The government could provide a further boost to the market by setting out its vision for how it expects companies to improve standards over time. For example, in real estate, this could involve the government setting out the minimum standards for buildings and giving companies a timeframe to move from a D rating to a B rating.

UK and Indian financial regulators should **share their experiences in climate-related disclosures** and explore how this can be scaled in India. The UK-India Green Finance Working Group could work with Indian industry to increase the adoption of Taskforce on Climate-related Financial Disclosures (TCFD) guidelines, which have now been endorsed by institutions representing global assets worth $118 trillion (Green Finance Strategy, 2019).

Through the UK-India Energy for Growth Dialogue, **UK and Indian governments should** swap experiences in designing and enforcing green standards across assets and sectors.

4. Increase the visibility of green investment opportunities and identify funding gaps

The UK-India Green Finance Working Group should **map funding gaps by sector** and the stage of development. As part of this exercise, it would be helpful to explore how capital can be spread more evenly to help smaller companies and emerging sectors tap into capital pools, which would greatly benefit the green sector as a whole. Two particular areas would benefit from further work. First, sectors that are currently under-represented and face challenges accessing finance. Second, mid-size companies that may not have the scale needed to tap certain sources of finance.

The Indian government should continue to work with state governments, infrastructure agencies, and development institutions to **develop and publicise a comprehensive pipeline of green projects** that need investment. The UK's Infrastructure and Projects Authority should consider sharing best practice in applying a green filter to the National Infrastructure and Construction Pipeline.

The UK-India Green Finance Working Group should work to **identify the most bankable projects**; and bring together institutional investors, banks and private equity firms to mobilise green finance into these areas.

GROWING KNOWLEDGE AND TECHNICAL CAPACITY TO DELIVER GREEN FINANCE

Investors are risk-averse around new geographies. A lack of information and policy uncertainty can result in extensive risk aversion by investors. While the NDC agreed in Paris, and policy announcements by the government provide a long-term direction of travel for investors, they need to be translated into specific plans and strategies to mobilise green investment.[21] At present there is a lack of clarity on an overarching vision of what a low-carbon economy would look like, and what this implies for mobilising the required finance.

Unfamiliarity with green investments inhibits both debt and equity finance. Investors are hesitant about investing in green sectors because of a lack of historical performance data and a limited understanding of the risks at various stages of the investment cycle (Jena et al, 2018). According to a G20 Green Finance Synthesis Report, a proper understanding of the financial implications of environmental risk is still at an early stage. Many banks and investors may not yet have the capabilities to identify and quantify credit and market risks associated with green investments, and assess the proportion of their loan book that is green. As a result, they may underestimate the risks associated with 'brown' investments and overestimate the risks associated with 'green' investments.

The technical challenges of measuring and monitoring environmental risk creates a barrier for domestic investors. There is huge potential among domestic pension funds and mutual funds to support the transition to the green economy. However, pension funds in India that have over 10 trillion rupees under investment, are yet not actively looking at sustainability or ESG based investment. Indian mutual funds are potentially more advanced and are starting to explore ESG strategies. But these investors need to rapidly develop the awareness and technical sophistication needed to efficiently deploy capital in this space.

Green finance discussions have yet to reach critical mass across the value chain. Individual actors such as the ratings agencies and the banking and insurance sector are all aware of climate risk and the benefits of green finance to some extent. However, differential levels of capacity, willingness, and competing priorities are inhibiting the ability of the financial sector to collectively rise to the domestic infrastructure opportunity.

21 G20 Green Finance Study Group (2016): G20 Green Finance Synthesis Report.

RECOMMENDATIONS

The recommendations in this section focuses on actions to build domestic support for green finance and increase technical capacity to further green investment.

5. Build domestic support for green finance and increase technical capacity to further green investment.

The Indian Government should build on the tremendous progress it has already made to set out its vision for a low-carbon economy covering both adaptation and mitigation. Translating its ambition into a coherent **set of plans and policies at a sector level** could provide long-term clarity and allow investors to invest with greater confidence. The UK could lend its expertise in setting long-term emission reduction targets under the Climate Change Act that breaks down the contribution of different sectors.

UK and Indian regulators should work to **build the technical capability** of government institutions, banks and other financial corporations in India. The UK has a key role to play in sharing technical expertise and best practice, with a view to embedding these within appraisal practices.

The UK-India Green Finance Working Group should **convene capacity building roundtables** with institutional investors. Institutions in the UK are increasingly developing sophisticated approaches to ESG investing. There is a need to support two-way exchange in investment processes and origination to facilitate greater investment into infrastructure.

The UK-India Green Finance Working Group should **promote and support success stories** of Indian investments to overcome perception risk aversion. This should also extend to convening and facilitating discussions between components of the investment value chain to enhance awareness and integration of climate risk factors into decision-making. For example, the group could support engagements with credit ratings agencies such as Brickwork Ratings and Crisal.

CREATING POLICY AND REGULATORY DRIVERS FOR CHANGE

At present, there are limited incentives for borrowers to certify their projects as green and raise finance. The motivation for an ongoing certification, monitoring and disclosure is therefore largely self-driven. The costs associated with these activities add to the overall cost of the issuance or borrowing. The current policy framework covering Indian capital and debt market does not provide sufficient commercial incentives to these issuers/borrowers. In fact, in terms of costs and benefits, the process of a green issuance in India is heavily skewed against the borrower. Further steps must be taken to incentivise such borrowers who are borrowing for certified green projects and are open to monitoring, surveillance and scrutiny of the project and end use of funds over the life of the borrowing.

The corporate bond market in India is underdeveloped. At present, corporate bonds account for 5% of GDP compared to 18% in China. The coupon for USD denominated green bonds is 2.75%-6% compared to 7.38% to 10.75% for INR denominated bonds. Kumar et al (2019) argue that rupee denominated corporate bonds face three barriers. They need to offer higher interest rates to compete with the high yields offered by Indian Government bonds; hedging against currency fluctuations is expensive; and there is low liquidity in the bond market because of the low volumes traded in the secondary market. The Indian Government announced its commitment to deepen the corporate bond market in Budget 2019/20 including setting up a Credit Guarantee Enhancement Corporation, develop a plan for repos and credit default swaps, and requiring large companies (outstanding long-term borrowing of Rs. 100 crore and credit rating of AA or above) to raise 25% of their incremental borrowing through the corporate bond market.[22]

The Indian Government has provided policy clarity in some areas, notably renewable energy, but other green sectors face greater uncertainty. The government has set clear targets for renewable energy, particularly on wind and solar. This has reduced political risk and bolstered confidence. In other areas of renewable energy, such as micro-grids/decentralised generation, the government's vision is less clear. In some sectors, such as waste management, water and agriculture greater clarity on the Government's ambition and policy direction could make it easier to raise finance.

22 https://www.thehindubusinessline.com/markets/from-next-fiscal-25-of-borrowing-through-corporate-bond-market-a-must-for-large-cos/article25599737.ece

Current policies on priority lending sectors and sector credit limits disincentivise green investments. According to current regulations, all Indian and foreign banks have to lend 40% of their Adjusted Net Bank Credit (ANBC) to priority sectors set by the government.[23][24] There are additional sub-limits, for example, 18% of ANBC needs to be allocated to agriculture and 7.5% needs to be allocated to micro enterprises. There are also regulations covering banks prudential exposure to various sectors (and business groups). Renewable energy falls under the power sector exposure limit, which includes thermal power plants, transmission infrastructure and utilities. In 2017, thermal power received 73% of lending to power generation projects, driven by lending from government-backed financial institutions. Such policies seriously limit the capital available for renewable energy projects, and green infrastructure more generally.

Off-taker risk has been highlighted as a material barrier facing domestic and international institutional investors in renewable energy (Jena et al, 2018). Off-taker risk occurs because of delays or non-payment for power purchased by the primary off-takers, usually state-owned distribution companies (DISCOM). As of March 2015, DISCOMs have accumulated a loss of INR 3.8 lakh crore and an outstanding debt of INR 4.3 lakh crore. The Central Government introduced the UDAY scheme in 2015 to turn around the finances of DISCOMs and improve operational practices, although this has had a limited impact. In August 2019, the Government introduced a Payment Security Mechanism to help insulate generation companies from non-payment of dues. The policy requires DISCOMs to have a letter of credit before power is dispatched by the local dispatch centre. The objective is to prevent the inefficiencies of DISCOMs from filtering down to generation companies. Until the financial position of DISCOMs improves significantly, the risk of non-payment or delayed payment could create lasting damage to the Indian renewable energy sector and its ability to mobilise finance..

23 https://m.rbi.org.in/Scripts/FAQView.aspx?Id=87

24 Priority sector categories include agriculture; micro, small and medium enterprises; export credit; education; housing; social infrastructure; renewable energy; others.

RECOMMENDATIONS

The recommendations in this section focuses on actions to catalyse new green investment through targeted policy reforms and incentives.

6. Catalyse new green investment through targeted policy reforms and incentives

UK and Indian regulators should work together to **identify specific actions to deepen capital markets**. One area that could benefit from a joint review by UK and Indian regulators is exploring ways to allow mutual funds, life insurance corporations and pension funds to consider investments in paper rated lower than AA. This would go a long way in opening up a substantial source of financing for projects which do not have established cash flows from inception (as indeed most green finance projects don't). These institutions have a long-standing track record in independently reviewing and analysing borrower creditworthiness and would benefit from this relaxation.

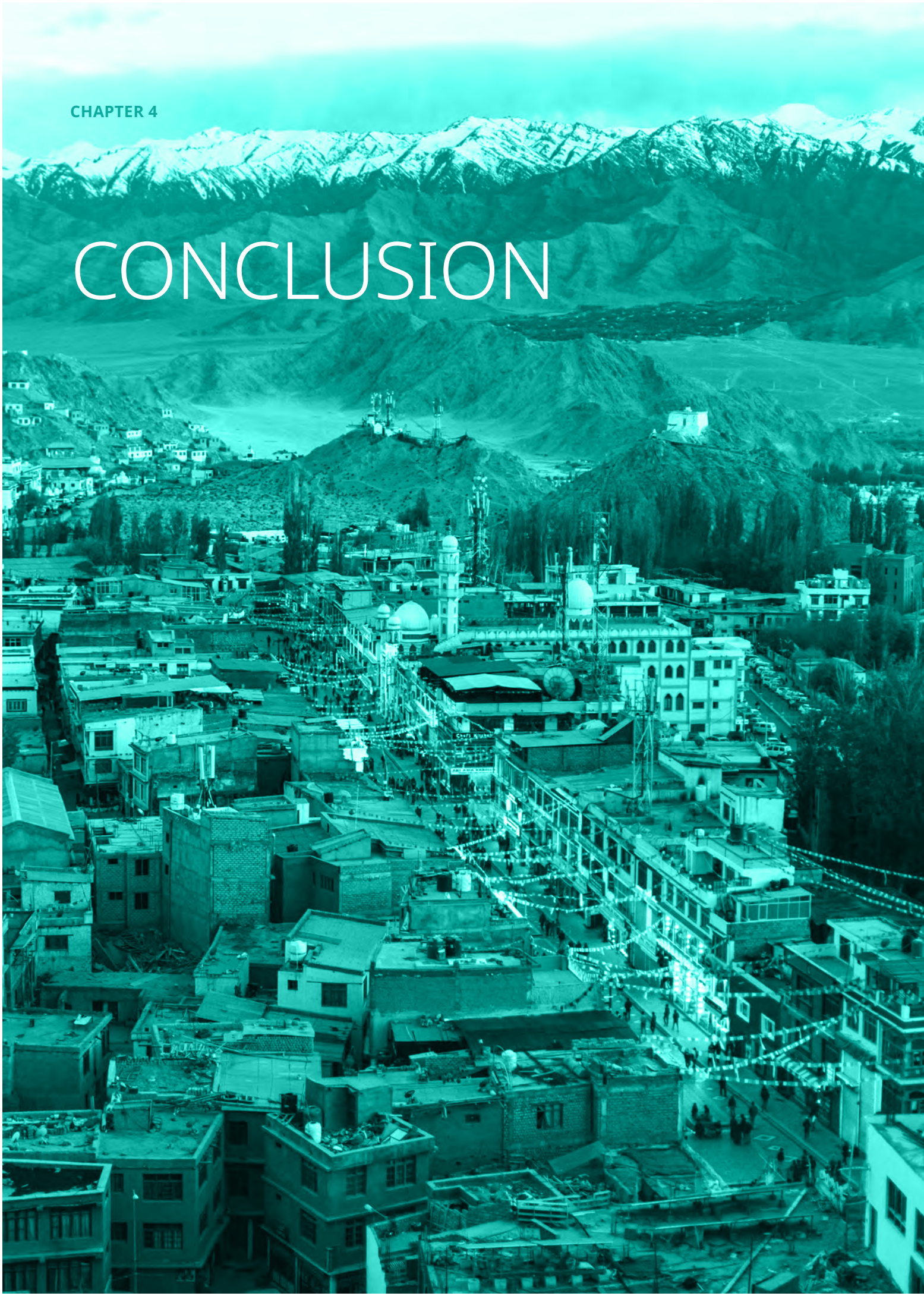
The Indian government should set up a working group, supported by the UK-India Green Finance Working Group to **evaluate the impacts of creating a green sector sub-target within the priority sector list**. This could be in the range of 2-2.5% of ANBC. This should cover all green sectors as long as the company applying for a loan receives an independent verification about the green credentials of the project.

The Reserve Bank of India, should consider specific **changes to the External Commercial Borrowing** (ECB) guidelines with a view to incentivising issuers and borrowers in the green finance space. Specific relaxations could include easing restrictions on tenor and end use, and a matching scheme that makes it easier for companies that have previously borrowed for certified green projects to raise finance.

The Indian government should **review international best practice regarding the introduction of tax incentives** to improve the economics of green bond tax incentives to make them a viable investment asset. At present green bonds incur higher costs compared to corporate bonds (e.g. costs of a green audit, monitoring, disclosure) without any additional commercial benefits. An exemption, or at a minimum a reduction, in withholding tax that currently stands at 5%, would make the economics of green bonds more favourable. Recommendations along similar lines have been made in the past by the UNEP Inquiry into designing a sustainable financial system in India, and by the India-UK Financial Partnership.

CHAPTER 4

CONCLUSION



India has set ambitious climate change targets under the **Paris Agreement**, and shown impressive global leadership in the expansion of renewable energy, but current sources of capital are insufficient to transition to a low-carbon economy. India needs to invest around $4.5 trillion in its infrastructure over the next 10 years. Rising non-preforming loans and the liquidity crisis facing Non-Bank Financial Corporations creates opportunities to expand green finance to plug the investment gap.

The transformation of the financial system goes beyond just funding projects, to ensure that climate and environmental factors are fully integrated into financial decision making across all sectors and asset classes. This report has proposed a series of initiatives to bolster the technical capacity of governments, regulators and investors to appraise projects in a way that captures climate and environmental risks.

There is a huge amount of capital that can be directed towards India under a supportive investment environment. Domestic institutional investors have $564 billion of assets under management, while foreign institutional investors manage more than $70 trillion (Jena et al, 2018). A well-functioning green finance market would align well with the priorities of institutional investors – low-risk investments with a long tenor – and help channel more funding towards Indian infrastructure.

The UK is a natural partner to India as the country ramps up efforts to move to a low-carbon economy. The UK has been leading efforts to decarbonise its own economy and increase the international flows of green finance. In addition, London is a global hub for green finance and offers deep and liquid capital markets, with a well-educated cohort of investors. The strong bilateral relationship between the two countries was cemented during the announcement for a joint UK-India Global Green Growth Fund to unlock more than £500 million in private capital for Indian infrastructure.

Green finance has the potential to unlock India's green growth revolution. But a range of barriers inhibit the green finance market from delivering on its promise.

There are four broad impediments to scaling green finance in India:

1. structural barriers and constraints to scale
2. the absence of a transparent and visible frameworks for green finance
3. patchy knowledge of green finance and nascent technical capacity
4. minimal policy and regulatory incentives to adopt green finance

The UK-India Green Finance Working Group recommends six actions to overcome these barriers and unleash India's potential for green growth.

The UK-India Green Finance Working Group will work closely with the UK and Indian governments to advance these recommendations in the coming months.

1. India and the UK should work together to **shrink structural barriers for investment**. This would involve further development of masala bond and foreign exchange hedging markets and collaborating with development finance institutions to derisk transactions.

2. **Adapt innovative financing mechanisms to the Indian investment landscape.** The working group plans to facilitate the required collaborative analysis into the potential for green infrastructure investment vehicles, such as yieldcos, and the feasibility of adaptation/resilience bonds.

3. The UK and Indian governments should **boost investor confidence by drawing on international best practice to increase transparency and standards**. In particular, efforts should focus on a green taxonomy, raising real economy ambition in sectors such as buildings, and supporting the implementation of TCFD.

4. **Increase the visibility of green investment opportunities and identify funding gaps**. Initially, this should focus on underrepresented sectors and stages of development. In parallel, efforts should mobilise investment for bankable green projects to build market momentum.

5. Both government and the working group will need to cooperate to **build domestic support for green finance and increase technical capacity to further green investment**. Sharing technical expertise among regulators would be an excellent first step. Case studies should also be developed to address sectoral and mobilisation questions.

6. Finally, there remains considerable potential to **catalyse new green investment through targeted policy reforms and incentives**. This would require thorough evaluation of the impacts of policy change and new incentives to free up capital. Candidate policies for evaluation include:
   1 Institutional investment below AA grade paper
   2 Green sub-targets in the priority sector list
   3 Changes to the ECB guidelines for issuers with a track record of green projects.

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